NORTH FALLS

Offshore Wind Farm

PRELIMINARY ENVIRONMENTAL INFORMATION REPORT

Chapter 31 Socio-economics

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Glossary of Acronyms

AONB	Area of Outstanding Natural Beauty
APS	Annual Population Survey
A&E	Accident and Emergency
BEIS	Department for Business, Energy and Industrial Strategy
BRES	Business Register and Employment Survey
CEA	Cumulative Effects Assessment
CfD	Contracts for Difference
DCO	Development Consent Order
DECC	Department for Energy and Climate Change
DESNZ	Department for Energy Security and Net Zero
ECMG	East Coast Manufacturing Group
EEA	European Economic Area
EEFM	East of England Forecasting Model
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
EPP	Evidence Plan Process
ES	Environmental Statement
ETG	Expert Topic Group
EU	European Union
EZ	Enterprise Zone
FTE	Full Time Equivalent
GB	Great Britain
GP	General Practitioner
GDP	Gross Domestic Product
GVA	Gross Value Added
HDD	Horizontal Directional Drill
ICB	Integrated Care Board
ITL	International Territorial Level
IMD	Index of Multiple Deprivation
LEP	Local Enterprise Partnership
LIS	Local Industrial Strategy

LOCAI	Local Onshore Cable Area of Influence
LQ	Location Quotient
LSOAs	Lower Layer Super Output Areas
MCA	Maritime and Coastguard Agency
MHWS	Mean High Water Springs
MPS	Marine Policy Statement
MSOA	Middle Layer Super Output Areas
NALEP	New Anglia Local Enterprise Partnership
NEET	Not in education, employment or training
NPS	National Policy Statement
NPPF	National Planning Policy Framework
NSIP	Nationally Significant Infrastructure Project
NFOW	North Falls Offshore Wind Farm Limited
OBR	Office for Budget Responsibility
ONS	Office for National Statistics
O&M	Operation & Maintenance
PEIR	Preliminary Environmental Information Report
PRoW	Public Right of Way
SAC	Special Areas of Conservation
SCoC	Suffolk Chamber of Commerce
SELEP	South East Local Enterprise Partnership
SIC	Standard Industrial Classification
SMI	Severe Mental Illness
SNPP	Sub-National Population Projections
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
UK	United Kingdom
WTG	Wind Turbine Generators
ZOI	Zone of Influence

Glossary of Terminology

Array areas	The two distinct offshore wind farm areas (including the 'northern array area' and 'southern array area') which together comprise the North Falls offshore wind farm.
Array cables	Cables which link the wind turbine generators with each other and the offshore substation platform(s).
Cable construction compound	Area set aside to facilitate construction of the onshore cable route. Will be located adjacent to the onshore cable route, with access to the highway.
Construction effects	Used to describe both temporary effects that arise during the construction phases as well as permanent existence effects that arise from the physical existence of development (for example new buildings).
Cumulative effects	Additional changes caused by North Falls in conjunction with other similar developments or as a combined effect of a set of developments.
Cumulative Effects Assessment (CEA)	Assessment of impacts as a result of the incremental changes caused by other similar (often significant) infrastructure projects together with North Falls.
Direct economic benefit (supply chain) onshore	Economic value (as measured by GVA) generated through the first round of capital expenditure on onshore infrastructure, i.e. North Falls' spend on onshore infrastructure with prime contractors within each impact area of the study (direct GVA). This also includes GVA which is supported through the supply chain expenditure of these contractors (indirect GVA). This does not include induced effects (which are generated through the salary expenditure of employees whose jobs are supported by the development).
Direct economic benefit (supply chain) offshore	GVA which is associated with the first round of capital expenditure on offshore infrastructure, i.e. North Falls' spend on offshore infrastructure with prime contractors within each impact area of the study. This also includes GVA which is supported through the supply chain expenditure of these contractors. This does not include induced effects.
Decommissioning	The period during which a development and its associated processes are removed from active operation.
Environmental Impact Assessment (EIA)	The process of evaluating the likely significant environmental effects of a proposed project or development over and above the existing environment.
Employment onshore	Direct employment impacts associated with the first round of capital expenditure on onshore infrastructure, i.e. North Falls' spend on onshore infrastructure with prime contractors within each impact area of the study. As well indirect employment impacts which are associated with the suppliers of companies that supply goods and services as part of the supply chain of the onshore infrastructure of North Falls. This does not include induced effects.
Employment offshore	Direct employment impacts associated with the first round of capital expenditure on offshore infrastructure, i.e. North Falls' spend on onshore infrastructure with prime contractors within each impact area of the study. As well employment which is associated with the suppliers of companies that supply goods and services as part of the supply chain of the onshore infrastructure of North Falls.
Full-time equivalent (FTE) jobs	Full time equivalent (FTE) is a unit that indicates the workload of an employed person. An FTE of 1.0 is equivalent to one full-time employee, whilst a part-time employee working half the hours a full-time employee does would be recorded as 0.5 FTE.

Gross Value Added (GVA)	The measure of the value of goods and services produced in an area, industry or sector of an economy. At the level of a firm, it is broadly equivalent to employment costs plus a measure of profit.
Haul road	The track along the onshore cable route used by construction traffic to access different sections of the onshore cable route.
Horizontal directional drill (HDD)	Trenchless technique to bring the offshore cables ashore at the landfall. The technique will also be used for installation of the onshore export cables at sensitive areas of the onshore cable route.
Impact	The changes resulting from an action.
Indirect effects	Effects that result indirectly from North Falls as a consequence of the direct effects, often occurring away from the site, or as a result of a sequence of interrelationships or a complex pathway. They may be separated by distance or in time from the source of the effects.
Indirect employment and gross value added	Employment and gross value added which is associated with the suppliers of companies that supply goods and services as part of the supply chain of North Falls.
Induced employment and gross value added	Employment and gross value added which is not directly caused by the expenditure associated with a project. These are impacts associated with local expenditure as a result of those whose incomes are derived from the direct and indirect impacts of the intervention.
Interconnector cable	Cable between the northern and southern array areas
Interconnector cable corridor	The corridor of the seabed between the northern and southern array areas
Likely Significant Effects	It is a requirement of Environmental Impact Assessment Regulations to determine the likely significant effects of North Falls on the environment which should relate to the level of an effect and the type of effect.
Location quotient (LQ)	Location quotient (LQ) is a measure of a region's industrial specialisation relative to a larger region (e.g. Great Britain). A LQ of 1.0 indicates that both regions have the same level of specialisation, whereas a LQ > 1.0 means that the smaller region has a higher concentration of a particular sector than is seen in the larger region.
Magnitude (of impact)	A term that combines judgements about the size and scale of the effect, the extent of the area over which it occurs, whether it is reversible or irreversible and whether it is short term or long term in duration'. Also known as the 'degree' or 'nature' of change.
Jointing bay	Underground structures constructed at regular intervals along the onshore cable route to join sections of cable and facilitate installation of the cables into the buried ducts.
Landfall	The location where the offshore cables come ashore.
Landfall compound	Compound at landfall within which HDD or other trenchless technique would take place
Landfall search area	Locations being considered for the landfall, comprising the Essex coast between Clacton-on-Sea and Frinton-on-Sea within the PEIR.
Leakage	An economic effect that occurs when benefits that occur outside the study area.

Link boxes	Underground chambers or above ground cabinets next to the onshore export cables housing low voltage electrical earthing links.
Local onshore infrastructure and services	For the purposes of this assessment onshore infrastructure and services includes health services and housing infrastructure.
Marshalling port	Marshalling ports (also known as staging ports) are used to collect and store wind turbine components prior to loading them on to wind turbine installation vessels. Able Seaton Port in the North East and the Port of Leith in Scotland are examples of marshalling ports.
National Grid connection point	The grid connection location for the Project. National Grid are proposing to construct new electrical infrastructure to allow the Project to connect to the grid, and this new infrastructure will be located at the National Grid connection point.
National Grid substation connection works	Infrastructure required to connect the Project to National Grid's connection point.
Nationally Significant Infrastructure Project (NSIP)	Nationally Significant Infrastructure Projects are major infrastructure developments in England and Wales which are consented by DCO. These include proposals for offshore renewable energy projects with an installed capacity of over 100MW in England.
Non-local workforce / workers	Refers to the workforce required to work on the North Falls project whose usual place of residence is located outside of the local area (see Section 31.3.1 for more information on what constitutes the local area).
Planning Inspectorate	The Planning Inspectorate deals with planning appeals, national infrastructure planning applications, examinations of local plans and other planning-related and specialist casework.
Preliminary Environmental Information Report (PEIR)	The PEIR presented findings of the assessment to allow an informed view to be developed of North Falls, the assessment approach that was undertaken, and the preliminary conclusions on the likely significant effects of North Falls and environmental measures proposed.
Offshore cable corridor	The corridor of seabed from array areas to the landfall within which the offshore export cables will be located.
Offshore export cables	The cables which bring electricity from the offshore substation platform to the landfall.
Offshore project area	The overall area of the array areas and the offshore cable corridor.
Offshore substation platform(s)	Fixed structure(s) located within the array areas, containing electrical equipment to aggregate the power from the wind turbine generators and convert it into a more suitable voltage for export to shore via offshore export cables.
Onshore cable corridor(s)	Onshore corridor(s) within which the onshore export cables and associated infrastructure will be located. A final onshore cable route for which consent will be sought will be selected from within these corridor(s).
Onshore cable route	Onshore route within which the onshore export cables and associated infrastructure would be located.
Onshore export cables	The cables which take the electricity from landfall to the onshore substation. These comprise High Voltage Alternative Current (HVAC) cables, buried underground.
Onshore project area	The boundary in which all onshore infrastructure required for the Project will be located (i.e. landfall; onshore cable route, accesses, construction compounds;

	onshore substation and National Grid substation extension), as considered within the PEIR.
Onshore substation	A compound containing electrical equipment required to transform and stabilise electricity generated by the Project so that it can be connected to the National Grid.
Onshore substation construction compound	Area set aside to facilitate construction of the onshore substation. Will be located adjacent to the onshore substation (location not yet defined).
Onshore substation zone	Area within which the onshore substation will be located.
Receptor	These are as defined in Regulation 5(2) of The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 and include population and human health, biodiversity, land, soil, water, air, climate, material assets, cultural heritage and landscape that may be at risk from exposure to pollutants which could potentially arise as a result of the Project.
Resident based earnings	Income earned by individuals who reside in a particular area.
Ro-Ro ships	Roll-on roll-off (Ro-Ro) ships are cargo ships designed to carry wheeled cargo, such as cars, motorcycles, trucks, semi-trailer trucks, buses, trailers, and railroad cars, that are driven on and off the ship.
Safety zones	A marine zone outlined for the purposes of safety around a possibly hazardous installation or works / construction area
Scoping Opinion	A Scoping Opinion is adopted by the Secretary of State for North Falls.
Scoping Report	A report that is designed to ascertain which issues the Environmental Impact Assessment process should cover.
Scour protection	Protective materials to avoid sediment being eroded away from the base of the wind turbine generator foundations and offshore substation platform foundations as a result of the flow of water.
Secretary of State	The person who makes the decision to grant development consent.
Sensitivity	A term applied to specific receptors, combining judgements of the susceptibility of the receptor to the specific type of change or development proposed and the value associated to that receptor.
Significance	A measure of the importance of the environmental effect, defined by criteria specific to the environmental aspect.
Significant effects	It is a requirement of the EIA Regulations to determine the likely significant effects of the development on the environment which should relate to the level of an effect and the type of effect. Where possible, significant effects should be mitigated.
Stakeholder engagement	Refers to the voluntary engagement undertaken in addition to the statutory consultation requirements under the Planning Act 2008.
Temporal scope	The temporal scope covers the time period over which changes to the environment and the resultant effects are predicted to occur and are typically defined as either being temporary or permanent.
Temporary or permanent effects	Effects may be considered as temporary or permanent. In the case of socio-economics, any effects occurring during the Project's development and construction phase are defined as temporary, whilst any effects occurring over the Project's assumed lifetime are defined as permanent.

The Applicant	North Falls Offshore Wind Farm Limited (NFOW).
The project Or 'North Falls'	North Falls Offshore Wind Farm, including all onshore and offshore infrastructure.
Transition joint bay	Underground structures that house the joints between the offshore export cables and the onshore export cables
Trenchless crossing compound	Areas within the cable corridor which will house trenchless crossing (e.g. HDD) entry or exit points.
Wind turbine generator (WTG)	Power generating device that is driven by the kinetic energy of the wind
Workplace based earnings	Income earned by an individual based on their location of employment.
Zone of Influence (ZOI)	The area surrounding North Falls which could result in likely significant effects.

31 Socio-economics

31.1 Introduction

1. This chapter of the Preliminary Environmental Information Report (PEIR) considers the likely significant effects of the North Falls Offshore Wind Farm (hereafter 'North Falls or 'the Project') on socio-economic conditions within the study areas. The chapter provides an overview of the existing environment for the study areas, followed by an assessment of likely significant effects for the construction, operational, maintenance and decommissioning phases of the Project.
2. This chapter has been written by Hatch, with the assessment undertaken with specific reference to the relevant legislation and guidance, of which the primary sources are the National Policy Statements (NPS). Details of these and the methodology used for the Environmental Impact Assessment (EIA) and Cumulative Effects Assessment (CEA) are presented in Section 31.4.
3. The assessment should be read in conjunction with following linked chapters (Volume I):
    - Chapter 2 Need for the Project;
    - Chapter 14 Commercial Fisheries;
    - Chapter 15 Shipping and Navigation;
    - Chapter 19 Ground Conditions and Contamination;
    - Chapter 20 Onshore Air Quality
    - Chapter 22 Land use and Agriculture;
    - Chapter 26 Noise and Vibration
    - Chapter 27 Traffic and Transport;
    - Chapter 28 Human Health;
    - Chapter 30 Landscape Visual Impact Assessment; and
    - Chapter 32 Tourism and Recreation.
4. Additional information to support the socio-economic assessment includes:
    - Appendix 31.1 North Falls Offshore Wind Farm economic impact, prepared by BVG Associates (Volume III).

31.2 Consultation

5. Consultation with regard to socio-economics has been undertaken in line with the general process described in Chapter 6 EIA Methodology (Volume I). The key elements to date have included scoping and the ongoing technical consultation via Expert Topic Group (ETG) meetings. The feedback received has been considered in preparing the PEIR. Table 31.1 provides a summary of how the consultation responses received to date have influenced the approach that has been taken.

6. One-to-one targeted consultation sessions with key stakeholders for the socio-economic assessment were completed in March 2023. These provided an additional opportunity for stakeholders to raise their views and concerns about the potential socio-economic impacts of North Falls. Of the organisations approached, six responded to the request for one-to-one consultation. Consultees who partook in the March 2023 consultations included representatives from Tendring and East Suffolk District Councils, Suffolk and Essex County Councils, South East Local Enterprise Partnership (SELEP), Freeport East and the NHS Suffolk and North-East Essex Integrated Care Board (ICB). Invest Essex, Essex Chamber of Commerce, North Essex Economic Board and Essex Youth Service were also approached to participate in additional consultation but did not register interest and so did not participate.

7. It should be noted that North Falls has undertaken additional consultation activities to those listed in Table 31.1 below. North Falls has:

- worked with East of England Energy Group to start raising awareness of supply chain opportunities locally (a supply chain event was held in Harwich in 2022 as part of 'Energising Essex' series)
- supported the Essex Green Skills Infrastructure Review and Sector Development Strategy for Essex; and
- supported the Norfolk/Suffolk/Essex based 'Gearing up 2 Grow' project which sought to understand demand projections for regional energy (onshore) and infrastructure construction work over the period to 2030.

8. This chapter will be updated following the consultation on the PEIR in order to produce the final assessment, which will be presented in an Environmental Statement (ES) that will be submitted with the Development Consent Order (DCO) application. Full details of the consultation process will also be presented in the Consultation Report as part of the DCO application.

Table 31.1 Consultation responses

Consultee	Date / Document	Comment	Response / where addressed in the PEIR
Essex County Council	Scoping opinion 2021	The approach set out in the Environmental Statement is generally satisfactory and we are pleased that it reflects the nature of, and progress in, discussion the Councils have had with the NF [North Falls] Team on the undertaking of assessments to date. It is noted however that a number of key topics, not least as they relate to the statutory function of ECC including Highways and Transportations, and Economy and Skills have not been subject to prior engagement.	Feedback taken from Council discussions with the NFOW team have been incorporated below, within this table. Impacts on highways and transportations are addressed in further detail within Chapter 27 Traffic and Transport (Volume I). A baseline for Economy and Skills has been provided within Section 31.5.2 below. Policies relating to Economy and Skills (for example, the Skills Advisory Panel Report (NALEP, 2022b) have also been assessed within Table 31.7.
Essex County Council	Scoping opinion 2021	As the submitted SR [Scoping Report] indicates, additional studies and data collection remain necessary from a wide variety of topics to inform and supplement the eventual EIA submission and it is anticipated that the development proposals will be refined and change as a result. ECC look forward to engaging with other authority partners and the applicants on this.	Section 31.5 analyses a wide range of relevant datasets and policies. Where available, additional studies, chapters and appendices have also been used and are identified in Section 31.4.2 and Section 31.12.
Essex County Council	Scoping opinion 2021	It is noted that the offshore elements of this proposal appear well developed and researched, however concern is raised that the onshore implications are vague and un-proven at this time, as the submission itself does acknowledge.	Offshore and onshore implications of the construction, operational and decommissioning phase of the Project have been assessed within Section 31.6. This assessment looks separately at offshore and onshore elements at each phase using data provided within Appendix 31.1 (Volume III), prepared by BVG Associates. Other socio-economic impacts assessed related to onshore infrastructure are also considered within Section 31.6 of the assessment.
Essex County Council	Scoping opinion 2021	The Essex Climate Action Commission has over 30 members over a wide range of senior professionals, local councillors, academics, businesses, people and two members of the Young Essex Assembly. The commission will run for two years initially and make recommendations	Noted (see response immediately below).

Consultee	Date / Document	Comment	Response / where addressed in the PEIR
		about how we can improve the environment and economy of Essex.	
Essex County Council	Scoping opinion 2021	The findings of the commission will not be published until Q3 2020 but the applicant should have knowledge of this initiative, their values and objectives and the implications for the future aspirations of the development.	The applicant is aware of the six themes included within the Net Zero: Making Essex Carbon Neutral Commission Report: Land use and green infrastructure, Energy, The Built Environment, Transport, Waste and Community Engagement. The values and objectives of the Energy and Community engagement theme have been included within Section 31.4.1.
Essex County Council	Scoping opinion 2021	1.3(9) We'd welcome further clarification on the reference to 'lessons learned from a wide range of previous scoping opinions for offshore wind farms' that this section refers to. This would, from the outset, clarify which skills, employment and economic data cannot be scoped out until further information is known about the project and the existing environment.	The assessment has been undertaken by Hatch, a specialist socio-economics consultancy with extensive experience of EIAs for offshore wind farms. Note that the receptors being assessed are consistent with a number of other developments and none of the receptors referenced by Essex County Council have been scoped out.
Essex County Council	Scoping opinion 2021	1.5(19) This is a great diagram, and deployed with other resources, would be a great educational tool. The EIA should narrate how you intend to actively engage with local schools and interest groups to educate them about how OWF [offshore wind farm] work and the pathways to careers in the sector.	NFOW will present an Outline Skills and Employment Plan as part of the DCO application. This will be secured through a DCO Requirement. This has therefore not been included in the PEIR socio-economics chapter.
Essex County Council	Scoping opinion 2021	1.9 (117) We welcome this referencing of the government's vision to build a competitive and innovative UK supply chain. Wherever possible, we'd also welcome an explicit reference to potential work with the local supply chain in Essex and adjoining counties.	The strengths of the local supply chain in Essex and Suffolk have been analysed within Section 31.5 (the Existing environment). The assessment of significance (Section 31.6) also draws upon the supply chain as described in Appendix 31.1 (Volume III), prepared by BVG Associates, which identifies areas of the supply chain where local suppliers can be used.
Essex County Council	Scoping opinion 2021	3.9 (661) There is an opportunity here to support or complement the work of Active Essex and the ECC cycling	Effects related to cycling are completed as part of the PEIR within Chapter 27 Traffic and Transport (Volume I). Impacts on public rights of way and

Consultee	Date / Document	Comment	Response / where addressed in the PEIR
		scheme (Pedal Power) being promoted with partners in Tendring.	therefore cyclists are also considered in Chapter 32 Tourism and Recreation (Volume I).
Essex County Council	Scoping opinion 2021	4.2.1 (740) We welcome the economic receptor identified and the explicit mention of benefits, as well as adverse effects, that people (residents) and businesses could experience from the project and associated developments.	Potential effects on economic receptors have been assessed from Section 31.6 (Assessment of significance) to Section 31.10 (Inter-relationships).

Essex County Council	Scoping opinion 2021	4.2.2 (746) Data should include reference to some of the Essex specific skills and employment strategies and policy documents which will strengthen the scoping exercise. Data should also include:
		• Current business base. This can be sourced from Tendring District Council and/or Essex County Council.
		• Anticipated workforce. This should start to inform anticipated employment shortage areas and need for any skills interventions and planning. Workforce planning should also identify how the developers intend to work with relevant local Essex partners to maximise local recruitment across all skills levels, especially high-level jobs; during the construction and post-construction phase.
		• NEET (Not in Education Employment or Training) data. This can be supplied by Essex County Council.
		• Construction projections in Essex. The Essex Construction Skills Report 2020-2040 can be sourced from Essex County Council.
		• Essex's economic policies:
		  ○ Essex Productivity and Prosperity Plan
		  ○ North Essex Economic Strategy
			Skills and employment strategies and policy documents for Essex have been included within Table 31.7.
			The existing environment (Section 31.5) includes analysis of the current business base, the anticipated workforce, not in education, employment or training (NEETs), construction projections, skills and economic strategies. The Essex Construction Skills Report 2020-2040 is considered in the existing environment (Section 31.5).
			The Essex County Council Open Data portal has been reviewed. This provides useful data on the population, economy, environment, employment, health and wellbeing and equality & welfare. It is noted that the Open Data portal largely draws on the same data sources that are presented in the existing environment Section 31.5.
			North Falls has also supported consultation and engaged on a range of supply chain, employment and skills related projects included as is noted above in Section 31.2 above Table 31.1.

Consultee	Date / Document	Comment	Response / where addressed in the PEIR
		• Skills – data should also be sourced from Essex Open Data. This is publicly available via ECC's website.	
Essex County Council	Scoping opinion 2021	4.2.2 (747) For skills and employment purposes, Essex Open Data should also be used as a source for data.	The Essex County Council Open Data portal has been reviewed. This provides useful data on the population, economy, environment, employment, health and wellbeing and equality & welfare. It is noted that the Open Data portal largely draws on the same data sources that are analysed in the existing environment Section 31.5.
Essex County Council	Scoping opinion 2021	4.2.3 (751) The likely recruitment strategies mentioned should also take into account potential recruitment shortages and steps to mitigate against that, preferably via skills intervention and workforce planning. There should also be regard to other NSIPs [Nationally Significant Infrastructure Projects] potentially recruiting at the same time.	Section 31.8 assesses the cumulative employment impacts on Suffolk and Essex. This considers NSIPs across Suffolk and Essex and therefore provides an indication of the demand for construction and O&M workforce over the construction and operational phases. Section 31.6 considers the existing environment and the size of the local construction workforce. NFOW will present an Outline Skills and Employment Plan as part of the DCO application. This will be secured through a DCO Requirement. This has therefore not been included in the PEIR socio-economics chapter. Further detail will be provided in ES chapter where relevant.
Essex County Council	Scoping opinion 2021	4.2.4 (762) The absolute scale of economic impacts analysis needs to clearly identify which roles (jobs) will be needed and how engagement with local providers can cater for the demand and supply of skills.	Where possible, Section 31.6 refers to the areas of the supply chain where local providers could provide support for North Falls. For example, local suppliers could be drawn upon for the onshore substation equipment and installation activities This has been informed by Appendix 31.1 (Volume III), prepared by BVG Associates. NFOW consider that details on how engagement with local providers regarding the demand and supply of skills are most appropriate to present as part of an Outline Skills and Employment Plan, which will be submitted as part of the DCO application and secured through a DCO Requirement. This has therefore not been included in the PEIR socio-economics chapter.

Consultee	Date / Document	Comment	Response / where addressed in the PEIR
London Borough of Waltham Forest (LBWF)	Scoping opinion 2021	The applicants have submitted an EIA Scoping Report which has been reviewed by officers. The report covers a wide breadth of issues proportionate to the status of this application as a NSIP, and include both off-shore physical and geological issues, as well as wider socio-economic and on-shore visual and physical impacts such as air quality and wider climate change. It is not considered that there are any significant issues raised by the scoping report which would directly impact upon LBWF, and therefore no comments are made in relation to the scoping opinion.	Noted.
Public Health England (PHE)	Scoping opinion 2021	Human Health and Wellbeing This section of PHE's response, identifies the wider determinants of health and wellbeing we expect the PEIR to address, to demonstrate whether they are likely to give rise to significant effects. PHE has focused its approach on scoping determinants of health and wellbeing under four themes, which have been derived from an analysis of the wider determinants of health mentioned in the National Policy Statements. The four themes are: • Access • Traffic and Transport • Socioeconomic • Land Use	Job creation is linked to increases in wellbeing. The quality and availability of health and social community infrastructure are also important factors in determining a populations health and wellbeing. Health and wellbeing is therefore closely tied to the impacts assessed within Section 31.6 Assessment of significance.
Public Health England	Scoping opinion 2021	Employment NSIP schemes have the potential to negatively impact through the relocation or loss of local businesses. Equally they can offer an opportunity for new business activity and employment both at the construction stage and operation of	The assessors and authors of this chapter (Hatch) are not aware of any evidence that offshore wind farms lead to the loss of local businesses. If this did occur, it is likely to be a negligible effect for the study area as a whole and would be considerably outweighed by the positive effects on the economy. Therefore it is not deemed relevant for the potential for negative effects on individuals/businesses and proposed mitigation (e.g. support measures for

Consultee	Date / Document	Comment	Response / where addressed in the PEIR
		the development approved by the DCO [Development Consent Order]. There is clear evidence that good work improves health and wellbeing across people's lives and protects against social exclusion. Conversely, unemployment is bad for health and wellbeing, as it is associated with an increased risk of mortality and morbidity. For many individuals, in particular those with long-term conditions such as mental health problems, musculoskeletal (MSK) conditions and disabilities, health issues can be a barrier to gaining and retaining employment. Employment rates are lowest among disabled people, with only 51.3% in work, meaning there is a substantial employment rate gap in the UK between disabled and non-disabled people (81.4% in employment). Among these working age disabled people in the UK, 54% have a mental health or MSK condition as their main health condition. Enabling people with health issues to obtain or retain work, and be productive within the workplace, is a crucial part of the economic success and wellbeing of every community and industry. It is important that people are supported to gain employment and maintain economic independence for themselves and their families, especially as they age. This is of particular importance for individuals with long-term conditions and disabilities, due to the barriers they face in gaining employment and retaining a job. Where relevant any assessments should include:	businesses and a related strategy and action plan) to be included within the socio-economic assessment. This approach is consistent with the approach set out in the scoping report and the approach typically taken when assessing the employment effects of offshore wind farms. The assessment of employment impacts in Section 31.6 therefore does not consider the scale of job losses associated with the development of North Falls. The assessment does quantify job creation, including direct and indirect effects. North Falls consider that local barriers to employment are most appropriate to present as part of an Outline Skills and Employment Plan, which will be submitted as part of the DCO application and secured through a DCO Requirement. Local barriers to employment have therefore not been included in the PEIR socio-economics chapter.

Consultee	Date / Document	Comment	Response / where addressed in the PEIR
		• The impact of business relocation in order to identify the likely level of job losses within the study area • The proposed support mechanisms to be established for business owners and employees • A clear strategy and action plan that addresses barriers to employment within the local population and those that cease employment due to the DCO.	
Public Health England	Scoping opinion 2021	3a. Employment opportunities including training opportunities Employment is generally good for physical and mental health and well-being, and worklessness is associated with poorer physical and mental health and well-being. Work can be therapeutic and can reverse the adverse health effects of unemployment for healthy people of working age, many disabled people, most people with common health problems and social security beneficiaries. Account must be taken of the nature and quality of work and its social context and jobs should be safe and accommodating. Overall, the beneficial effects of work outweigh the risks of work and are greater than the harmful effects of long-term unemployment or prolonged sickness absence. Employment has a protective effect on depression and general mental health. Transitions from unemployment to paid employment can reduce the risk of distress and improve mental health, whereas transitions into unemployment are psychologically distressing and detrimental to mental health. The mental health benefits of becoming employed are also dependent on the psychosocial quality of the job, including level of control, demands, complexity, job insecurity and level of pay: transition from unemployment to a high-quality job is good for	Current baselines of employment are assessed within Section 31.5.2.1. National, sub-regional and local policy documents (see Table 31.7) recognise the need to provide training opportunities during the transition to net zero, particularly in relation to the offshore wind sector. Employment impacts at the national and local level, split by offshore/onshore and the construction, operational and decommissioning phases are assessed in Section 31.6.

Consultee	Date / Document	Comment	Response / where addressed in the PEIR
		mental health, whereas transition from unemployment to a low-quality job is worse for mental health than being unemployed. For people receiving social benefits, entry into paid employment can improve quality of life and self-rated health (physical, mental, social) within a short time-frame. For people receiving disability benefits, transition into employment can improve mental and physical health. For people with mental health needs, entry into employment reduces the use of mental health services. For vocational rehabilitation of people with severe mental illness (SMI), Supported Employment is more effective than Pre-vocational Training in helping clients obtain competitive employment; moreover, clients in Supported Employment earn more and work more hours per month than those in Pre-vocational Training.	
Public Health England	Scoping opinion 2021	3b. Local Business Activity It is important to demonstrate how North Falls will contribute to ensuring the vitality of town centres. Schemes should consider the impact on local employment, promote beneficial competition within and between town centres, and create attractive, diverse places where people want to live, visit and work. In rural areas the applicant should assess the impact of the proposals on a prosperous rural economy, demonstrate how they will support the sustainable growth and expansion of all types of business and enterprise in rural areas, promoting the development and diversification of agricultural and other land based rural businesses.	Impact 5 (Pressure on local onshore infrastructure and services) considers how North Falls will impact on local demographics (Section 31.6). It is recognised that a temporary increase in population as a result of construction workers temporarily moving into the local study area may bring about a mix of both positive and negative impacts. Positive impacts include the increased expenditure within local town centres by construction workers. These expenditure effects are captured within the induced impacts shown in Appendix 31.1 (Volume III). However, given that the construction, O&M and decommissioning of an offshore wind farm project could only affect town centre vitality in a limited and indirect way, this has not been assessed in the PEIR. Section 31.5 identifies those sectors which are most likely to benefit from supply chain opportunities. Given the nature of the development and its

Consultee	Date / Document	Comment	Response / where addressed in the PEIR
			supply chain, it is considered unlikely that this will support the diversification of agricultural or land based rural businesses, so this has not been assessed.
Public Health England	Scoping opinion 2021	3c. Regeneration Following rebuilding and housing improvements in deprived neighbourhoods, better housing conditions are associated with better health behaviours; allowing people to remain in their neighbourhood during demolition and rebuilding is more likely to stimulate life-changing improvements in health behaviour than in people who are relocated. The partial demolition of neighbourhoods does not appear to affect residents' physical or mental health. Mega-events, such as the Olympic Games, often promoted on the basis of their potential legacy for regeneration, appear to have only a short-term impact on mental health.	The regeneration of mega events, such as the Olympic Games, is not relevant to the assessment of North Falls as North Falls is not a physical regeneration project. The potential effects on accommodation is assessed within Section 31.6, although the focus is on housing market capacity rather than the relationship between housing quality and health. The impacts on reductions in tourist accommodation availability due to the temporary influx of a non-local workforce during the construction phase are not included in the socio-economic assessment as they are assessed in detail in Chapter 32 Tourism and Recreation (Volume I).
Public Health England	Scoping opinion 2021	3d. Tourism and Leisure Industries The applicant should assess the impact of North Falls on retail, leisure, commercial, office, tourism, cultural, community and residential development needed in town centres. In rural locations assessment and evaluation of potential impacts on sustainable rural tourism and leisure developments that benefit businesses in rural areas, communities and visitors should be undertaken.	Chapter 32 Tourism and Recreation (Volume I) sets out the existing environment in relation to the visitor economy and associated visitor accommodation and assesses impacts on tourism and leisure. Further, analysis of onshore tourism and recreation identifies existing leisure infrastructure facilities. Table 31.27 gives an indication of the accommodation stock that would be available to the construction workforce. The impacts on accommodation (including visitor accommodation) are considered within Section 31.6.
Public Health England	Scoping opinion 2021	3e. Community / social cohesion and access to social networks The location of employment, shops and services, provision of public and active transport infrastructure and access to open space and recreational opportunities are associated with social connectedness. Access to local amenities can	Analysis of onshore social and community infrastructure facilities (see Section 31.5.6) identifies existing social community infrastructure within the LOCAI. This includes, school/education infrastructures, churches, police stations, health services and greenspaces infrastructures. The impact on social community infrastructure is considered within Section 31.6.

Consultee	Date / Document	Comment	Response / where addressed in the PEIR
		increase social participation. Neighbourhoods that are more walkable can increase social capital. Urban agriculture can increase opportunities for social connectivity. Infrastructure developments, however, can affect the quality of life of communities living in the vicinity, mediated by substantial community change, including feelings of threat and anxiety, which can lead to psychosocial stress and intra-community conflict.	
Public Health England	Scoping opinion 2021	3f. Community engagement Public participation can improve environmental impact assessments, thereby increasing the total welfare of different interest groups in the community. Infrastructure development may be more acceptable to communities if it involves substantial public participation.	Public consultation for North Falls is ongoing. To date, two rounds of community consultation has been undertaken; from 25 October to 10 December 2021 and from Monday 17 October to Friday 9 December 2022. The statutory consultation on this PEIR document (16 May to 14 July 2023) is also a key part of the community engagement by North Falls, as key stakeholders and the public will be able to provide responses to the PEIR which will be considered when producing the ES for the DCO application.
Planning Inspectorate	Scoping opinion 2021	Paragraph 86 of the Scoping Report (detailing the overarching assessment methodology for the EIA) states that study areas defined for each receptor are based on the Zone of Influence (ZoI) and relevant characteristics of the receptor (e.g. mobility / range). However, the Inspectorate notes that for many of the aspect chapters included, study areas and ZoIs have not been stated. Where this detail has been provided, it is not clear how these study areas relate to the extent of the impacts and likely significant effects associated with North Falls, how they have been used to determine a ZoI, and what receptors have been identified within the ZoI. The PEIR should provide a robust justification as to how study areas have been defined and why the defined study areas are appropriate for assessing potential impacts.	Study areas and justifications for why study areas have been used are defined within Section 31.3.1. Table 31.3 states which study areas have been included within each assessment of Section 31.6.

Consultee	Date / Document	Comment	Response / where addressed in the PEIR
Planning Inspectorate	Scoping opinion 2021	Some aspect sections of the Scoping Report have identified specific receptors, whereas others identify broad categories of receptors only. Specific receptors should be identified within the PEIR, alongside categorisation of their sensitivity and value. Section 1.8.2.1 of the Scoping Report explains the generic approach to defining receptor sensitivity in order to assess the potential impacts upon each receptor. The inspectorate expects a transparent and reasoned approach to be applied to assigning receptor sensitivity to be defined and applied across the aspect chapters.	The impacts (receptors) are set out in Table 31.3. The assessment methodology including approach to determining sensitivity and magnitude is set out in Section 31.4.
Planning Inspectorate	Scoping opinion 2021	The PEIR should include details of difficulties (for example technical deficiencies or lack of knowledge) encountered compiling the required information and the main uncertainties involved.	The assumptions and limitations of the assessment are set out in Section 31.4.6.
Planning Inspectorate	Scoping opinion 2021	Section 1.7.2 and Table 1.4 of the Scoping Report explains that an Evidence Plan Process (EPP) with specialist stakeholders commenced in 2021 to agree the 'detailed methodologies for data collection and undertaking the impact assessments' in respect of certain aspects to be scoped into the PEIR. This approach to agreeing the finer details of the assessment is welcomed. Other aspects, including fisheries, aviation and radar, and shipping and navigation, would fall outside of the EPP but the Applicant has committed to consultation at an early stage of the assessment process. The Applicant should ensure that any agreements reached during EPP or other consultation process are evidenced within the PEIR.	Socio-economic matters have been considered as part of the EPP. Stakeholder consultation related to socio-economic matters undertaken to date are presented within this table (Table 31.1) for matters raised via the relevant ETGs.
Planning Inspectorate	Scoping opinion 2021	Section 1.9.3 of the Scoping Report sets out the planning policy and legislation context for North Falls. It would be beneficial for the aspect chapters of the PEIR to also include reference to aspect specific planning policy and legislation,	Section 31.4.1 presents the planning policy and legislation context that is relevant to the socio-economic assessment.

Consultee	Date / Document	Comment	Response / where addressed in the PEIR
		where this has been used to inform the methodology used for assessment.	
Planning Inspectorate	Scoping opinion 2021	Any mitigation relied upon for the purposes of the assessment should be explained in detail within the PEIR. The likely efficacy of the mitigation proposed should be explained with reference to residual effects. The PEIR should also address how any mitigation proposed is secured, with reference to specific DCO requirements or other legally binding agreements.	Embedded mitigation is considered within Section 31.3.3 (Summary of mitigation embedded in the design). Proposed additional mitigation measures are presented in Section 31.6 (Assessment of significance).
Planning Inspectorate	Scoping opinion 2021	Section 4.2.1 Existing environment – offshore. The offshore socio-economic environment is described as being a busy shipping area used by commercial shipping and fishing vessels, recreational yachting and dredging. Impacts to shipping and navigation are considered in section 2.10 and commercial fishing is considered in section 2.9 and impacts on sensitive landscape receptors within 50km of the array areas are considered in section 4.1 of the Scoping Report. The PEIR should ensure that the baseline environment and any impacts on receptors relating to socio-economic factors are clearly cross referenced to other relevant technical chapters in the socio-economic aspect chapter.	The PEIR assessment of socio-economic impacts related to shipping and navigation and commercial fishing is presented in Section 31.6. The socio-economic assessment provides clear cross references to other relevant technical chapters where information from those chapters is drawn upon.
Planning Inspectorate	Scoping opinion 2021	Section 4.2.2 Approach to data collection – consultation. The PEIR should demonstrate that data collection has involved consultation with local and regional commercial business interests and other relevant consultees such as the Maritime and Coastguard Agency and North East Essex	Consultation with the North East Essex Clinical Commissioning Group and other key organisations with regard to the socio-economic assessment is detailed in Section 31.3. Consultation with the shipping stakeholders such as the Maritime and Coastguard Agency (MCA) is detailed in Chapter 15 Shipping and Navigation

Consultee	Date / Document	Comment	Response / where addressed in the PEIR
		Clinical Commissioning Group and show how this has informed the onshore and offshore socio-economic assessment.	(Volume I) and the findings of the shipping and navigation assessment have informed the socio-economics assessment.
Planning Inspectorate	Scoping opinion 2021	Section 4.2.3 Potential impacts. Potential impacts from North Falls during construction, maintenance and decommissioning phases should be clearly set out in the PEIR. Any likely significant effects should be identified and fully justified in the PEIR. Mitigation if considered necessary should also be set out in the PEIR and should demonstrate how this mitigation would be secured through the DCO. Loss of or disruption to onshore and offshore activities which contribute to existing socio-economic characteristics of the study area, such as potential air quality, noise, visual, and traffic impacts on social and community infrastructure facilities, based on the assessment and conclusions of other relevant PEIR chapters should be clearly described and cross referenced to relevant aspect chapters and any supporting evidence within the PEIR.	Section 31.6 considers the potential effects arising during the construction, operational, maintenance and decommissioning phases.
Planning Inspectorate	Scoping opinion 2021	Section 4.2.3 Potential impacts. In addition to the potential for impacts in terms of hotel facilities and holiday rental accommodation (addressed within Scoping Report section 4.3 Tourism and Recreation), the PEIR should include an assessment of impacts to standard rental accommodation during the construction period where significant effects are likely to occur. For	The impact on accommodation, including rental accommodation is considered within Section 31.6 of the assessment. The impacts on reductions in tourist accommodation availability due to the temporary influx of non-local workers during the construction phase are not included in the socio-economic assessment as they are assessed in detail in Chapter 32 Tourism and Recreation (Volume I).

Consultee	Date / Document	Comment	Response / where addressed in the PEIR
		example, consideration of potential impacts to availability of affordable housing.	
Planning Inspectorate	Scoping opinion 2021	Table 3.3 Potential impacts – mineral resources. Loss, damage or sterilisation of mineral resources is scoped into the PEIR as part of the assessment of ground conditions and contamination. The Inspectorate considers that the economic impact and associated effects of this matter should also form part of the socio-economic assessment, where significant effects are likely to occur.	The wider economic effects related to minerals are considered within Section 31.6 of the assessment.
Planning Inspectorate	Scoping opinion 2021	Para 747 Social infrastructure. In addition to the receptors identified at paragraph 747, the Inspectorate considers that healthcare facilities and emergency services within the study area selected for the assessment should be scoped into the PEIR as social infrastructure receptors.	The assessment considers the impact on healthcare facilities and emergency services within Section 31.6.
Planning Inspectorate	Scoping opinion 2021	Section 4.2.3.4 Potential cumulative impacts. Cumulative impacts are to be considered as set out in section 1.8 of the Scoping Report. This should include socio-economic impacts as part of a cumulative effects assessment. It should be clear how conclusions on effects have been reached in the PEIR.	Cumulative effects are presented in Section 31.8.
Planning Inspectorate	Scoping opinion 2021	Section 4.2.4 Approach to assessment – professional judgement.	Where possible the assessment uses a quantitative assessment approach. However qualitative assessments based on the available information and professional judgement is applied in certain instances. For example when

Consultee	Date / Document	Comment	Response / where addressed in the PEIR
		The socio-economic assessment will present a qualitative assessment of the anticipated impacts and benefits, their extent and when they are expected to occur. The PEIR should demonstrate how professional judgement has been used in any qualitative assessment and how conclusions have been reached.	determining the sensitivity of a receptor as is set out in Section 31.6 the assessment considers the available information provided in Sections 31.5 and 31.4.1 as well as professional judgement to determine the sensitivity of a given receptor.
Planning Inspectorate	Scoping opinion 2021	Study area. The study area for both the onshore and offshore environment should be clearly set out in the PEIR and supported through relevant figures and other supporting evidence. The Applicant should make effort to agree the relevant study area with the consultation bodies.	Section 31.3.1, particularly Table 31.2 and Table 31.3 have defined the study areas of the socio-economic chapter. These study areas have been referred to within analysis from Section 31.5 onwards. In addition, Figures 31.1 and 31.2 (Volume II) provide a spatial overview of the study areas.
Suffolk County Council	Scoping opinion 2021	Skills Section 4.2 – Project Wide Socio-economics Section 4.2.1 – Existing Environment Following previous representation made to assist the definition of study areas we are disappointed to see that only Tendring District, as host local authority, is being considered as the study area. To truly assess the economic benefit or adverse impact of the project the population centres and existing offshore clusters where services and labour will be potentially drawn from should be included in the assessment (Ipswich, Lowestoft & Felixstowe).	Section 31.3.1, particularly Table 31.2 and Table 31.3 have defined the Study areas of the socio-economic chapter. This includes Essex and Suffolk study areas.
Suffolk County Council	Scoping opinion 2021	Section 4.2.2 – Approach to data collection We are pleased to see reference to using data from regional studies such as The Technical Skills Legacy for Suffolk and	The socio-economic data sources used are presented in Section 31.4.2. Relevant stakeholders have been consulted through a dedicated ETG for socio-economics and Suffolk County Council were engaged in further one to

Consultee	Date / Document	Comment	Response / where addressed in the PEIR
		Norfolk (Suffolk Growth Programme Board, 2020) however, this data will only be valuable when considered as part of a wider study area as discussed above. Alongside desk based assessment of socio economic impacts we expect to be consulted, and this clearly demonstrated within the PEIR and its conclusions, on all relevant articulated areas that will be used to form the assessment.	one consultation in March 2023. Comments from these consultations are addressed below within this table and the one-to-one consultation is considered in Section 31.3.
Suffolk County Council	Scoping opinion 2021	Section 4.2.3 – Potential Impacts We are pleased to see the potential impacts that will be assessed across all phases of the project and look forward to working in collaboration with the project to maximise these anticipated positive benefits alongside mitigating adverse impact.	Section 31.6 considers the potential effects arising during the construction, operational and decommissioning phases.
Suffolk County Council	Scoping opinion 2021	Section 4.2.3.4 Socio economics must from part of the cumulative impacts and effects assessment. It is also imperative that the projects included in this cumulative assessment aren't just drawn from planned offshore and energy projects. The cumulative assessment should take into account any and all projects that will require a similar skill set/service. An example of this would be when considering the impact of onshore civils construction, the cumulative impact should take into account any significant road, rail, utilities, projects that will also require a civils workforce at the same time.	Chapter 6 EIA Methodology (Volume I) gives an overview of the CEA process. Cumulative effects have been addressed within Section 31.8.3. The CEA considers a wide range of projects, not just the energy sector.
Suffolk County Council	Scoping opinion 2021	Section 4.2.4 – Approach to Assessment We agree with the applicant that there is not a set of recognised standards for assessment of socio-economic impacts. However, recent NSIP applications have demonstrated robust methodology and these approaches	The impact assessment methodology is presented in Section 31.4. The assessment draws upon standard approaches used for the assessment of socio-economic effects of offshore wind projects of a similar scale and is refined to the specific context of North Falls.

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		should be considered to support and aid confidence in the qualitative assessment made in this project.	
Suffolk County Council	ETG July 2021	SCC would like the project to consider a wider area [to include Suffolk] to source employment and supply chain opportunities.	Section 31.3.1, particularly Table 31.2 and Table 31.3 have defined the Study areas of the socio-economic chapter. This includes Suffolk. Analysis of Suffolk's employment and supply chain characteristics is provided in Section 31.5.2.1 and Section 31.5.2.3.
Suffolk County Council	ETG July 2021	When identifying cumulative effects, the project should not just focus on energy projects but also look at the overlapping civils projects (e.g. proposed garden communities, transport links) and the associated work force demands. There could potentially be a pinch point within Essex / Suffolk when looking at other large infrastructure projects planned between 2026 and 2029.	Cumulative effects have been addressed within Section 31.8.3. The CEA considers a wide range of projects, not just energy sector projects.
Essex County Council	ETG July 2021	A key question for ECC is related to planning the workforce for 2028, as many of them could still be at school. Future employment needs to be taken into account in any project strategy in order to maximise and align opportunities so that everyone is not trying to recruit at the same time.	Anticipated trends in the future working age population have been identified in Section 31.5.10.1. Essex's working age population is expected to increase at a faster rate (5%) than the national average (3%) across 2018 to 2033. In contrast, Suffolk's working age population is expected to decline by 1%. North Falls considers it to be most appropriate to present an Outline Skills and Employment Plan as part of the DCO application, which would be secured via a DCO Requirement.
Tendring District Council & Essex County Council	Additional consultations (08/03/23 and 24/03/23)	Both councils agree that a joint skills strategy (with other local offshore wind projects such as Five Estuaries Offshore Wind Farm) should be factored into the North Falls project to address the existing skills recruitment challenges in the Offshore Wind sector. The proposed strategy should align with the new Tendring future skills programme.	NFOW will present an Outline Skills and Employment Plan as part of the DCO application. This will be secured through a DCO Requirement. This has therefore not been included in the PEIR socio-economics chapter. North Falls' approach to working with other projects is outlined in, Chapter 5 Project Description (Volume I) which states that North Falls has committed to exploring coordinated network designs, along with four other projects in East Anglia: Five Estuaries, National Grid Electricity Transmission's Sea Link, and National Grid Ventures' EuroLink and Nautilus. North Falls and the nearby Five Estuaries offshore wind farm are two distinct projects with separate

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			ownership/shareholders. The two developers are exploring potential co-ordination of construction, infrastructure and operations plans. Discussions will continue during the Project development phase to seek opportunities for collaboration where this is considered practicable and feasible.
Tendring District Council & Essex County Council	Additional consultations (08/03/23 and 24/03/23)	The consultees highlighted existing reports, data and research sitting behind the emerging local skills investment plan which they would like to be considered within the PEIR. This included the Essex Skills Plan, SELEP Skills report and Evidence base, and the Essex Sector Development Strategy.	Table 31.7 includes the documents highlighted in the consultation, and the ES will consider new information that becomes available after the PEIR is produced, such as the local skills investment plan.
Suffolk County Council	Additional consultation (28/03/23)	To maximise the benefit from North Falls, East Suffolk Council would like to see a specific strategy for local employment benefits and opportunities. The developers should ensure that employment does not lead to poaching, and the Council are willing to work collaboratively with the private sector to address this. East Coast College and Suffolk New College are actively looking for ways to support growth of the offshore wind sector. Both are keen to ramp up course provision.	The assessment has considered the cumulative effects of increased pressure on local infrastructure and services (housing and health) within Section 31.8.3. NFOW will present an Outline Skills and Employment Plan as part of the DCO application. This will be secured through a DCO Requirement.
East Suffolk Council	Additional consultation (07/03/23)	To maximise the benefit from North Falls, East Suffolk Council would like to see a specific strategy for local employment benefits and opportunities. The developers should ensure that employment does not lead to poaching, and the Council are willing to work collaboratively with the private sector to address this. East Coast College and Suffolk New College are actively looking for ways to support growth of the offshore wind sector. Both are keen to ramp up course provision.	NFOW will present an Outline Skills and Employment Plan as part of the DCO application This will be secured through a DCO Requirement.
SELEP	Additional consultation (08/03/23)	SELEP have noted that the project will overlap with Colchester Tendring Garden Community project and Freeport East. As such, the developers of North Falls should	Table 31.7 includes a number of documents highlighted by SELEP and the PEIR considers a range of relevant data which is presented in Section 31.5

Consultee	Date / Document	Comment	Response / where addressed in the PEIR
		collaborate with the major infrastructure projects group and Haven Gateway Partnership to ensure the local supply chain opportunities are maximised. The LEP stated that there are socio-economic challenges along the coastline which will impact labour and skills supply. The LEP commented that data from the Essex Skills plan and SELEP skills page should be considered within the PEIR.	which uses a number of underlying data sources that the SELEP skills page draws from (e.g. ONS data).
Freeport East	Additional consultation (07/03/23)	Freeport East is currently co-sponsoring a skills event with RWE to allow for the pool of skills tailored towards the offshore wind farm to become available. They encourage the North Falls project to undertake similar events and engage with the local community in regard to skills, innovation, and further opportunities for collaboration. Furthermore, Freeport East commented that as Harwich has high deprivation and that, any spillover benefits in this area would be disproportionately higher than the local areas with less deprivation.	NFOW will present an Outline Skills and Employment Plan as part of the DCO application. This will be secured through a DCO Requirement. As RWE is a 50% owner of North Falls, its relevant skills activity will be considered within this plan as well as that of other joint owner SSE Renewables. Likewise in terms of innovation and to date, RWE support of the ORE Catapult Launch Academy (East of England) being carried out in 2023. A map of deprivation in which this trend can be seen is presented in Figure 31.3 (Volume II).
NHS Suffolk and North-East Essex ICB	Additional consultation (17/03/23)	The ICB's recent consultation about GP access with Harwich residents showed that residents are already find the waiting time for GP appointments to be too long. The consultees are concerned that with GPs and pharmacies currently under resourced, a large influx of permanent workers may cause capacity constraints. Although there may be lower numbers of residents registered with the GP compared to elsewhere, those that are registered, often suffer from complex conditions which require greater GP time.	The existing environment in relation to health care services includes consultee views and is presented in Section 31.5.5. The potential disruption to health care services considers the existing environment and is assessed in Section 31.6.
NHS Suffolk and North-East Essex ICB	Additional consultation (17/03/23)	Unrelated to health, the consultees raised the potential issue that if the North Falls project were to block book caravan sites, this would have a large impact on the existing community as many local families rely on caravan sites for permanent residency. .	The impact on visitor accommodation is assessed in Chapter 30 Tourism and Recreation (Volume I). It is assumed that North Falls will prioritise the use of serviced accommodation and as such the effect on caravan sites would be very limited.

31.3 Scope

31.3.1 Study areas

9. The study areas for the socio-economics assessment have been defined on the basis of the socio-economic receptors and the geography over which the Project's potential effects will occur. This is based upon the set of assumptions/limitations as outlined in Section 31.4.6.

10. Given their proximity to the offshore project areas and the interests of local stakeholders, the study assesses effects in both Suffolk and Essex, as defined in Table 31.2 below.

Table 31.2 Local study areas geography

Study Areas	Local Administration Councils Units Areas	Local Authority District Council Areas
Essex	Essex	Basildon
		Braintree
		Brentwood
		Castle Point
		Chelmsford
		Colchester
		Epping Forest
		Harlow
		Maldon
		Rochford
		Tendring (district in which onshore cable infrastructure is located and area in which O&M port infrastructure may be located)
		Uttlesford
	Southend-On-Sea (unitary authority area)	
	Thurrock (unitary authority area)	
Suffolk	Suffolk	Babergh
		East Suffolk (district in which O&M port infrastructure may be located)
		Ipswich
		Mid Suffolk
		West Suffolk

11. Table 31.3 below sets out the study areas used for each type of impact. It shows that the effect of North Falls on economic receptors (i.e. jobs and GVA[1]) is assessed at the national (i.e. UK) and local (i.e. Essex and Suffolk) level. This is because the development will draw upon a workforce and supply chain that could be spread across a wide area[2].

12. The chapter assesses potential disturbance to social and community infrastructure facilities during the development of onshore infrastructure as a result of effects on noise, air visual, and traffic. These effects are likely to be local in nature and concentrated around the onshore project area. The local onshore cable area of influence (LOCAI) is therefore used as the study area. The assessment takes a conservative approach and defines this as the area within 500m from the onshore project area of the onshore elements of North Falls.

13. The impacts on local infrastructure and services (housing and health) is assessed for the Suffolk and Essex study areas as these areas have potential to receive an influx of non-local workers, especially during the construction phase. The assessment specifically focuses on the districts in which non-local workers would be most likely to locate. It is expected that non-local workers would be prepared to travel up to 45 minutes to reach construction sites. Therefore, non-local workers are assumed to locate in either Tendring, Colchester Borough, Maldon District, and Braintree District within Essex County and Ipswich Borough, Babergh District, and East Suffolk District within Suffolk County.

14. The wider economic effects from disruption to shipping and navigation are focused on the potential impact on nationally significant ports (primarily Felixstowe and Harwich ports). Hence the impact areas assessed are at the local (Essex and Suffolk) study area level and the national level (UK).

15. The wider economic effects from disruption to fishing would be concentrated along the coastal areas, as this is where fishing activity that may be affected by North Falls primarily occurs. Therefore, the Suffolk and Essex study areas are assessed with a particular focus on coastal local authority districts.

16. The wider economic effects from sterilisation of mineral resources would be concentrated on businesses who may have developed mineral resources located in or in close proximity to the onshore project area. The study area is therefore Essex, with a focus on the mineral resource within 250 m of the onshore project area (based on professional judgement and the assessment set out in Chapter 19 Ground Conditions and Contamination, Volume I).

17. The study area socio-economic effect on the volume and value of tourism has been defined based on the location of onshore and offshore infrastructure and

[1] The measure of the value of goods and services produced in an area, industry or sector of an economy. At the level of a firm, it is broadly equivalent to employment costs plus a measure of profit.
[2] Given close proximity of onshore infrastructure to Suffolk and the uncertainty about the location of businesses engaged in the supply chain local economic effects have been assessed for a combined area which includes both Essex and Suffolk. This is because it would be difficult to disaggregate effects between the two areas.

the areas where likely significant visual effects are identified in Chapter 29 Seascape, Landscape and Visual Impact Assessment (Volume I). This includes the following areas:

- East Anglian coastal and offshore waters;
- Suffolk coast; and
- Essex coast
- Tendring (location of onshore infrastructure).

18. An overview of the spatial areas considered in the assessment is also presented in Figures 31.1 and 31.2 (Volume II).

Table 31.3 Study areas by impact

Impact	UK	Suffolk	Essex	LOCAI
Construction / Decommissioning				
Direct economic benefit (supply chain) onshore	✓	✓		n/a
Direct economic benefit (supply chain) offshore	✓	✓		n/a
Employment onshore	✓	✓		n/a
Employment offshore	✓	✓		n/a
Pressure on local onshore infrastructure and services (housing and health – note accommodation is scoped out as it is assessed in Chapter 32 Tourism and Recreation, Volume I)	n/a	✓ (focused on Ipswich , Babergh , and East Suffolk , Tendring, Colchester, Maldon, and Braintree)		n/a
Onshore disturbance (noise, air, visual, and traffic) to social and community infrastructure facilities	n/a	n/a	n/a	✓
Wider economic effects from disruption to shipping and navigation	✓	✓		n/a
Wider economic effects from disruption to fishing	n/a	✓ (coastal districts)	✓ (coastal districts)	n/a
Wider economic effects related to minerals	n/a	n/a	ü	✓ (focused on a 250m buffer around the onshore project area as illustrated on Figure 19.1 (Volume II))
Volume and value of tourism	n/a	✓ (focused on the marine and coastal study area and Tendring)		n/a

Impact	UK	Suffolk	Essex	LOCAI
Operational phase				
Direct economic benefit (supply chain) onshore	✓	✓		n/a
Direct economic benefit (supply chain) offshore	✓	✓		n/a
Employment onshore	✓	✓		n/a
Employment offshore	✓	✓		n/a
Pressure on local onshore infrastructure and services (housing and health)	n/a	✓ (focused on Ipswich , Babergh , and East Suffolk , Tendring, Colchester, Maldon, and Braintree)		n/a
Onshore disturbance (noise, air, visual, and traffic) to onshore social and community infrastructure facilities	n/a	n/a	n/a	ü
Wider economic effects from disruption to shipping and navigation	✓	✓	n/a	n/a
Wider economic effects from disruption to fishing	n/a	✓ (coastal districts)	✓ (coastal districts)	n/a
Wider economic effects related to minerals	n/a	n/a	ü	✓ (focused on a 250m buffer around the onshore project area as illustrated on Figure 19.1 (Volume II)).
Volume and value of tourism	n/a	✓ (focused on the marine and coastal study area and Tendring)		n/a

31.3.2 Realistic worst case scenario

19. The final design of North Falls will be confirmed through detailed engineering design studies and stakeholder consultation that will be undertaken post-consent. In order to provide a precautionary but robust impact assessment at this stage of the development process, realistic worst case scenarios have been defined in terms of the potential effects that may arise. This approach to EIA, referred to as the Rochdale Envelope, is common practice for developments of this nature, as set out in Planning Inspectorate Advice Note Nine (2018). The Rochdale Envelope for a project outlines the realistic worst case scenario for each individual impact, so that it can be safely assumed that all other scenarios within the design envelope will have less impact. Further details are provided in Chapter 6 EIA Methodology (Volume I).

20. The realistic worst case scenarios for the socio-economics assessment are summarised in Table 31.4. These are based on North Falls parameters described in Chapter 5 Project Description (Volume I), which provides further details regarding specific activities and their durations.

Table 31.4 Realistic worst case scenarios

Impact	Parameter	Notes
Construction		
Direct economic benefit and employment	Marshalling port: Use of a marshalling port elsewhere in the UK study area (i.e. outside of the Essex and Suffolk study areas) represents the realistic worst-case scenario for direct economic and employment benefits for all development scenarios. Wind farm size/capacity: 40 to 72 wind turbine generators (WTG). Indicative generation capacity of 504-1000 MW. However, 504 MW represents the realistic worst-case scenario in terms of potential positive effects (direct economic benefit and employment). Development and construction phase: Development and construction phase of seven years.. This includes development and project management. Installation and commissioning will last three years. Sourcing levels: Realistic worst case for this impact is based on the use of a worst-case scenario, representing an outcome where UK suppliers are uncompetitive.	The supply chain sourcing scenarios are used to assess the likely potential range of geographic sourcing assumptions. The use of scenarios allows for an assessment of both maximum and minimum positive impacts that could be supported by North Falls at both the local (Essex and Suffolk study area) and national (i.e. UK) levels. The assumed capacity is a key assumption which drives the modelling of economic benefit and increased employment. The Crown Estate Guide to an Offshore Wind Farm (The Crown Estate, 2019) presents cost per MW benchmarks meaning there is a linear relationship between capacity and investment. This higher level of investment means the value of supply chain opportunities is greater and there are more employment opportunities, meaning economic benefits are higher. This represents the realistic worst-case scenario in terms of the potential for negative impacts on other receptors within the chapter. At this stage the total generation capacity of North Falls is yet to be finalised. This will depend on the number of turbines installed and their generation capacity.
Pressure on local onshore infrastructure and services (housing and health)	The realistic worst-case scenario is based on the highest number of non-local workers that can be realistically anticipated to locate in the local area during the peak construction year (the peak year is anticipated to be 2029 based on the impacts set out in Appendix 31.1, Volume III).	Draws on the cost and sourcing assumptions set out in Appendix 31.1 (Volume III) to generate estimate of labour requirements.

Impact	Parameter	Notes
	Wind farm size/capacity: 40 to 72 wind turbine generators (WTG). Indicative generation capacity of 504-1000 MW. However, 1000 MW represents the realistic worst-case scenario in terms of potential for pressure on local onshore infrastructure and services (housing and health) resulting from an influx of non-local workers to the local area. Non-local workforce: A proportion of the workforce will be non-local workers who temporarily relocate into the local area. As noted in Chapter 32 Tourism and Recreation (Volume I), these external workers typically move to within a 45-minute travel to work catchment from their main North Falls based workplace. The maximum impacts scenario is conservative as it assumes that all non-local construction workers working on the installation and commissioning of the onshore and offshore infrastructure of North Falls move into the local area. Although it is assumed that workers involved in the design phase and manufacturing activities of North Falls do not relocate into the local impact area as these activities are not expected to take place in Essex of Suffolk. Location of construction jobs: Realistic worst case for this impact is based on the use of an enhanced economic impact scenario (the scenarios are set out in more detail in Appendix 31.1, Volume III), representing an optimistic but plausible outcome. This is the scenario in which a higher share of construction jobs are located in the local study area, so the potential for an influx of external labour is greater. Peak impact: Realistic worst case for this impact considers the peak construction workforce and the potential for this workforce to impact on demographics due to non-local workers temporarily moving into the area and the resulting pressure on local onshore infrastructure. Geographical scope: Change in demographics due to workers temporarily moving into the area and the resulting increased pressure on health care facilities and housing has potential to occur across the Essex and Suffolk but is assumed to be most concentrated around the locations of onshore construction activity / ports used by construction workers.	Demographic changes will reflect labour market catchments and functional geographies.

Impact	Parameter	Notes
Disturbance (noise, air, visual, and traffic) to onshore social and community infrastructure facilities	Total onshore works area: Social and community infrastructure assets (such as schools, community support centres, public spaces, sports and recreation venues, and arts and culture venues) within the onshore project area have potential to be impacted. The realistic worst case is based on the realistic worst case scenario for other relevant chapters related to the effects on noise, air, visual and traffic in proximity to the LOCAI.	Potential for North Falls' onshore infrastructure to cause disturbance (noise, air, visual, and traffic) to onshore social and community infrastructure facilities is assessed within Sections 31.6.1.6, 31.6.2.7 and 31.6.3.
Wider economic effects from disruption to shipping and navigation	Worst case impact on shipping and navigation as set out in Chapter 15 Shipping and Navigation (Volume I).	
Wider economic effects related to minerals	The realistic worst case is based on the realistic worst case scenario for Chapter 19 Ground Conditions (Volume I).	
Volume and value of tourism	40 wind turbine generators (WTGs) with a maximum blade tip height of 397m above Mean High Water Springs (MHWS), or 72 WTGs with a maximum blade tip height of 310m above MHWS. 2 offshore electrical platforms, 228km of array cable with up to 20% of the cable length requiring surface laid cable protection; 250.8km of export cable with up to 10% of the cable length requiring surface laid cable protection. Safety zones around potentially hazardous installation or works / construction area will be identified as required by the shipping and navigation assessment (Chapter 15 Shipping and Navigation, Volume I). An estimated 15 clearance operations are predicted during preparation for construction (12 in the array areas and 3 in the offshore cable corridor). Offshore construction duration: 3 years Maximum vessels on site: 35 Vessel movements throughout construction phase: 4,200	The largest turbines represent the worst case scenario for the range of visual impacts which have informed the study area. However, the higher number of turbines represent the worst case scenario in terms of shipping and navigation impacts and therefore the consequences of both are considered in relation to impacts on tourism.

Impact	Parameter	Notes
Operational phase		
Direct economic benefit and employment	O&M Port: Use of a O&M port in one of the Essex or Suffolk study areas. Wind farm size/capacity: 40 to 72 WTGs. Indicative generation capacity of 504-1000 MW. However, 504 MW represents the realistic worst-case scenario in terms of potential positive effects (direct economic benefit and employment). Operational Phase: Operational phase of 30 years for the operation of North Falls. Economic Impact Scenario: Realistic worst case for this impact is based on the use of a worst-case scenario, representing an outcome where UK suppliers are uncompetitive and therefore the economic benefits are more limited.	The supply chain sourcing scenarios are used to assess the likely potential range of geographic sourcing assumptions. The use of scenarios allows for an assessment of both maximum and minimum positive impacts that could be supported by North Falls at both the local (Essex and Suffolk study area) and national (i.e. UK) levels. The assumed capacity is a key assumption which drives the modelling of economic benefit and increased employment. This represents the realistic worst-case scenario in terms of the potential for negative impacts on other receptors within the chapter. At this stage the total generation capacity of North Falls is yet to be finalised. This will be determined by the number of turbines installed and their generation capacity.
Pressure on local onshore infrastructure and services (housing and health)	Wind farm size/capacity: 40 to 72 wind turbine generators (WTG). Indicative generation capacity of 504-1000 MW. However, However, 1000 MW represents the realistic worst-case scenario in terms of potential for pressure on local onshore infrastructure and services (housing and health) resulting from an increase in non-local workers.	Draws on the cost and sourcing assumptions set out in Appendix 31.1 (Volume III), prepared by BVG Associates to generate estimate of labour requirements. Demographic changes will reflect labour market catchments and functional geographies.
Disturbance (noise, air, visual, and traffic) to onshore social and community infrastructure facilities:	Total onshore works area: Social and community infrastructure assets (such as schools, community support centres, public spaces, sports and recreation venues, and arts and culture venues) along the onshore corridor have potential to be impacted. The realistic worst case is based	

Impact	Parameter	Notes
	on the realistic worst case for other relevant chapters related to the effects on noise, air, visual and traffic in proximity to the LOCAI.	
Wider economic effects from disruption to shipping and navigation	Worst case impact on shipping and navigation as set out in Chapter 15 Shipping and Navigation (Volume I).	
Wider economic effects related to minerals	The realistic worst case is based on the realistic worst case for Chapter 19 Ground Conditions (Volume I).	
Volume and value of tourism	Array area: 150km^2	
	Maximum number of WTG: 72 smallest WTG or 40 largest WTG	
	Maximum WTG tip height: Smallest WTG – 310m or Largest WTG – 397m	
	Number of offshore substation platforms (OSP): Up to 2 OSP	
Decommissioning		
No final decision has yet been made regarding the final decommissioning policy for the onshore project infrastructure including landfall, onshore cable corridor(s) and onshore substation. It is also recognised that legislation and industry best practice change over time. However, it is likely that the onshore project equipment, including the cable, will be removed, reused or recycled where possible and the transition bays and cable ducts being left in place. The detail and scope of the decommissioning works will be determined by the relevant legislation and guidance at the time of decommissioning and will be agreed with the regulator. It is anticipated that for the purposes of a worst-case scenario, the impacts will be no greater than those identified for the development and construction phase.		

31.3.3 Summary of mitigation embedded in the design

21. This section outlines the embedded mitigation relevant to the socio-economic assessment, which has been incorporated into the design of North Falls (Table 31.5). Where other mitigation measures are proposed, these are detailed in the impact assessment (Section 31.6).

Table 31.5 Embedded mitigation measures

Parameter	Mitigation measures embedded into North Falls design
Onshore site selection	The onshore project area has been defined following an extensive site selection process, which has sought to take account of environmental, engineering, planning, and land requirements to seek to identify the least sensitive project location. The site selection process is described in detail in Chapter 4 Site Selection and Assessment of Alternatives (Volume I). The site selection process has included consideration of the following design principles: • Minimising land take where possible; • Avoiding residential titles (including whole garden) where practicable; • Avoiding direct significant impacts to mature woodland and ancient woodland; • Avoiding scheduled ancient monuments and listed buildings; • Avoiding direct significant impacts to internationally and nationally designated areas e.g. Special Areas of Conservation (SAC), Special Protected Areas (SPA), Sites of Special Scientific Interests (SSSI); • Avoiding national landscape designations e.g. Areas of Outstanding Natural Beauty (AONB), Heritage Coast; • Avoiding important tourism destinations and recreational assets e.g. NCN routes, caravan parks; • Minimising the number and length of trenchless crossings; • Minimising the number of crossings of utility, road, and rail lines; and • Minimising impacts to residents in relation to access to services and road usage, including public right of way (PRoW) closures and diversions.
Offshore site selection	The offshore cable corridor was selected in consultation with key stakeholders to select a route which minimised impacts on a range of receptors such as designated sites and shipping and navigation. The site selection process is described in detail in Chapter 4 Site Selection and Assessment of Alternatives (Volume I).
Engagement	Engagement is ongoing and will continue after submission of the DCO and throughout the development of the Project. Stakeholders in relation to socio-economics that will be engaged include: • Local authorities; • Landowners; • Local communities; • Educational institutions; and • Localsuppliers and usinesses, including local accommodation providers. Consultation will also help ensure that management plans are prepared and implemented sufficiently to mitigate any potential impacts.
Mitigation highlighted in other	A number of topic specific embedded mitigation measures highlighted in other topic chapters have been considered in the assessment of socio-economics. The

Parameter	Mitigation measures embedded into North Falls design
topic assessments that is relevant to socio-economics	parameters of embedded mitigation measures are mentioned here and are set out in more detail in the relevant topic chapter: Chapter 20 Air Quality (Volume I): • Best practice dust management mitigation measures • Mitigation measures specific to non-road mobile machinery Chapter 22 Land Use and Agriculture (Volume I): • Agri-environment schemes. Where impacts to land subject to an agri-environment agreement cannot be avoided, these will be dealt with through the Rural Payments Agency, including compensation provisions to reimburse a landowner's financial losses where appropriate. Chapter 26 Noise and Vibration (Volume I): • Implementation of a Construction Environmental Management Plan • Reduction of construction phase noise and vibration and operational substation noise and vibration Chapter 27 Traffic and Transport (Volume I): • Implementation of a Construction Traffic Management Plan • Delivery Time Restrictions • Strategy for access • Trenchless Crossings • Mitigation for crossing private access tracks • Onshore substation access 17, vehicle routeing strategy Chapter 30 Landscape and Visual Impact Assessment (Volume I): • Mitigation by construction method (e.g. use of trenchless techniques) and design (e.g. reduced onshore cable corridor(s) working width) selection • Mitigation of landscape and visual effects has been undertaken through design modifications and input to the design process. This will include consideration of the location of the various components within the substation zone, and consideration of the materials used, colour palette and boundary treatments (as included in the North Falls Design Vision Statement, 2023). Outline Skills and Employment Plan: • North Falls considers that details on use of mitigation / enhancement measures related to skills and employment are most appropriate to present as part of an Outline Skills and Employment Plan, which will be submitted as part of the DCO application and secured through a DCO Requirement. This has therefore not been included in the PEIR socio-economics chapter but will be taken into account in the ES.

31.4 Assessment methodology

31.4.1 Legislation, guidance and policy

31.4.1.1 National Policy Statements

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

- Overarching NPS for Energy (EN-1) (Department of Energy and Climate Change (DECC) 2011a);
- NPS for Renewable Energy Infrastructure (EN-3) (DECC 2011b);
- NPS for Electricity Networks Infrastructure (EN-5) (DECC 2011c);
- Draft Overarching NPS for Energy (EN-1) (BEIS 2022a);
- Draft NPS for Renewable Energy Infrastructure (EN-3) (BEIS 2022b); and
- Draft NPS for Electricity Networks Infrastructure (EN-5) (BEIS 2022c).

23. The UK Government announced a review of the existing NPSs within its December 2020 Energy White Paper (HM Government, 2020) and issued a draft version of Overarching NPS for Energy EN-1, NPS for Renewable Energy Infrastructure EN-3 and NPS for Electricity Networks Infrastructure EN-5 for consultation on 6th September 2021 (BEIS, 2021a; BEIS, 2021b; BEIS, 2021d). At the time of writing this PEIR chapter, final versions of the revised NPSs are not available.

24. The specific assessment requirements for socio-economics, as detailed in the NPS, are summarised in Table 31.6 together with an indication of the section of the PEIR chapter where each is addressed.

Table 31.6 NPS assessment requirements

NPS Requirement	NPS Reference	PEIR Reference
Overarching NPS for Energy (EN-1)		
Where the project is likely to have socio-economic impacts at local or regional levels, the applicant should undertake and include their application an assessment of these impacts as part of the PEIR.	Paragraph 5.12.2	The socio-economic impacts of North Falls that have been scoped into the assessment have been assessed for relevant study areas set out in Table 31.3 Study areas by impact and Figures 31.1 and 31.2 (Volume II). This in includes regional (Essex and Suffolk) and national (UK) study areas as well as more localised study areas where this is relevant.
The assessment should consider all relevant socio-economic impacts which may include the creation of jobs and training opportunities.	Paragraph 5.12.3	The effects North Falls' activity, during each phase of the Project on employment are explored in Section 31.6.

NPS Requirement	NPS Reference	PEIR Reference
The assessment should consider all relevant socio-economic impacts, including the provision of additional local services and improvements to local infrastructure including the provision of educational and visitor facilities.	Paragraph 5.12.3	The effects of the additional demand for local services and improvements to local infrastructure are explored in Section 31.6.
The assessment should consider the impact of changing influx of workers during the different construction, operational and decommissioning phases of the energy infrastructure.	Paragraph 5.12.3	The effects of changing influx of workers on pressure on local infrastructure are considered in Section 31.6.
The assessment should consider effects on tourism.	Paragraph 5.12.3	Socio-economic effects on the volume and value of tourism are considered in Section 31.6.
The assessment should consider cumulative effects.	Paragraph 5.12.3	Cumulative effects of North Falls are considered in Section 31.8.
Applicants should describe the existing socio-economic conditions in the areas surrounding North Falls and should also refer to how the development's socio-economic impacts correlate with local planning policies.	Paragraph 5.12.4	The existing socio-economic conditions are outlined in Section 31.5. The existing local policy context has been considered for the assessment of socio-economics within Section 31.4.1 of this assessment.
The inter-relationships of socio-economic impacts with other impacts should also be considered.	Paragraph 5.12.5	The inter-relationships between socio-economics and other aspects of the assessment (including commercial fisheries, shipping and navigation, land use, landscape and visuals, transport and traffic, noise, recreation and land use) are considered in Section 31.10.
The Infrastructure Planning Commission should have regard to the potential socio-economic impacts of new energy infrastructure identified by the applicant and from any other sources that the IPC considers to be both relevant and important to its decision.	Paragraph 5.12.6	N/A
The Infrastructure Planning Commission may conclude that limited weight is to be given to assertions of socio-economic impacts that are not supported by evidence (particularly in view of the need for energy infrastructure as set out in this NPS).	Paragraph 5.12.7	N/A
The Infrastructure Planning Commission should consider any relevant positive provisions the developer has made or is proposing to make to mitigate impacts (for example through planning obligations) and any legacy benefits that may arise as well	Paragraph 5.12.8	N/A

NPS Requirement	NPS Reference	PEIR Reference
as any options for phasing development in relation to the socio-economic impacts.		
NPS for Renewable Energy Infrastructure (EN-3)		
EN-3 contains relevant policy in relation to the transmission of infrastructure for renewable energy installations, however there is no information specific to this socio-economic chapter. EN-3 does contain relevant policy in relation to other interrelated topics that are considered in the socio-economic assessment such as transport and traffic.		
NPS for Electricity Networks Infrastructure (EN-5)		
EN-5 contains relevant policy in relation to providing a fit for purpose and robust electricity network, however there is no information specific to this socio-economic chapter.		
Draft NPS for Energy (EN-1)		
The emerging draft NPS makes the additional point that in regard to the creation of jobs and training opportunities applicants may wish to provide information on the sustainability of the jobs created, including where they will help to develop the skills needed for the UK's transition to Net Zero.	Paragraph 5.13.3	Socio-economic effects on employment are considered in Section 31.6. The assessment considers the sustainability of jobs created and how they will develop the skills needed for the UK's transition to Net Zero (particularly during the operational phase – see Section 31.6.2.5). North Falls consider that details on how engagement with local providers regarding the creation of jobs and training opportunities are most appropriate to present as part of an Outline Skills and Employment Plan, which will be submitted as part of the DCO application and secured through a DCO Requirement. This plan will contain more detail on this point.
The emerging draft NPS makes the additional point that relevant socio-economic impacts may include the contribution to the development of low-carbon industries at the local and regional level as well as nationally	Paragraph 5.13.3	Socio-economic effects on GVA are considered in Section 31.6. The assessment considers the creation of economic value that is part of the wider development of the low-carbon wind industry in the UK (particularly during the operational phase – see Section 31.6.1.2).
The emerging draft NPS makes the additional point that any indirect beneficial socio-economic impacts for the region hosting the infrastructure, in particular in relation to use of local support services and supply chains should be considered.	Paragraph 5.13.3	Indirect beneficial impacts are considered in Section 31.6.
The emerging draft NPS makes the additional point that accommodation strategies should be developed where appropriate, especially during construction and decommissioning phases, that would include for the need to provide temporary	Paragraph 5.13.6	The impact on changes in demographics and requirements for accommodation of non-local workers is assessed in Section 31.6 and within Chapter 32 Tourism and Recreation (Volume I). The impacts on reductions in tourist accommodation availability due to the

NPS Requirement	NPS Reference	PEIR Reference
accommodation for construction workers if required.		temporary influx of a non-local workforce during the construction phase are scoped out of the socio-economic assessment as they are assessed in detail in Chapter 32 Tourism and Recreation (Volume I).
Draft NPS for Renewable Energy Infrastructure (EN-3)		
There are no material changes as with the existing NPS EN-3 and therefore there are no new relevant paragraphs in relation to this chapter.		
Draft NPS for Electricity Networks Infrastructure (EN-5)		
There are no material changes as with the existing NPS EN-5 and therefore there are no new relevant paragraphs in relation to this chapter.		

31.4.1.2 Other legislation, policy and guidance

25. In addition to the NPS, there are a number of pieces of legislation, policy and guidance applicable to the assessment of socio-economics. Further detail is provided in Chapter 3 Policy and Legislative context (Volume I). A summary of the key national and local policy considerations outside of the NPS is provided in Table 31.7 below. Other legislation, policy and guidance related to the assessment of the volume and value of tourism is detailed in Chapter 32 Tourism and Recreation (Volume I).

Table 31.7 Additional relevant national and / or local policy

Policy consideration	Relevance to socio-economic assessment
National policy	
The Marine Policy Statement (HM Government, 2011)	The Marine Policy Statement (MPS) stated that properly planned developments in the marine area could provide environmental and social benefits as well as drive economic development, provide opportunities for investment and generate export and tax revenues. There are obvious social and economic benefits from such an increase in network capacity, most notably the facilitation of offshore renewable energy. There are also social and economic risks associated with such an increase in underwater cabling, which may affect activities such as dredging and the use of certain fishing gear, and impact on other sea users, including existing cable and pipeline operators. The marine plan authority should ensure, through integration with terrestrial planning, and engagement with coastal communities, that marine planning contributes to securing sustainable economic growth both in regeneration areas and areas that already benefit from strong local economies.
Clean Growth Strategy (HM Government, 2017a)	The UK Government developed a Clean Growth Strategy to ensure economic growth went hand in hand with greater protection for the natural environment. Within this was a commitment to help businesses and entrepreneurs seize opportunities of a low carbon economy, specifically offshore wind. The strategy was driven by policies and processes to improve the route to market for renewable technologies such as offshore wind. Under its ambition to deliver clean, smart and flexible power the Clean Growth Strategy sought to deliver a diverse electricity system that supplied homes and businesses with secure, affordable and clean power. It sought to deliver this through the development of low carbon sources of electricity (including renewables) and acknowledged that the UK

Policy consideration	Relevance to socio-economic assessment
	was well-placed to benefit and become one of the most advanced economies for smart energy and technologies.
UK Industrial Strategy: Offshore Wind Sector Deal, (HM Government, 2018)	The Offshore Wind Sector Deal is a joint industry/government commitment to help the offshore wind industry raise the productivity and competitiveness of UK companies. This aims to ensure the country continues to play a leading role as the global market grows in the decades to 2050. Key commitments include: • Increasing UK content to 60% of value associated with offshore wind farm activity by 2030; • £250m industry investment in building a stronger UK supply chain to support productivity and increase competitiveness; • Providing forward visibility of future Contract for Difference (CfD) rounds with support of up to £557m; • Increasing exports fivefold to £2.6bn by 2030; and • Increasing the representation of women in the offshore wind workforce to at least a third by 2030. At the start of March 2020, the Government issued a one-year progress note (BEIS, 2020) on the Offshore Wind Sector Deal. This highlighted the identification of East Anglia as one of the of offshore wind clusters (as well as north Scotland, the north-east, the Humber, Solent, and north-west / north-Wales). The note also highlighted that since the publication of the Offshore Wind Sector Deal, the costs of offshore wind has continued to fall, reaching £39.65/MWh (2012- pricing) for offshore wind farms to be delivered in 2023/24. This represents an overall decrease of around 65% when compared with projects in the 2015 CfD auction.
Energy white paper (HM Government, 2020a)	The Energy white paper put in place a strategy for a wider energy system that transforms energy and supports a green recovery. The Paper built on the Ten Point Plan for Green Industrial Revolution (HM Government, 2020b), point one of which was advancing Offshore Wind. In the plan, Government set out its aim to quadruple the UKs offshore wind capacity, from 10GW in 2019 to 40GW by 2030 (later increased to 50GW), including 1GW of floating offshore wind, alongside the expansion of other low-cost renewable technologies. They committed to backing new innovations to make the most of offshore wind and invest in bringing jobs and growth to the UKs ports and coastal regions. Following the recent energy crisis brought about by the war in Ukraine, Government have raised the offshore wind capacity target to 50GW and the floating offshore wind target to 5GW in the British Energy Security Strategy (HM Government, 2022b). The British Energy Security Strategy is discussed in further detail below (within this table).
Net Zero Strategy: Build Back Greener (BEIS, 2021a)	The Net Zero Strategy: Build Back Greener supported the commitment of 40GW (now 50GW) of offshore wind by 2030 and committed to fully decarbonising the UK power system by 2035. Full decarbonisation will mean that all the UK's electricity would come from low carbon sources, subject to the security of supply. At the time of writing, the strategy set out what actions had already been taken to deliver on the Ten Point Plan: • Supported manufacturers via government investment schemes. Six manufacturers had already announced major investments in the UK offshore wind sectors and delivering up to 3,600 jobs by 2030; • Initiated the biggest-ever round of the Government's flagship renewable energy scheme for low carbon electricity (Contract for Difference- CfD) with £200m for offshore wind projects and £24m for floating offshore wind;

Policy consideration	Relevance to socio-economic assessment
	• Launched a £17.5m competition to support innovative floating wind ideas from industry and joined the ORE Catapult's FOW Centre of Excellence, contributing £2m; • Leveraged over £1.5bn investment into our offshore wind industry, following the £160m to upgrade ports and infrastructure; and • Published the Offshore Transmission Network Review, setting out two initial policy consultations to move to a coordinated approach for both inflight and future offshore wind projects.
Net Zero Review (HM Treasury, 2021b)	The Net Zero Strategy set out a comprehensive range of policies to support and capitalise on the UK's transition to net zero by 2050 across the whole economy. The Net Zero Review stated that global action to mitigate climate change was essential to long-term UK prosperity. At the review's time of writing, the majority of global gross domestic product (GDP) was covered by net zero targets. As the world continues to decarbonise, UK action can generate benefits to businesses and households across the country.
National Planning Policy Framework (HM Government, 2021c)	The National Planning Policy Framework (henceforth NPPF) emphasised that one of the overarching objectives of the planning system is to contribute to the achievement of sustainable development. This includes backing the transition to a low carbon future by supporting the transition to renewable and low carbon energy (and associated infrastructure). Whilst NPPF does not contain specific policy statements for NSIPs, it outlined three overarching dimensions (i.e. economic, social and environmental) which are a relevant consideration. Two of these are especially pertinent to the socio-economic assessment: • **Economic –** to help build a strong, responsive and competitive economy, by ensuring that sufficient land of the right type is available in the right places and at the right time to support growth and innovation, and by identifying and co- ordinating development requirements, including the provision of infrastructure; • **A social role –** supporting strong, vibrant and healthy communities, by providing the supply of housing required to meet the needs of present and future generations, and by creating a high-quality built environment with accessible local services that reflect the community's needs and support its health, social and cultural well-being; and • **Environmental –** protect and enhance the natural, built and historic environment, including making effective use of land, helping to improve biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change (including a move to a low carbon economy). In addition, the NPPF stated that the planning system should shape places in ways that contribute to radical reductions in greenhouse gas emissions; minimise vulnerability and provide resilience to the impacts of climate change; and support the delivery of renewable and low carbon energy and associated infrastructure.
Build Back Better: Our Plan for Growth (HM Government, 2021a)	The Build Back Better: Our Plan for Growth was created in replacement of the UK Industrial Strategy, building a Britain fit for the future (HM Government, 2017b). Government set out a plan 'to deliver growth that created high-quality jobs across the UK' by building on the three core pillars of infrastructure, skills and innovation. The plan also identified three priorities for Government, one of which was supporting the transition to net zero. The Plan for Growth stated that Government will focus on delivering The Ten Point Plan for Green Industrial Revolution (HM Government, 2020b). Policy commitments made in this document were updated within the Energy white paper (HM Government, 2020a), the Net Zero Strategy (HM Government, 2021b) and the British Energy Security Strategy (HM Government, 2022b).

Policy consideration	Relevance to socio-economic assessment
Skills for Jobs: Lifelong Learning for Opportunity and Growth (HM Government, 2021d)	The Skills for Jobs White Paper (HM Government, 2021d) sets out how the Government will reform further education, so it supports people to get the skills the economy needs throughout their lives, wherever they live in the country. A focus on jobs and growth will be delivered by: • Putting employers at the heart of the system so that education and training leads to jobs that can improve productivity and fill skills gaps; • Investing in higher-level technical qualifications that provide a valuable alternative to a university degree; • Making sure people can access training and learning flexibly throughout their lives and are well-informed about what is on offer through great careers support; • Reforming funding and accountability for providers to simplify how funds are allocated, give providers more autonomy, and ensure an effective accountability regime which delivers value for money; and • Supporting excellent teaching in further education. The White paper recognises that we do not have enough technicians, engineers or health and social care professionals to meet vital challenges such as building the green economy. A Skills Value Chain (assessing future skills to meet the needs of the value chain) will be explored to see if it can be used to support Government priorities such as net zero.
British Energy Security Strategy (HM Government, 2022b)	The British Energy Security Strategy intends to set out how Great Britain will accelerate homegrown power for greater energy independence. The ambition set in the strategy is for offshore wind to deliver up to 50GW by 2030, including up to 5GW of innovative floating wind. The ambition is that by 2030 over half of British renewable generation capacity will be wind. The strategy notes that: • 11GW is already being generated from offshore wind with a further 12GW planned at the time of writing of the strategy document; • Wind projects tend to have public support through the planning phase, and ultimately benefit the environment because they help reduce the damage to habitats that is caused by climate change; • Leadership in the development of wind technology is delivering high skilled, high wage British jobs. The increased ambition of the strategy means the Government expect the sector will grow to support around 90,000 jobs by 2030; • Government intends to cut the development process time by over half, by a number of ways including reducing consent time from up to four years to down to one year.
Levelling Up White Paper (HM Government, 2022a)	The Levelling Up White Paper set out how the UK Government intends to spread opportunity more equally across the UK. This includes a commitment to £26bn of public capital investment for the green industrial revolution and the UK transition to Net Zero.
Sub-regional policy context – New Anglia Local Enterprise Partnership	
Strategic Economic Plan (NALEP, 2014)	The New Anglia Local Enterprise Partnership's (NALEP) Strategic Economic identified the following targets for East Anglia between 2012 and 2026: • Delivering 95,000 additional jobs; • Creating 10,000 new businesses;

Policy consideration	Relevance to socio-economic assessment
	• Improving productivity by narrowing the gap in gross value added (GVA) per head with the UK average from 7.8% in 2012; and • Delivering 117,000 new houses. To implement these ambitions, the Plan identified growth locations that accommodated the priority sectors (advanced manufacturing and engineering, agri-tech, ICT and digital creative, and the life sciences sector) and were expected to deliver employment and housing growth. Notably, port and logistics were included as a priority sub-sector. The Plan highlighted that the area was well placed to capitalise on market growth in the renewables sector: • Seven offshore wind investments took place over the past two decades (at the time of writing); • The ports of Lowestoft and Great Yarmouth formed one of six Centres for Offshore Renewable Engineering (CORE) and had Assisted Area Status (which enables increased support); • Great Yarmouth borough had two Enterprise Zones (Beacon Park and South Denes) which supported the development of the offshore energy sector and economic growth. The long-term vision was to have 150 to 200 businesses across the two Enterprise Zone sites, directly creating 9,000 new jobs by 2025 and a further 4,500 jobs indirectly in the supply chains. Since the plan, a further Enterprise Zone (Space to Innovate) has been established within Greater Ipswich (Waterfront Island site). The overall objective of the enterprise zone is to create 18,500 jobs over the next 25 years. Enterprise Zones coupled with the announcement of Freeport East (one of eight new Freeports that will benefit from tax and customs incentives) by the Chancellor of the Exchequer in March 2021 will support North Falls by attracting inward international investment and driving domestic growth. Freeport East covers Britain's busiest container port, two major ferry ports and is located close to the East Coast green energy cluster. It aims to create 13,500 new jobs and generate a Gross Value Added (GVA) of £5.5bn over 10 years (Freeport East, 2021).
Energy Sector Skills Plan (NALEP, 2018)	The Energy Sector Skills Plan (NALEP, 2018) has been developed with the Energy sector in Norfolk and Suffolk, working alongside the NALEP, the New Anglia Skills Board and supported by SkillsReach. The skills plan captures key priorities for the Energy sector in: • **Mobilising Industry Leadership:** The plan explains the importance of developing and securing a sustainable private sector led approach, overseeing skills development and investment. • **Developing a higher technical engineering offer:** Feedback from employers have highlighted the need for a better supply of local, graduate level, mechanical and electrical engineering skills. • **Building "intra-industry" and "inter-sector" workforce transferability:** Feedback from employers highlighted the need to enable businesses within the Energy sector to access skills and workers locally from other industries at key times. • **Addressing overall "Energy Skills Fragility:** Key jobs and functions that experience skills shortages have been identified. These have been defined as fragile areas that require an appropriate training response, accessible to learners and employers across New Anglia. • **Building inclusive local capacity & Securing the Future Energy Workforce:** There are a number of pressure points linked to the future supply of employees into the sector overall. NALEP has identified a series of actions to engage with schools, open

Policy consideration	Relevance to socio-economic assessment
	up opportunities to move into jobs within the Energy sector and address imbalances in the workforce linked to age and gender. The sector also often looks externally out of the area for its labour supply, the LEP recognises that it is important to work with employers to tackle the barriers that inhibit the growth in local residents securing employment in the Energy sector. • **Apprenticeships and Group Training**: The plan sets out steps to create a more cooperative approach towards delivering suitably trained apprenticeships given the implementation of the apprenticeship levy.
Suffolk and Norfolk Local Industrial Strategy (Norfolk and Suffolk Unlimited, 2020)	The Suffolk and Norfolk Local Industrial Strategy (henceforth LIS) built on the UK's Industrial Strategy and reflected on the opportunities and needs of the area's growing economy, and how it would respond to a fast-changing world. Clean growth sat at the heart of the LIS which stated that the area's strengths in energy generation presented major opportunities for Norfolk and Suffolk. Given its successful and long track record, Norfolk and Suffolk was very well placed to be a global exemplar for clear, low carbon energy production. The LIS identified several actions, including: • The development of an ambitious research and innovation programme that sought to build on existing clean energy research strengths; • The enhancement of the capacity and capability of Norfolk and Suffolk's ports with a series of projects to attract and capture investment in O&M, as well as offshore wind manufacturing and construction. Whilst the application for development consent would be determined by the Secretary of State, local planning policy also includes material which is relevant to offshore wind farm developments, their relationships to local economic development, and the assessment of socio-economic impacts associated with North Falls.
Norfolk and Suffolk Covid-19 Economic Recovery Restart Plan (NALEP, 2020)	The Norfolk and Suffolk Covid-19 Economic Recovery Restart Plan brought together commitments and actions from local authority, private sector, third sector and education organisations to outline the key activities in place to help the region's economy restart after the COVID-19 pandemic. Within the plan local partners had a shared vision to drive low-carbon, inclusive economic growth across Norfolk and Suffolk. The plan continued to promote Norfolk and Suffolk as a global leader in offshore wind. For example the plan stated that it will drive the identification, development and promotion of clean growth opportunities, such as the Offshore Wind O&M Base in Great Yarmouth.
Energy Sector Recovery and Resilience Plan (NALEP, 2021)	NALEP published a recovery plan that was targeted at the Energy sector. The Energy Sector Recovery and Resilience Plan set out the opportunities presented by sector deals and the local ambition to become the UK's Clean Growth Region, as well as the challenges that lay ahead, such as labour shortages and skills gaps.
Skills Advisory Panel Report (NALEP, 2022a)	The NALEP Skills Advisory Panel Report emphasises a collaborative approach to ensure new entrants, the current workforce and those facing barriers in gaining employment gain the best opportunities through a dynamic and relevant curriculum offer particularly in the sectors of agri-food, clean energy and ICT digital.
Economic Strategy for Norfolk & Suffolk (NALEP, 2022b)	The ambition within the Economic Strategy for Norfolk & Suffolk is to transform the area into a globally recognised, technology-driven and inclusive economy which is leading the transition to zero-carbon. They aim to reach net-zero through sustainable food production, clean energy generation and consumption and digital innovation. The strategy aims for 27,000 new job opportunities to be generated by the clean energy sector in Norfolk and Suffolk between 2019 to 2030.

Policy consideration	Relevance to socio-economic assessment
New Anglia's LEP business plan 2022/23 (NALEP, 2022c)	NALEP's business plan (2022c) recognises that the national economic context of Covid recovery, the ongoing implications of the UK's exit from the EU, labour and skills shortages and the outcomes of the Government's Levelling Up White Paper set a complex backdrop for business plans in 2022/23. The five strategic objectives for the coming year include: • **Business support and innovation**- ensuring that businesses affected by the pandemic continue to have the support they need whilst increasing the availability and visibility of support for high growth firms as well increasing the number of businesses investing in clean growth and innovation/R&D; • **Labour market and skills-** work with the Skills Advisory Panel, industry councils, sector groups and partners to identify solutions to the short-term skill shortages and work with colleagues on the planning and implementation of longer-term skills provision to meet the future needs of businesses; • **Supporting place-** promote the area to government, businesses and people, building the case for investment and attracting business and talent that share ambitions for clean growth; • **Nationally significant projects-** work with partners to maximise the economic benefits and business opportunities presented by Freeport East, Sizewell C, offshore wind developments and other investments of scale; and • **Future role of the LEP-**work with partners locally and nationally to understand the implications of the White Paper and begin to plan accordingly. E.g., securing funding for LEP services such as inward investment, innovation and the Growth Hub. The plan includes targets that the LEP wishes to achieve in 2022/23. • 1,026 new jobs; • 37 new businesses; • 130 new homes; and • Achieve £51.03m in private sector match funding.
Sub-regional policy context – SELEP	
Economic Recovery and Renewal Strategy (SELEP, 2021a)	SELEP is dedicated to playing its part in reducing carbon emissions and working towards a net zero economy for future growth, communities and businesses across the south-east. The Economic Recovery and Renewal Strategy highlights the LEPs dedication to clean growth by rebuilding the economy through increasing renewable energy clusters, adapting to resource efficient ways of operating, and encouraging transport revolution. These activities also deliver against the Tri-LEP South2East Local Energy Strategy (2019) and encourage the growth of low carbon sector jobs, skills and prosperity. The Economic Recovery and Renewal Strategy builds on the work and delivery of previous SELEP strategies: • In 2014, the LEP produced its first Strategic Economic Plan which underpinned a Growth Deal worth £600m in investment and supported nearly 200 projects. The investment aimed to deliver 78,000 and 29,000 homes by 2021; • SELEP continued its commitment to provide a refresh of the Strategic Economic Plan in 2018 by producing an Economic Strategy Statement – SmarterFasterTogether which set out the path towards developing the LEP's Local Industrial Strategy (LIS);

Policy consideration	Relevance to socio-economic assessment
	• In 2019, SELEP produced a LIS evidence base and a draft LIS was presented to the Strategic Board in January 2020. This work has since been incorporated into the Economic Recovery and Renewal Strategy.
South East Skills Report (SELEP, 2021b)	SELEP's skills strategy was launched in 2018-2023 (SELEP, 2018) to set out an employer and growth led approach to skills, informed by a large evidence base. In view of the significant impact that COVID-19 had on the landscape, the strategy vision and priorities were reviewed within the skills report. **Updated Vision**: to help deliver a flourishing and inclusive economy across the biggest LEP in the country by equipping employers, adults and young people with the skills, conditions and aptitudes required for significant and clean growth today and tomorrow. **Updated priorities:** • Increase apprenticeships and industry relevant qualifications for all ages, particularly in priority sectors and at higher and degree level; • Simplify the landscape for employers, stakeholders and individuals; • Build a diverse and inclusive economy and reduce polarisation; • Raise awareness of jobs and growth across SELEP and the area's size, scale, national and international significance; and • Foster and support the spirit of pride, entrepreneurship innovation and enthusiasm across SELEP to bring about change.
Local Energy Strategy (South2East, 2019)	The tri-LEP region (SELEP, Coast to Capital and Enterprise M3) is blessed with ample renewable resources including offshore wind. As such, The Tri-LEP South2East Local Energy Strategy identified renewable generation as one of five priority themes to achieve clean growth from 2019 until 2050. Each theme contained project models which will acted as exemplars, unlocking multiple related projects that were aggregated into large portfolios to attract major investment. Within renewable generation, Offshore wind development was taken forward to encourage further inward investment and economic development in offshore wind of the south-east of England. Offshore wind opportunities for the tri-LEP area exist within The Crown Estate block release in coming years – the LEPs will be a key facilitator in commercialising and supporting supply chain infrastructure developments.
Local Policy - Suffolk	
Suffolk County Council - Climate Emergency Declaration (Suffolk County Council, 2019)	Commitments to reducing environmental impacts emerged in 2019, when Suffolk County Council declared a Climate Emergency and set the ambition to be net zero by 2030. The Declaration pledged to declare a climate emergency, set up a policy development panel, work with partners across the county and region to make the county of Suffolk Carbon neutral by 2030, and work with central government to deliver is 25-year Environment Plan as well as increase the powers and resources available to local authorities in order to make the 2030 target easier to achieve.
Suffolk's Inclusive Growth Framework (Suffolk Growth, 2020)	Funded by Suffolk Public Sector Leaders, Suffolk Growth is a partnership organisation that brings together local authority teams to develop and deliver a shared inclusive growth agenda. The partnership works closely with NALEP, Suffolk Chamber of Commerce (SCoC), the University of Suffolk, Suffolk Constabulary, and wider public sector teams, including communities and health. The framework implied that investment in major transport routes and the development of integrated invest to grow strategies for the A12 and A14/Rail corridor would facilitate employment and business growth, supporting key business assets and regional priorities including:

Policy consideration	Relevance to socio-economic assessment
	• The port of Ipswich, which is the UK's leading grain export port, handling over 2MT of cargo per annum; • The Port of Lowestoft which is a leading service centre for offshore energy; and • Suffolk's all energy coast which leads the UK in energy technology, delivering both significant generation schemes, including East Anglia Hub offshore wind farms which could power over three million homes.
Suffolk County Council Climate Emergency Plan (Suffolk County Council, 2021a)	As a result of collaborative work with public sector partners, a Suffolk Climate Emergency Plan was agreed in June 2021.The plan detailed further actions to support Suffolk's contribution to reducing emissions and identified four goals and five priority actions in enabling cleaner power: • Goal one: Grow renewable energy capacity; • Goal two: A smart and flexible grid; • Goal three: National low carbon power infrastructure; • Goal four: Public sector leadership on renewable electricity; • Priority Action one: Set ambitious and supportive renewable energy planning policies in updated local plans; • Priority Action two: Work with UKPN to accelerate the deployment of flexibility mechanisms to make network capacity available; • Priority Action three: Actively support companies in local supply chains through targeted economic programmes; • Priority Action four: Host renewables installations on public buildings, as well as public land holdings and brownfield land; and • Priority Action five: Deliver opportunities for on-site or near-site renewable schemes to serve large energy users like hospitals, universities and transport infrastructure. Priority action three looked to actively support companies in local supply chains through targeted economic programmes, targeting support and investment in skills at low carbon infrastructure sectors such as offshore wind and nuclear power, and secure a local supply of these larger generation plants.
Suffolk County Council Energy Infrastructure Policy (Suffolk County Council, 2021b)	The delivery of net zero in the UK by 2050 is expected to require a pipeline of generation and connection projects in Suffolk. Therefore, significant changes for the economy, environment and communities of Suffolk are expected as a result. The purpose of the policy was to outline how, in principle, the council will engage and influence other parties to ensure adverse impacts are understood and addressed by future decisions.
Suffolk County Council Corporate strategy 2022 to 2026 (Suffolk County Council 2022a) & Suffolk County Council Annual action plan, 2022 to 2023 (Suffolk	The launch of the Corporate Strategy came just over 18 months after COVID-19 was declared a pandemic. The strategy focused on how the Council would support those most in need in Suffolk and how they could drive local investment, whilst maintaining commitments to reducing environmental impacts. The corporate strategy stated that Suffolk County Council could meet net zero by taking up low-carbon solutions e.g., heating, lighting and transport; reducing demand (i.e., reducing energy consumption, mileage, service design and delivery) and generating renewable energy.

Policy consideration	Relevance to socio-economic assessment
County Council, 2022b)	
Local policy - Essex	
The North Essex Economic Strategy, 2020 to 2040 (North Essex Economic Board, 2019)	The North Essex Economic Strategy, produced by the North Essex Economic Board (a partnership of the four councils: Braintree, Maldon, Tendring and Uttlesford districts), aimed to: • Drive innovation and technology adoption; • Develop a skilled and resilient workforce; • Create a network of distinctive, cohesive communities; and • And grow a greener, more sustainable economy. Over 2020 to 2025, they aimed to support the development of new industries associated with the transition to a more energy-efficient, lower carbon economy (building on their strengths in the coastal energy industry). The strategy noted that the area was already playing a leading role in renewable energy with existing investment going into the Energy Skills Centre at Harwich (which offers inshore and offshore engineering qualifications). In 2018, Harwich International Port was also announced as the location for the Operation and Maintenance base for Galloper Offshore Wind Farm, a 56-turbine facility. Harwich is one of the UK's largest Trust Ports, with 40% of the country's container traffic travelling through the area. The port is protected by Harwich Haven Authority (2022).
The Essex Prosperity and Productivity Plan, (Success Essex Board, 2020)	The Prosperity and Productivity Plan for Essex sets out the framework for an economy in which productive businesses create high-value, sustainable jobs and in which everyone benefits from growth. It looks forward 20 years and sets out priorities for the next five years considering climate and technological change. Its four missions for a "dynamic, resilient, inclusive and connected economy" by 2040 include the below: • **Dynamic mission:** Driving the creation and adoption of new ideas and opportunities – leading to higher value employment over the long term; • **Resilient mission:** Adaptable for the long term – in the context of climate change, new technology and changing markets; • **Inclusive mission:** Supporting a growing and changing population, investing in new and existing communities and quality of life; and • **Connected mission:** Creating better, more sustainable networks within Essex – and open to our neighbours, the UK and the world. Of particular note to the socio-economic assessment of North Falls, the Plan states that across all economic growth interventions, the board will support the development of new industries associated with the transition to a more energy-efficient, lower carbon economy by: • Promoting investment into renewable and low-carbon energy (including those associated with major energy infrastructure opportunities); • Maximising investment from innovate UK and other relevant sources and seeking to support the wider SME base in investing in measures to improve their resource efficiency; • Creating opportunities through public procurement where new technology can result in reduced energy and transport costs and deliver public service improvements; and • Investing in the low carbon skills base.

Policy consideration	Relevance to socio-economic assessment
Essex green infrastructure strategy, (Essex County Council, 2020a)	The Green infrastructure strategy enabled Essex County Council to protect, create, and improve green infrastructure for biodiversity and people, improve connectivity and inclusivity by supporting healthier, more active lifestyles and contribute to economic growth. Of particular note to the socio-economic assessment of North Falls: • Essex has one of the county's longest coastlines stretching more than 300 miles. Managed coastal improvements can not only improve water quality, aquatic habitat and carbon sequestration but can also provide potential sites for renewable energy; • Green infrastructure has significant potential to reduce energy consumption and the direct impact from energy transmission infrastructure on the landscape in Essex. Investment in green infrastructure can contribute to meeting the emissions reduction target of the UK Climate Change Act 2008. Wind and solar farms could be considered as a green infrastructure asset if managed correctly. These facilities are typically constructed on green infrastructure assets; and • Greening learning facilities: multi-benefit green infrastructure should be taught in all green infrastructure related sectors. For example, in the field of green infrastructure and environmental technology, covering subjects such as sustainable land management, renewable energy, bio-engineering and water management.
Essex Skills Plan 2022-2023 (Essex County Council, 2022c)	The Essex Skills Plan provides an employer led partnership approach to local skills delivery. The plan's 5 priorities are to: • Raise awareness of jobs and growth across Essex and the area's size, scale, national and international significance; • Simplify the landscape for employers and individuals; • Increase apprenticeships and industry-relevant qualifications for all ages and at all levels, particularly in priority sectors; • Build a diverse and inclusive economy and reduce polarisation; • Foster and support the spirit of pride, entrepreneurship, innovation and enthusiasm across Essex to bring about change. Energy has been described as a key and future growth sector but the plan stresses that there is an ageing workforce and a requirement to build up digital skills within the sector.
Everyone's Essex 2021 to 2025 (Essex County Council, 2021a)	Essex County Council set out 20 commitments across 2021 to 2025 and focused on four main areas: the economy, the environment, children and families and promoting health, care and wellbeing for all ages. The commitments of particular relevance to the socio-economic assessment of North Falls included: • Green Growth: Develop Essex as a centre for innovation, supporting new technologies and business models to enable the economy to transition to net zero and secure green jobs for the future by ensuring that Essex has the right local skills and investment opportunities; • Net Zero: The council will work across the county to hit net zero targets by ensuring that the council significantly reduces its carbon footprint, whilst also supporting an acceleration towards sustainable housing and energy and active and alternative forms of travel across the county; • Green Communities: The council will work with communities and businesses, providing advice and support to enable and empower local action to reduce greenhouse gas emissions and build climate resilience; and • Levelling up the environment: The council will help communities to enjoy a high-quality environment, by making them more resilient against flooding, heat stress and water shortages, by enhancing the count's green infrastructure and by reducing air pollution.

Policy consideration	Relevance to socio-economic assessment
Levelling Up Essex Strategy, (Essex County Council, 2021b)	Essex County Council detailed a commitment to achieving greater social mobility and addressing levelling up for the long-term. It was recognised that levelling up could be delivered by Essex County Council alone and could only succeed if it was embedded in communities. Essex County Council's commitment was to work collaboratively with communities, local partners and national government. This included a commitment to work to reduce CO_2 emissions and work with green businesses to harness the energy transition.
Sector Development Strategy, (Essex County Council, 2021c)	The Essex sector development strategy will support Essex County Council, public sector partners, skills and learning providers and businesses to effectively plan together for the future of the county. It highlights five future growth sectors that will secure a greener, stronger, more equal and sustainable economy in the future for Essex. The five growth sectors include: Construction (including retrofit), Clean energy, Advanced manufacturing and engineering, Digi-tech and Life sciences (including med-tech and care-tech). Strategic goal three: An economy fit for the future, ensures the Essex County Council is centring green growth as intrinsic to the future growth of the five priority sectors to ensure they meet the target for a net zero county. Success for this opportunity include: • Reduced emissions; • Progression towards a decentralised and decarbonised energy system; • Sustainable new homes and a thriving retrofit sector to improve existing homes; • Essex at the forefront of low carbon (solar, offshore wind, nuclear and hydrogen); and • Harnessing innovation to reach net zero ambitions. The strategy highlights that Essex is at the heart of the world's largest market for offshore wind and Harwich (North Falls and Five Estuaries) offers important offshore wind projects that will draw on the construction sector. Power generators in the clean energy sector will need sites with access to and capacity within the energy distribution network and waterside locations will be required for nuclear and offshore wind. Existing energy skills and innovation assets include the Galloper Offshore Wind Farm operations based in Harwich and the Harwich Energy skills centre. There is potential for further growth in offshore wind from the southern North Sea. Light Industrial space will also be needed for the O&M of generation and distribution infrastructure. The south of the County, where development densities are higher, may support more District Heat Networks.
Climate Action Plan, (Essex County Council 2021d)	Essex County Council outlined their plan to drive effective progress against the Essex Climate Action Commission's recommendations. The commission recommended that "*Essex produces enough renewable energy within the county to meet its own needs by 2040*". Essex County Council have therefore committed to sourcing its own electricity from renewable sources, supporting the establishment of new community energy groups, helping 670 residents' source solar panels through a bulk scheme and supporting roll out of Government fuel poor grants.
Essex County Council Annual Plan 2022 to 2023 (Essex County Council, 2022a)	Essex County Council 's Annual Plan sets out how they will deliver against the Everyone's Essex Plan (Essex County Council, 2021a) in 2022. This details the budget, resources and investment plan that will allow them to fulfil the strategic aims within the year. Regarding net zero, existing work with the Essex Climate Action Commission provides the opportunity to develop ambitious proposals, based on leading advice to build a broad consensus around their implementation. Essex County Council already has a strong track record in delivering projects to support climate change mitigation and adaptation including the Essex Forest Initiative, recycling and energy efficiency programmes, renewable projects and flood defence. By 2025, they want to be able to have:

Policy consideration	Relevance to socio-economic assessment
	• Significantly reduced Essex County Council 's carbon footprint through the estate, operations and supply chain to meet net zero by 2030; • Made significant progress in the transition to more sustainable energy, travel and housing and towards a circular economy that minimises waste, developing sustainable and healthy neighbourhoods; • Worked with communities and businesses to enable and empower local action to reduce greenhouse gas emissions and build climate resilience; and • Developed the quality and accessibility of the natural environment and green infrastructure to enhance quality of life.
Essex Green infrastructure review, (Essex County Council, 2022b)	To provide insight alongside the Green Infrastructure strategy, Mace consultancy, on behalf of Essex County Council carried out a review to identify opportunities for green skills growth across the county. This noted North Falls as a major upcoming project that will increase the demand for green skills in Essex. The strategy states, to maintain and operate North Falls alone, it is anticipated that ~100 jobs will be created. Overall, Mace predicts that by 2030, there will be 896 additional jobs in the Essex Offshore wind sector if Essex were to retain its current proportion of UK jobs predicted in these industries, this is an additional 242% over its baseline (based on historic growth trend in green jobs).
Construction Growth in Essex 2020-2040 (Essex County Council, 2020b)	The Construction Growth in Essex report defines the challenges that the Essex construction industry is likely to face over the next 20 years and recommends measures that can be taken to maximise the opportunities created in a sustainable manner. The report identifies examples of innovation in education and training in Essex and confirms that "early adoption" should be stimulated to accelerate the use of technology in training, to promote the sector to young people, and to encourage lifelong learning. The report looks to major projects in Essex that will support progress towards this through section 106 and social value commitments. Opportunities should focus on: • Developing capabilities at level 2 and above in construction occupations; • Building legacy and capability in the county beyond the lifetime of the Project; and • Offering a long-term focus on transferable skills, fabrication and assembly, manufacturing and engineering supply-chains.
Net Zero: Making Essex Carbon Neutral Commission Report (Essex Climate Action Commission, 2021)	The Essex Climate Action Commission is an independent, voluntary, and cross-part body, bringing together groups from the public and private sector, as well as individuals from organisations, to promote and guide climate action in the county. As a commission, their purpose is to provide expert advice and up-to-date recommendations to move Essex to net zero by 2050. The 2021 Net Zero: Making Essex Carbon Neutral contains information about each of the recommendations put forward by the Commission to Essex and is structured around six core themes including: land use and green infrastructure, energy, the built environment, transport, waste and community engagement. The energy recommendations focus on ways to invest in renewable energy, switch to a greener electricity supply and create community energy neighbourhoods. This calls for: • Essex to be made a centre of innovation for emerging renewable technologies; • A network of community energy neighbourhoods to be built across every district in Essex, to generate, store, share and use energy locally by 2035; • Essex to produce enough renewable energy within the county to meet its own needs by 2040;

Policy consideration	Relevance to socio-economic assessment
	• All large-scale renewable developments to have an element of community ownership from 2021; • 100% of fuel-poor households to be retrofitted and supplied with affordable renewable energy by 2030; • Create hydrogen storage facilities to store excess renewable energy (off-shore wind and solar) by 2030; As well as further measures in regard to green hydrogen, bioenergy, solar panel implementation, retrofitting and the EV charging network.
District policies – East Suffolk Council	
East Suffolk Council (Suffolk Coastal) 2018 to 2036, (East Suffolk Council, 2018)	The Suffolk Coast is at the forefront of electricity energy generation across the country both in respect of onshore and offshore energy. It is essential that major energy infrastructure projects are delivered in a planned way which considers the potential impact of constructing, operating and decommissioning large and nationally significant infrastructure in East Suffolk. East Suffolk Council is committed to working in a collaborative partnership approach with the scheme promoters, local communities, Government, NALEP, service providers and public bodies to ensure the best outcomes of major energy infrastructure projects can be achieved.
East Suffolk Council (Waveney) 2019 to 2036, (East Suffolk Council, 2019a)	The Waveney Local Plan set out the level of growth which needed to be planned in the Waveney area of East Suffolk. It acknowledged that the area has huge potential for growth associated with the development of offshore wind farms, with the area in and around the Outer Harbour being defined as the PowerPark. Policy WLP2.2 stated that land at PowerPark was to be allocated for employment development and port-related development. Associated and ancillary uses necessary to support the offshore energy and engineering sectors would also be permitted.
East Suffolk Council Climate Commitment (East Suffolk Council, 2019b)	On Wednesday the 24 July 2019, East Suffolk Council unanimously voted to step up its work on environmental issues to help fight climate change. A climate emergency was declared and a new cross-party member: the Environment Task Group, was formed to provide an independent review and recommendation for future priorities for action on climate change. As part of the commitment, the Task Group created an Environmental guidance note (2020a) which offered concise information on a range of key environmental issues relating to the building industry, assisting those seeking to mitigate the contribution of construction to climate change and its impact on the environment by offering support and advice. The Environmental guidance note identified renewable energy as one area of focus. The Council is still exploring opportunities to collaborate on clean energy generation projects and is reviewing the current programme of clean energy generation on Council housing.
East Suffolk Council Strategic Plan 2020 to 2024 (East Suffolk Council, 2020b)	East Suffolk Council's Strategic plan aims to deliver the below priorities: • Build the right environment: maintain and grow a vibrant and sustainable economy; • Attract and stimulate inward investment; • Maximise and grow the unique selling points of East Suffolk (including the energy sectors, marine environments and coastal environments); • Develop and grow business partnerships; and • Support and deliver infrastructure.

Policy consideration	Relevance to socio-economic assessment
District policies – Tendring District Council	
Tendring Local plan, 2017 to 2033 (Tendring District Council, 2017)	The local plan acknowledged opportunities for Tendring to develop its strengths in offshore wind and in care & assisted living, with employment in the district forecasted to grow by 490 jobs annually (Experian, 2016 – Tendring District Council, 2017).
Tendring Corporate Plan 2020 to 2024, (Tendring District Council, 2020a)	Tendring District Council's Corporate plan aims to deliver the following priorities: • Delivering high quality services; • Community leadership through partnerships; • Building sustainable communities for the future; • Strong finances and Governance; and • A growing and inclusive economy.
Tendring Economic strategy 2020 to 2024 (Tendring District Council, 2020b)	Tendring District Council's Economic Strategy aimed to deliver the following priorities: • Supporting Tendring's Growth Locations; • Targeting Growth Sectors (Clean energy & Assisted living); • Ensure residents have the skills and information to participate; • Support Growth & Innovation in Tendring's Businesses; and • Delivering Housing to support economic objectives.
Tendring Climate emergency action plan 2020 to 2023, (Tendring District Council, 2020c)	The Climate Emergency in Tendring induced the Chief Executive of Tendring Council to prepare an Action Plan for consideration by Cabinet and a recommendation to the Full Council to form part of the Policy Framework. The Action Plan was required to be as soon as practicable within the aim of activities of the Council being carbon neutral by 2030. Actions included: • Moving to the purchase of 100% renewable energy; • Focus on the switch away from oil, natural gas use by 2030; • Maximise onsite (buildings) renewable energy generation opportunities; • Promote, support and facilitate energy efficiency improvements to homes; and • Lobby partners and Government to champion a net zero approach in their plans and policies that impact on Tendring's emissions.

26. As shown above, sub-regional policy analysis shows a major focus on the transition to net zero and support for maximising the economic benefits from renewable energy production. These contribute to national objectives.

27. Further detail is provided in Chapter 3 Policy and Legislative Context (Volume I).

31.4.2 Data sources

31.4.2.1 Other available sources

28. The data sources that have been used to inform the assessment are listed in Table 31.8 Other available data and information sources. As noted in Section 31.4.6 the data sources are accurate as of December 2022 (the time at which

the latest data was collected). Data sources listed in other chapters of the PEIR are also considered in addition to the sources listed below. For instance, a number of data sources (such as local economic impact studies of the visitor economy) listed in Chapter 32 Tourism and Recreation (Volume I) are considered for the assessment of the volume and value of tourism.

Table 31.8 Other available data and information sources

Data set	Source	Spatial coverage	Notes
2021 Census TS007 - Age by single year.	ONS (2022a)	Ranges from Middle Layer Super Output Areas (MSOA) to England and Wales. Does not include Scotland and Northern Ireland	Used to collect the latest demographic data for the local areas, England and Wales. Data last released/revised: 02/11/22 Latest data period: 2021
Mid-year population estimates.	ONS (2022b)	Ranges from local authorities to UK	Used to collect past population change data and the population currently residing in the UK Data last released/revised: 21/12/22 Latest data period: 2021
Annual mid-year population estimates, estimated components of population change for the United Kingdom, by local authority prior to April 2021	ONS (2021)	Ranges from local authorities to UK	Used to understand the components of population change in the local study areas. Data last released/revised: 25/06/21 Latest data period: 2020
2018 to 2043 sub-national population projections	ONS (2020)	England and local authorities in England	Used to collect the latest population projections for England and the local study areas. Data last released/revised: 24/03/20 Latest data period: 2018
Business Register and Employment Survey (BRES)	ONS (2022c)	Ranges from Lower Layer Super Output Areas (LSOAs) to GB and does not	Used to collect data on employment Data last released/revised: 09/11/22.

Data set	Source	Spatial coverage	Notes
		include Northern Ireland	Latest data: 2021.
Regional gross value added (balanced) per head and income components	ONS (2022d)	ITL1, ITL2 and ITL3 regions	Used to collect data on GVA for the local study areas and the national study area. Data last released/revised: 30/05/22 Latest data period: 2020
Annual Population Survey (APS)	ONS (2022e),	Ranges from local authorities to UK	Used to collect data on economic activity, employment, unemployment and economic inactivity rates and absolute values. Data last released/revised: 11/10/22 Latest data period: Jul 2021-Jun 2022
Employer skills survey	Department for Education (2020a).	National and LEP	Used to give an indication of skill shortage vacancies for Suffolk and Essex Data last revised: 08/11/22 Latest data period: 2019
Claimant Count	ONS (2022f),	Ranges from local authorities to UK	Used to as an indicator of unemployment levels. Data last released/revised: 13/12/22 Latest data period: November 2022
Annual survey of hours and earnings	ONS (2022g),	Ranges from local authorities to UK	Used to present average earnings data. Data last released/revised: 26/10/22 Latest data period: 2022
Index of Multiple Deprivation	Ministry of Housing, Communities & Local Government (2019),	LSOA	Used to map deprivation levels across the local study areas.

Data set	Source	Spatial coverage	Notes
			Data last released/revised: 29/09/19 Latest data period: 2019
Council tax: Stock of properties	ONS (2022i)	Local Authority & National	Used to identify stock of properties Data last released: 22/11/22
Census 2021: Number of Households	ONS (2022j)	Local Authority	Used to identify the number of households in districts Data last released: 05/01/23
UK Property Data	UK Property Data (2022)	Local Authority	Used to display average monthly absorption rates for districts in Essex and Suffolk. Data last released/revised: 16/12/22
Land Registry Data	Land Registry (2022)	Local Authority	Used to identify the number of properties sold in Essex and Suffolk in 2021-2022. Data last released/revised: 16/12/22
Occupancy and Property Types	Portals & agents, Ministry of Housing, Communities & Local Government, Office for National Statistics accessed via UK Property Data (2022)	Local Authority	Used to display occupancy and property types. Data last released/revised: 16/12/22
School and college performance data in England	ONS (2022h)	Local Authority	Used to provide a breakdown of schools in each local authority district by type of school. Data last released: 2022
Data on school inspections	Department for Education (2021)	National	Used to show the proportion of all schools in the UK that are rated as “good” or “outstanding”. Data last released: 2021

Data set	Source	Spatial coverage	Notes
Participation in education, training and NEET age 16-17 by local authority	Department for Education (2022)	National and Local Authority	Used to show proportions of 16-17 year olds that are NEET. Data last released: Academic year 2021/22
Capacity Data	Tendring Technology College (2022)	Tendring College	Used to show the current student enrolment and total pupil capacity. Data last released: 2022
Tendring Primary School Consultation	Essex County Council (2021e)	County	States that Essex County Council is exploring the possibility of expanding the school to 210 places from September 2023. Data last released/revised: 2022
General practice workforce data	NHS Digital (2022)	Suffolk and North-East Essex ICB	Used to identify the general practitioner surgeries and patients registered within the NHS Suffolk and Northeast Essex ICB area Data last released/revised: October 2022.
London Healthy Urban Development Unit	London Healthy Urban Development Unit (2019)	National	Provides the maximum threshold recommendations per GP Data period: 2019
NHS Suffolk and North-East ICB	NHS Suffolk and North-East ICB (2022)	Suffolk and North-East Essex ICB	The website lists the location of district general hospitals in the NHS Suffolk and North-East Essex ICB area. Consultation with the ICB also provided further information on GP wait times and capacity constraints. Data period: 2022
The Handbook to the NHS	Department of Health & Social Care (2022)	National	Sets the overall target of 95% of all attendees by A&E

Data set	Source	Spatial coverage	Notes
Constitution for England			facilities to be seen, discharged, admitted and/or transferred within four hours of arrival. Also sets the standards for C1 ambulance responses (where a C1 response is an immediate response to a life-threatening condition, such as cardiac or respiratory arrest) to be a mean average waiting and response time of less than or equal to seven minutes, with the response time to 90% of all incidents being a maximum of 15 minutes. Data period: 2022
Accident and Emergency (A&E) Patient waiting times & Ambulance service quality indicators	NHS England data (2022a & 2022b)	National and by ICB area.	Accident and Emergency (A&E) Patient waiting times & Ambulance service quality indicators Data last released/revised: November 2022
Google Maps	Google Maps (2022)	Ranges from community level analysis to a national coverage.	Used to identify Onshore Social and community infrastructure facilities. Data last released/revised: December 2022
East of England Forecasting Model	Cambridgeshire Insights (2019)	Local Authority Level	Used to identify Suffolk GVA and employment growth projections
Essex construction skills report.	Essex County Council (2020b).	Essex	Used to identify employment growth projections in the construction sector.

Note: Latest data is accurate as of December 2022 (the time at which the latest data was collected).

31.4.3 Impact assessment methodology

29. Chapter 6 EIA Methodology (Volume I) explains the general impact assessment methodology applied to North Falls. The following sections describe the methods used to assess the likely significant effects on socio-economics.

31.4.3.1 Definitions

31.4.3.1.1 Sensitivity

30. The sensitivity of each receptor is evaluated as either very high, high, medium, low or negligible based on the baseline position and its performance against

benchmark areas, together with consideration of the importance of the receptor in policy terms.

Table 31.9 Definition of sensitivity for a socio-economic receptor

Sensitivity	Definition
High	Receptor is defined as being of high sensitivity where it is identified as policy priority (as a result of economic potential and/ or need). There is evidence of considerable socio-economic challenges and/ or opportunities for the receptor within the study area.
Medium	Receptor is defined as being of medium sensitivity where it is not identified as a policy priority (as a result of economic potential and/ or need). There is, however, evidence of socio-economic challenges and/ or opportunities for the receptor within the study area.
Low	Receptor is defined as being of low sensitivity where it is not identified as a policy priority (as a result of economic potential and/ or need). There is evidence that the receptor is resilient within the study area.
Negligible	Receptor will be of negligible sensitivity where it is not identified as a policy priority (as a result of economic potential and/ or need).

31.4.3.1.2 Magnitude

31. For all receptors the assessment of magnitude of impact draws on the approach set out in Table 31.10 below.

Table 31.10 Definition of magnitude for a socio-economic receptor

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

32. The magnitude of impact to the receptor is determined by considering the estimated deviation from baseline conditions once embedded mitigation is taken into consideration. The criteria used for the assessment of magnitude is evaluated as either high, medium, low or negligible, and are set out in more detail below.

Table 31.11 Criteria for assessing magnitude of socio-economic impacts

Phase	Magnitude of change measure	Negligible	Low	Medium	High
Employment Impacts					
Construction		<0.1%	0.1%-0.5%	0.5%-1%	>1%
Operation					

Phase	Magnitude of change measure	Negligible	Low	Medium	High
Decommissioning	Change in direct & indirect jobs relative to all jobs	Qualitative approach. In general, decommissioning activities are of similar nature to, but no worse than, the impacts identified during the construction phase.			
GVA Impacts					
Construction	Change in direct & indirect GVA relative to total GVA for the study area	<0.1%	0.1%-0.5%	0.5%-1%	>1%
Operation					
Decommissioning		Qualitative approach. In general, decommissioning activities are of similar nature to, but no worse than, the impacts identified during the construction phase.			
Local infrastructure and services					
Construction	Pressure and disturbance on local infrastructure and services	Qualitative approach based on current capacity within the local study area and assessment of potential increase in demand during construction, the operational phase and decommissioning. Also undertake a qualitative approach assessing magnitude of impact on specific receptors within local area of influence of the onshore cable corridor(s). When considering the potential disturbance to social and community infrastructure within the LOCAI, the pre mitigation and residual effects that include mitigation identified in other relevant chapters of the PEIR are considered when determining the magnitude of impact.			
Operation					
Decommissioning					

31.4.3.2 Significance of effect

33. The assessment of significance of an effect is a function of the sensitivity of the receptor and the magnitude of the impact (see Chapter 6 EIA Methodology (Volume I) for further details). The determination of significance is guided by the use of a significance of effect matrix, as shown in Table 31.12.

34. Likely significant effects identified within the assessment as major or moderate are regarded within this chapter as significant. Appropriate mitigation has been identified, where possible, in consultation with the regulatory authorities and relevant stakeholders. The aim of mitigation measures is to avoid or reduce the overall significance of effect to determine a residual effect upon a given receptor. Definitions of each level of significance are provided in Table 31.13.

Table 31.12 Significance of effect matrix

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

Table 31.13 Definition of effect significance

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

31.4.4 Cumulative effects assessment methodology

35. The cumulative effects assessment (CEA) considers other plans, projects and activities that may impact cumulatively with North Falls. Chapter 6 EIA Methodology (Volume I) provides further details of the general framework and approach to the CEA (Section 6.7.3)

31.4.5 Transboundary effects assessment methodology

36. The transboundary assessment considers the potential for transboundary effects to occur on socio-economic receptors as a result of North Falls; either those that might arise within the Exclusive Economic Zone (EEZ) of European Economic Area (EEA) states or arising on the interests of EEA states e.g. a non-UK fishing vessel. Chapter 6 EIA Methodology (Volume I) provides further details of the general framework and approach to the assessment of transboundary effects.

37. For socio-economics, the potential for transboundary effects has been identified in relation to the potential impact upon the economies of other states within the EEA. This may arise through the purchase of project components, equipment and sourcing labour from companies based outside the UK. Under Regulation 32 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (2017 Regulation, No. 572, Regulation 32), the Secretary of State must consult with any EES state concerned regarding the potential significant effects on the development on the environment of that EEA state, and the measures envisaged to reduce or eliminate such effects. It is however, assumed that the sourcing of materials and labour from other EEA states would provide beneficial effects in the economies of such states, and as such the consideration of “measures envisaged to reduce or eliminated such effects” is not relevant within the context of transboundary effects. It should be noted that direct economic benefits and employment effects may be significant at a local level in the country within which the staging port is located (only during construction phase).

38. The location of the offshore infrastructure means that it will not be visible from other EEA countries. The onshore elements of North Falls are entirely present within the UK shores, and as such there is no potential for significant transboundary effects (either beneficial or adverse) on other EEA states.

39. Given the above, transboundary effects associated with socio-economics are not considered further.

31.4.6 Assumptions and limitations

31.4.6.1 Existing environment

40. The most up-to-date information available as of December 2022 has been used in the preparation of the baseline for the existing socio-economic environment. However, there is often a lag in the publication of a number of socio-economic datasets, meaning the most recent data available is one or two years out of date. For example, employment data published by the Office for National Statistics (ONS) usually has a one to two-year lag but is still the most recent data for employment. In this case the latest employment data available is from 2021, with data for 2022 due to be published in late 2023. These data limitations do not have a material effect on the predictability or accuracy of the impact assessment presented in this PEIR chapter. It should also be noted that although UK data is typically used to match the UK study area, however this is not always available through ONS datasets. In these cases (for example employment data), GB has been utilised as the next best alternative.

41. It should be noted that data sets used in the baseline assessment of the existing environment are often updated on an annual or more frequent (e.g. quarterly or monthly) basis. In addition it is possible that new relevant data sets are published following submission of the PEIR. Any new datasets published will be used within the ES for DCO submission and the data presented in the PEIR will be refreshed for the within the ES for DCO submission.

42. Since January 2013, the number of people claiming Job Seekers' Allowance and Universal Credit have been combined. The new dataset combining the two means that it is no longer possible to get an accurate indication of the number of people seeking work in occupations related to construction, operational and maintenance and decommissioning phases of offshore wind farm developments. This has implications for the level of quantitative analysis which can be undertaken in the baseline section and subsequent assessment.

43. There are challenges with disaggregating GVA and employment data by sector to measure the impact of North Falls in the context of the renewable energy sector, and the wider economy. The data is available by broad Standard Industrial Classification (SIC) code level, which does not lend itself to defining a renewable energy sector, especially below UK level.

31.4.6.2 Ports

44. The DCO application will not include development activities at potential construction ports. Where necessary, port activities will be subject to separate consent(s) such as planning permission and/ or a Harbour Revision Order. The Applicant is currently considering ports suitable for the construction base for the offshore elements of North Falls. Port selection will be dependent upon securing development consent, financial close, and most likely a CfD award, and will be

influenced by findings from further technical studies and commercial negotiations.

45. For this assessment, it is assumed that the O&M port will be located either in Essex or Suffolk.

31.4.6.3 Indicative lengths of construction, operational and decommissioning phases

46. For the purposes of the socio-economic assessment the assessment of construction effects on employment and GVA include both development and construction activities. The development and construction period is assumed to last for a maximum period of seven years, with installation and commissioning lasting for three of those years. Onshore activities will be 24 months +6 months pre-construction for the works. The pre-construction works will include demarcation of the area, ground investigations, pre-construction drainage, hedgerow and tree removal, ecological and archaeological mitigation and diversion of any PRoWs (where required). North Falls is assumed to be operational for 30 years with a decommissioning period of two years at the end of the operational phase.

31.4.6.4 Induced effects

47. The PEIR socio-economic assessment excludes the induced impacts generated by North Falls across all phases. Induced impacts refer to the additional jobs and GVA generated by the salary expenditure of employees in the local economy. These are typically affected by greater uncertainty, and are more difficult to measure and defend robustly in terms of their scale and additionality. Induced effects are presented within Appendix 31.1 (Volume III) and are predicted to account for around 21%-26% of total economic (jobs and GVA) impacts.

31.4.6.5 Mapping social and community infrastructure assets

48. Social and community assets have been mapped based on the postcode of the asset. There may be minor differences between the actual location of the asset and the postcode although for the purpose of the assessment this is unlikely to result in any major discrepancies.

31.5 Existing environment

49. This section describes the existing environment in relation to socio-economics. It is based on a desk-top study of sources, outlined in Table 31.8 as a basis for the preliminary impact assessment.

31.5.1 Demographics

31.5.1.1 Population and labour market

50. In 2021, the total population of Essex and Suffolk amounted to approximately 1.86 million and 761,000 residents respectively. There were around 1.14 million working aged people (between the ages of 16 and 64) in Essex (61% of the total population) and 451,000 in Suffolk (59% of the total population). In both areas the share of working age population is lower than the national average (63%).

Table 31.14 Population – total and working age,2021

Area	Population	Working Age Population (aged 16 to 64)	Working Age Population as a percentage of the total population
Essex	1,860,000	1,139,000	61%
Suffolk	761,000	451,000	59%
UK*	67,026,000	42,175,000	63%

Source: ONS (2022a). *Note UK population is based on ONS (2022b) Mid-year population estimates as census based 2021 figures are only presented for England & Wales.

51. From 2011 to 2021, the total resident population in Essex increased by 7.8%. This was a greater increase than the UK, which saw resident population increase by 5.9%. Over the same time period, the total resident population in Suffolk increased by 4.5% also lower than the UK increase (5.9%).

52. The number of working age residents in Essex increased by 4.3% between 2011 and 2021. This is above the national growth rate average (3.0%). In contrast, Suffolk has seen a smaller increase in the number of working age residents (0.2% increase).

Table 31.15 Population trends– total and working age,2011-2021

Area	Population change (%)	Working Age Population change (aged 16 to 64)
Essex	+7.8%	+4.3%
Suffolk	+4.5%	+0.2%
UK*	+5.9%	+3.0%

Source: ONS (2022a). *Note UK population is based on ONS (2022b) Mid-year population estimates as Census based 2021 figures are only presented for England & Wales.

31.5.1.2 Components of population change

53. As shown in Plate 31.1 below, ONS (ONS, 2021) data shows just under half (+64,900 or 47%) of Essex's population increase from 2011 to 2020 was due to internal net migration (people moving from other parts of the UK in to Essex). Similarly, over three quarters (+33,300 or 77%) of Suffolk's population increase over the same period was due to internal net migration. Suffolk has experienced a much lower natural increase in its population (births minus deaths) compared to Essex. This is linked to its relatively older age profile. International migration is net positive in both Essex and Suffolk, however in Essex there is a much greater number of international migrants.

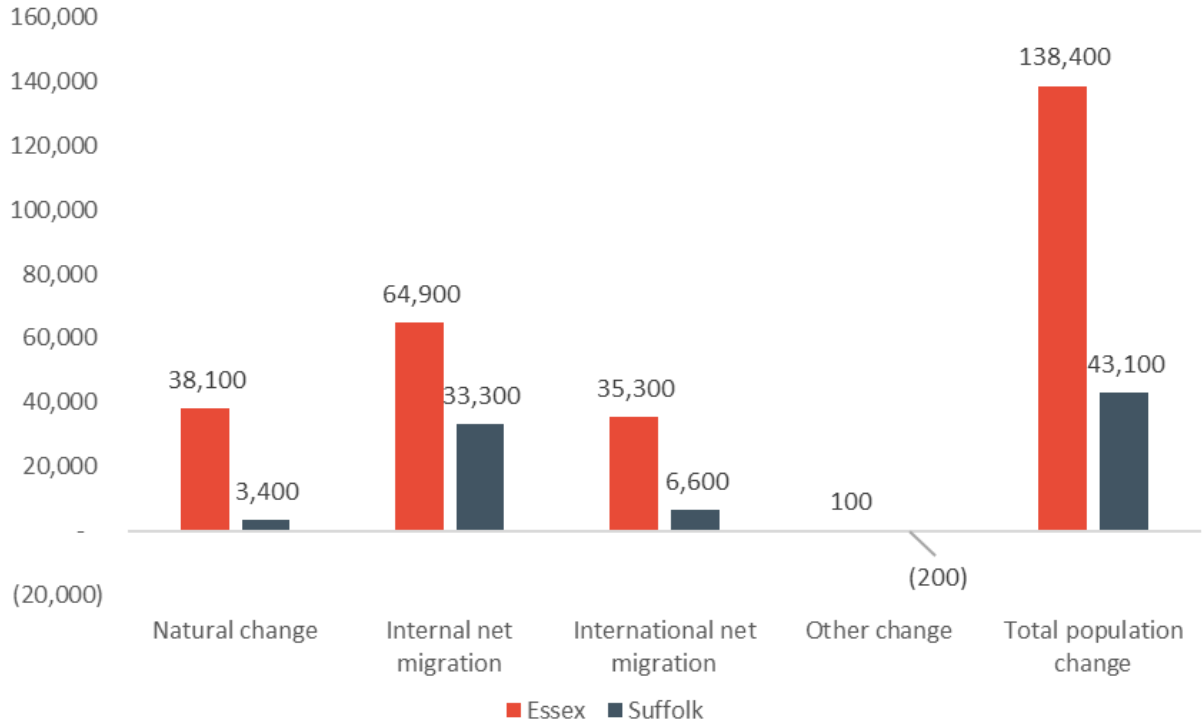

Plate 31.1 Components of population change 2011-2020 (ONS 2021).
Note: Numbers in this chart are rounded to the nearest 100.

31.5.2 Economy

31.5.2.1 Employment

54. Based on ONS employee data, there were 332,800 jobs in Suffolk and 735,600 jobs in Essex in 2021. This cumulatively accounts for 3.5% of jobs in Great Britain (GB) (30.4 million jobs). In full-time equivalent[3] (FTE) terms, this equates to 276,900 FTE jobs in Suffolk and 606,500 FTE jobs in Essex. At 750 employee jobs per 1,000 working age residents, the employment density in Suffolk exceeds the national average (of 747 employee jobs / 1,000 working age residents). In contrast, Essex has an employment density of 654 employee jobs per 1,000 working age residents which is below the national average.

Table 31.16 Employment and employment density, 2021

Area	Total Number of employee Jobs	FTE Employees	Employment Density (employee jobs per 1,000 working age residents)
Essex	736,000	607,000	654
Suffolk	333,000	277,000	750

[3]A unit that indicates the workload of an employed person. An FTE of 1.0 is equivalent to one full-time employee, whilst a part-time employee working half the hours a full-time employee does would be recorded as 0.5 FTE.

Area	Total Number of employee Jobs	FTE Employees	Employment Density (employee jobs per 1,000 working age residents)
GB	30,378,000	25,541,000	747

Source: ONS (2022). Please Note: Jobs are rounded to the nearest 1,000. Hatch calculations are used to estimate the FTE level by assuming that one part time employee equates to 0.5 FTE. Although we typically use the UK as a national comparator to match the study area, GB is used here as ONS Employment data only covers GB.

55. Plate 31.2 shows that between 2015 and 2021, the number of FTE employee jobs increased by 33,700 in Essex (+5.5%), by around 19,600 (+7.1%). In both cases this is above the UK average of 5.2%.

56. Despite Essex increasing in employment from 2019 to 2020, Suffolk and GB experienced a large fall in employment which can be attributed to the Covid-19 pandemic. However, all areas experienced a large increase in employment in 2021, suggesting the demand for labour has been quick to recover in all areas.

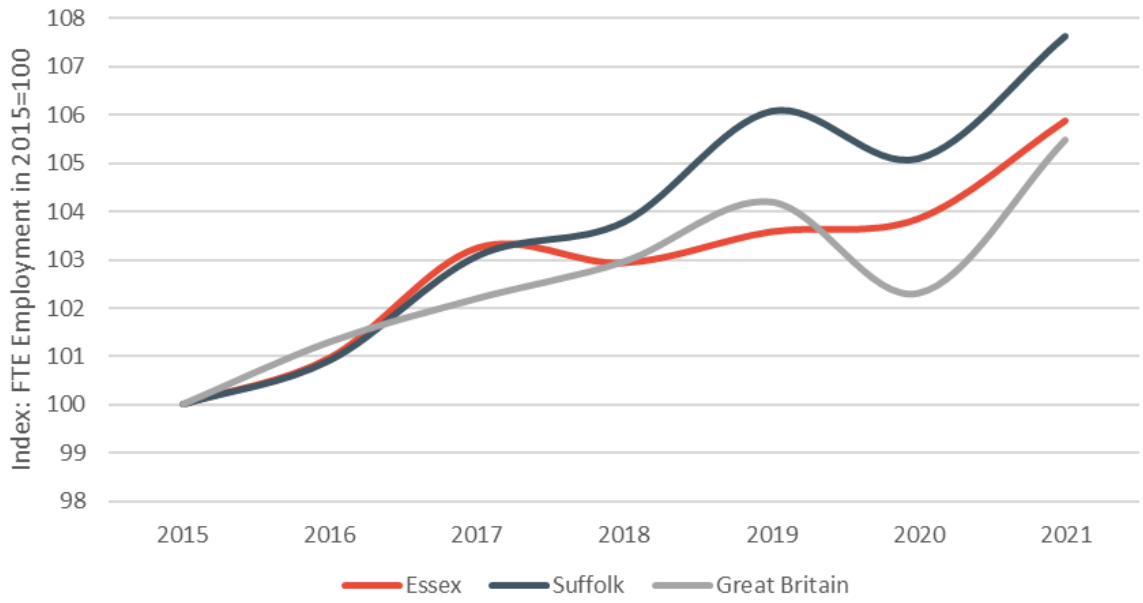

Plate 31.2 Employment change (2015-2021).
Although we typically use the UK as a national comparator to match the study area, GB is used here as the ONS Employment data only covers GB.

57. Levels of employment within Essex and Suffolk are also dependent on the skills available within the respective economies. The Department for Education's Employer Skills Survey data at a LEP level (Department for Education,2020) provides an indication of whether skill shortages are faced within these study areas.

58. Plate 31.3 shows the number of businesses reporting skill shortage vacancies by sector. In the NALEP area, 22% of existing vacancies are skills shortage vacancies. This is lower than the proportion in SELEP and England (both 25%).

59. New Anglia businesses in manufacturing (32%), construction (32%) and business services (31%) were the most likely to have reported skills shortage vacancies. Similarly, in SELEP, businesses in financial services (42%), construction (38%) and manufacturing (38%) were most likely to report skill shortage vacancies.

60. As manufacturing and construction are sectors which are likely to be drawn upon for North Falls, it is important that there is an availability of local skills to meet demand in Suffolk and Essex.

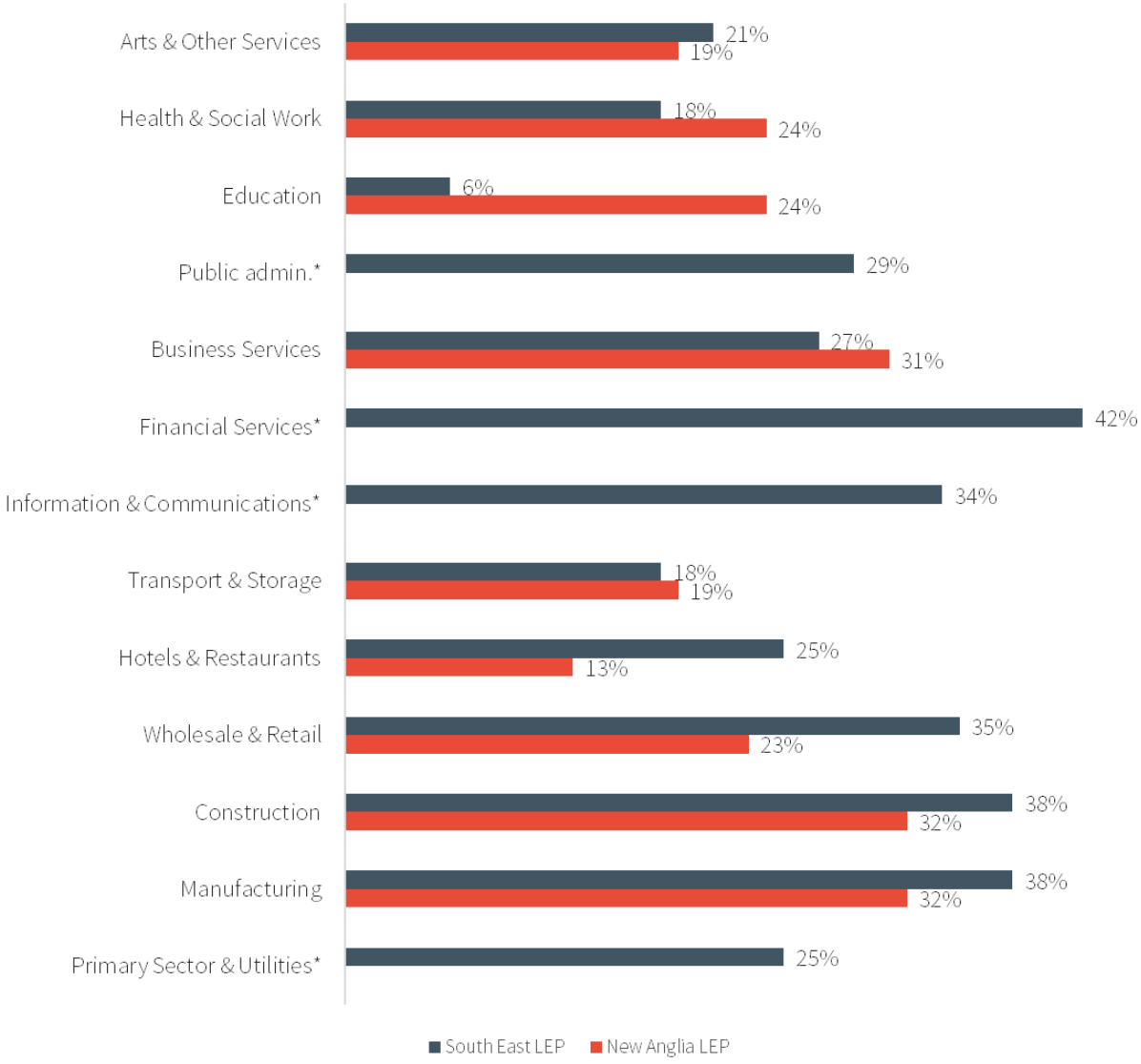

Plate 31.3 Businesses reporting skill shortage vacancies by sector.
*Sample size does not deem significant results and are therefore not displayed. NALEP N=18,575, SE LEP, N= 48,758

31.5.2.2 Sectoral Distribution of Jobs

61. An analysis of employment sectors, shown in Plates 31.4 and 31.5, highlights the importance of health, business administration and support services, and education for Essex. This cumulatively accounts for 31% and 30% of all FTE jobs in Essex and GB respectively. Suffolk's largest sectors were business administration and support services, health and manufacturing. This cumulatively accounts for 34% and 30% of all FTE jobs in Suffolk and GB respectively.

62. A sector's importance to the local economy can be measured by calculating the location quotient (LQ). This measures the share of employment in a particular sector relative to the Great Britain average. An LQ of 1 means the sector accounts for the same share of employment in the local area as it does in Great Britain as a whole. If the LQ is greater than one, the sector accounts for a higher share of employment than the national average and vice versa.

63. Construction is notably more concentrated in Essex than in GB, with a LQ of 1.5 (meaning the share of total employment in the construction sector is 50% higher than in the UK). Other important sectors to note include manufacturing (7% and 10% of FTEs in Essex and Suffolk respectively / LQ of 1.0 in Essex and 1.4 in Suffolk), transport and storage (8% and 7% of FTEs in Essex and Suffolk respectively / LQ of 0.8 in Essex and 1.2 in Suffolk). However, high skilled service sector such as professional, scientific and technical activities account for a lower share of employment than the national average in both areas (8% and 6% of FTEs in Essex and Suffolk respectively / LQ of 0.7 in both Essex and in Suffolk).

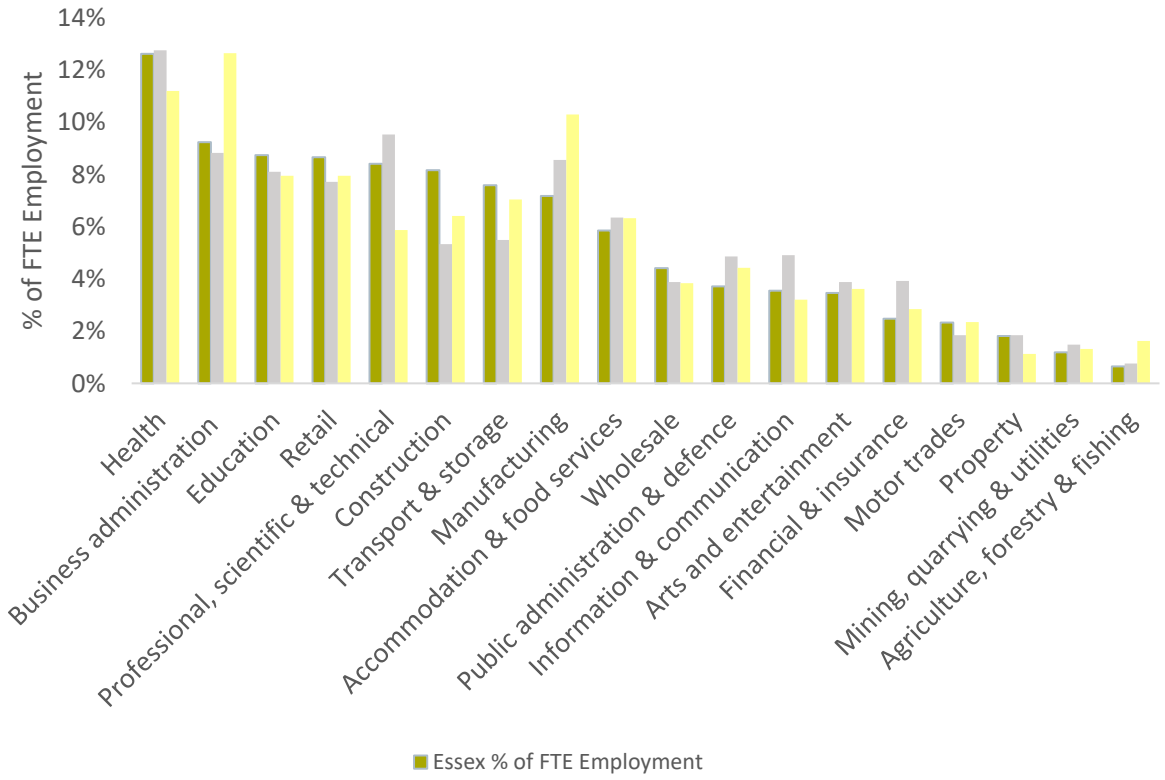

Plate 31.4 Sectoral distribution of jobs (% based), 2021.

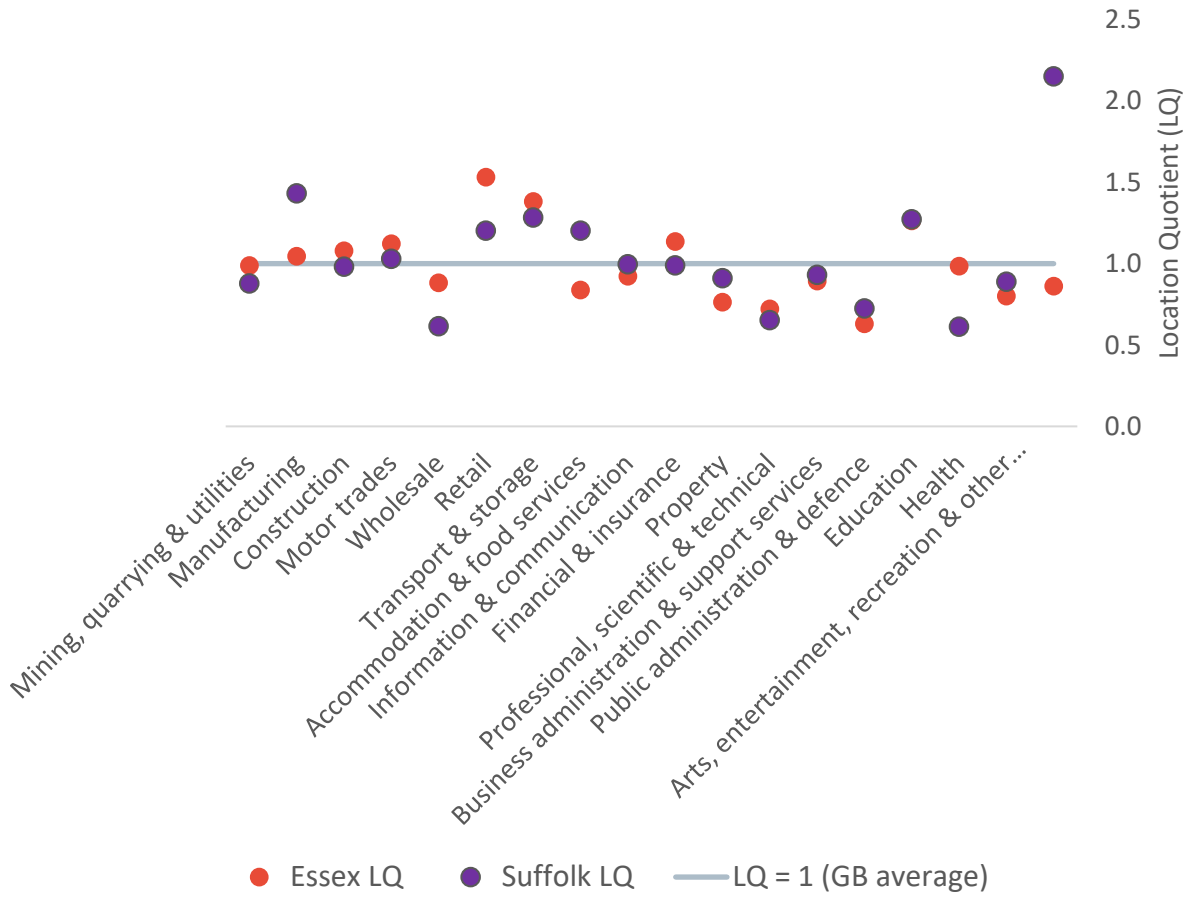

Plate 31.5 Sectoral distribution of jobs (LQ based), 2021.
Although we typically use the UK as a national comparator to match the study area, GB is used here as the BRES dataset only covers GB.

31.5.2.3 Supply Chain Capacity and Capability

64. There is an existing supply chain in East Suffolk catering toward the energy sector. There are well established organisations such as: Orbis Energy (situated in Lowestoft), the East of England Energy Group, the New Anglia Advanced Manufacturing and Engineering group, and the East Coast Manufacturing Group (ECMG) supporting local businesses in harnessing the opportunities associated with offshore wind. Insights gained from consultations (Section 31.2) imply that East of England is seeing skills needs around project planning and consenting, and the supply chain's most pressing needs are around engineering, fabrication and welding.

65. There may be opportunities for businesses across several sectors to benefit from the construction and O&M activities related to North Falls.

66. In the context of offshore wind farm developments, construction, manufacturing, professional, scientific and technical services are particularly important. The table below sets out the size of these sectors in the relevant study areas.

67. This shows that employment in construction, land-based transport and civil engineering is more concentrated in Essex than the national average. In Suffolk, all sectors have an LQ above 1, indicating the local economy has supply

chain strengths in several key sectors which could potentially benefit from the development.

Table 31.17 Employment in key strategic sectors, 2021

Sector	GB Employment (FTEs)		Essex Employment (FTEs)			Suffolk Employment (FTEs)		
	No.	%	No.	%	LQ	No.	%	LQ
Manufacturing	2,185,000	9%	43,500	7%	0.84	28,500	10%	1.20
Construction	1,361,000	5%	49,500	8%	1.53	17,750	6%	1.20
Land Based Transport	524,500	2%	13,500	2%	1.08	6,750	2%	1.19
Civil Engineering	179,500	1%	6,300	1%	1.48	4,225	2%	2.17
Energy generation	128,000	1%	710	0.1%	0.23	2,075	1%	1.50
Marine Transport	13,750	0.1%	158	0.03%	0.48	320	0.1%	2.15

Source: ONS (2022c). Please Note: Numbers are rounded. Hatch calculations are used to estimate the FTE level by assuming that one part time employee equates to 0.5 FTE.

68. As the construction sector is perceived as a strategic sector within Essex, Essex County Council (2020b) has produced a construction skills report for 2020 to 2040. This report provides further baseline and forecast data for Essex's construction industry.

69. Baseline data shows that the size of the resident construction workforce has consistently tracked above the number of jobs available locally by between c.5,000 and 19,000. This is reflective of the role Essex plays in supplying labour to support growth in neighbouring areas.

70. Strong baseline demand growth is also forecasted. According to the East of England Forecasting Model (EEFM), an average growth of 1.4% per annum is expected between 2020 to 2040. This implies that even before additional demand from major projects is taken into account, the resident construction workforce will need to grow by an estimated 750 workers per annum to meet demand.

71. The baseline labour supply forecast, based on the growth rate of the Essex working age population from the EEFM, is less strong, with the pool of available labour expected to grow by an average of 0.3% per annum 2020-2040. As such, the supply of labour (without intervention) is forecast to fail to keep pace with demand. It is estimated that the shortfall of labour supply in the peak demand year (2031) will be around 12,900.

72. At the occupation level, the greatest shortages are expected to be in non-construction professional roles (e.g. managerial and office based roles), wood trades and labourers. Peaks in demand also result in significant temporary

shortages of plumbing and HVAC trades, electrical trades, plant operatives and civil engineering operatives.

73. In the Technical Skills Legacy Report (Suffolk Growth, 2022) Suffolk Growth have set out the workforce needed in the construction and engineering sectors to deliver the forecasted 220+ regional infrastructure projects across the next 15 years.

- 13,000 people are in the defined technical workforce in Norfolk and Suffolk;
- 20,000 people are in the higher professional and technical job roles; and
- 28,000 (25%) are road transport drivers.

74. The number of people in skilled construction trades and operatives in Suffolk has been in decline over the past 15 years. Those in skilled trades (+30%) and transport drivers (+12%) have increased over the past 15 years.

75. A majority of employer respondents said that they were experiencing shortages of specific skills or roles, with worsening conditions. Employers report 3-9 months to fill technical roles and skill providers of tech roles are taking up to 18 months to fill.

76. A total of around 10,000 additional technically skilled staff is required by 2027. The Top-50 NSIPS (by value) planned for Norfolk and Suffolk are predicted to require the filling of at least 43,000 technical job roles over the next 15 years.

77. The need for additional numbers of technically-skilled people implies an imperative to expand technical training by at least 10% in the next 5 years.

78. This reiterates the 2019 East of England Forecasting Model (EEFM), which shows that the construction sector will have an average growth of 0.9% per annum is expected between 2020 to 2040. The baseline labour supply forecast, based on the growth rate of the Suffolk working age population from the EEFM, is less strong, with the pool of available labour expected to grow by an average of 0.2% per annum 2020-2040. As such, the supply of labour (without intervention) is forecast to fail to keep pace with demand.

31.5.2.4 Gross Value Added

79. Data from the ONS shows Suffolk generated over £19 billion in GVA in 2020 while Essex generated around £42.5 billion in GVA.

80. GVA per head of the population shows a large gap between Essex (£22,900/ person) and Suffolk (£25,000/person), with GVA per head in Suffolk being significantly higher, (9% higher). It should be noted that GVA per head is largely influenced by a range of factors including the age of the population and employment density of an area, and therefore GVA per FTE job (presented below) is a stronger indicator of the productivity of the workforce.

Table 31.18 GVA and GVA per head, 2020

Area	Total GVA (£ million)	GVA per head
Essex	£42,499	£22,900
Suffolk	£19,033	£25,000
UK	£1,949,605	£29,000

Area	Total GVA (£ million)	GVA per head
UK (excluding London)	£1,479,320	£25,500

ONS (2022d). Please Note: GVA is rounded to the nearest million £ and GVA per head is rounded to the nearest hundred.

81. GVA per FTE job shows that both Essex (£70,100 GVA per FTE job) and Suffolk (£68,700 GVA per FTE job) lag the national average, although this is skewed by London. When London is excluded Essex and Suffolk slightly exceed national average for GVA per FTE.

Table 31.19 GVA per FTE job, 2020

Area	GVA per FTE job
Essex	£70,100
Suffolk	£68,700
GB	£74,200
GB (excluding London)	£67,500

Hatch calculations based on ONS (2022d) and ONS (2022c) datasets. Please note: GVA per FTE job is rounded to the nearest hundred. Although we typically use the UK as a national comparator to match the study area, GB is used here as the BRES dataset only covers GB.

31.5.2.5 Labour Market

82. According to APS data (for the period July 2021 to June 2022), the economic activity[4] rate of working age residents is 81% in Essex and 79% in Suffolk which is above the UK wide average of 78% for both areas. Similarly, the employment rate[5] in Essex (79%) and Suffolk (78%) is slightly higher than the national average (75%).

Table 31.20 Economic activity/inactivity and employment rates, July 2021 to June 2022

Area	Economically Active		In Employment		Economically Inactive+	
	No.	Percent Aged 16 to 64	No.	Percent Aged 16 to 64	No.	Percent Aged 16 to 64
Essex	730,600	81%	711,600	79%	170,200	19%
Suffolk	346,800	79%	342,200	78%	91,000	21%
UK	32,487,200	78%	31,230,700	75%	8,954,900	22%

ONS (2022e).

[4] The economically active population includes people who are employed or actively seeking work.
[5] The employment rate measures the number of people in employment as a proportion of the working age population.

83. According to the latest APS data, the unemployment rate in Essex (of 3.1%) and Suffolk (1.3%) are both lower than the average for the UK (3.9%).

Table 31.21 Number of unemployed residents, June 2021- July 2022

Area	Unemployment (aged 16 to 64)	Unemployment rate (% of population aged 16 to 64)
Essex	27,900	3.1%
Suffolk	4,600	1.3%
UK	1,256,500	3.9%

ONS (2022e).

84. Plate 31.6 shows the trend in the claimant count rate going back to the beginning of 2017. Since 2017 and prior to the Covid-19 pandemic, the proportion of people claiming Universal Credit who are out of work in Essex[6] and Suffolk was relatively stable and below 2%. During the pandemic (2020-2021), the claimant count increased sharply in all areas before falling in 2022. As of October 2022 the claimant rate was around 3%. This is above the pre-pandemic level but below the national average.

85. It should be noted that Thurrock and Southend-on-Sea are presented separately from Essex in the data and both areas have rates that have generally been similar to or above the national average.

[6] References to Essex in the paragraph do not include Southend-on-Sea and Thurrock as these are unitary authorities and data is published for these separately.

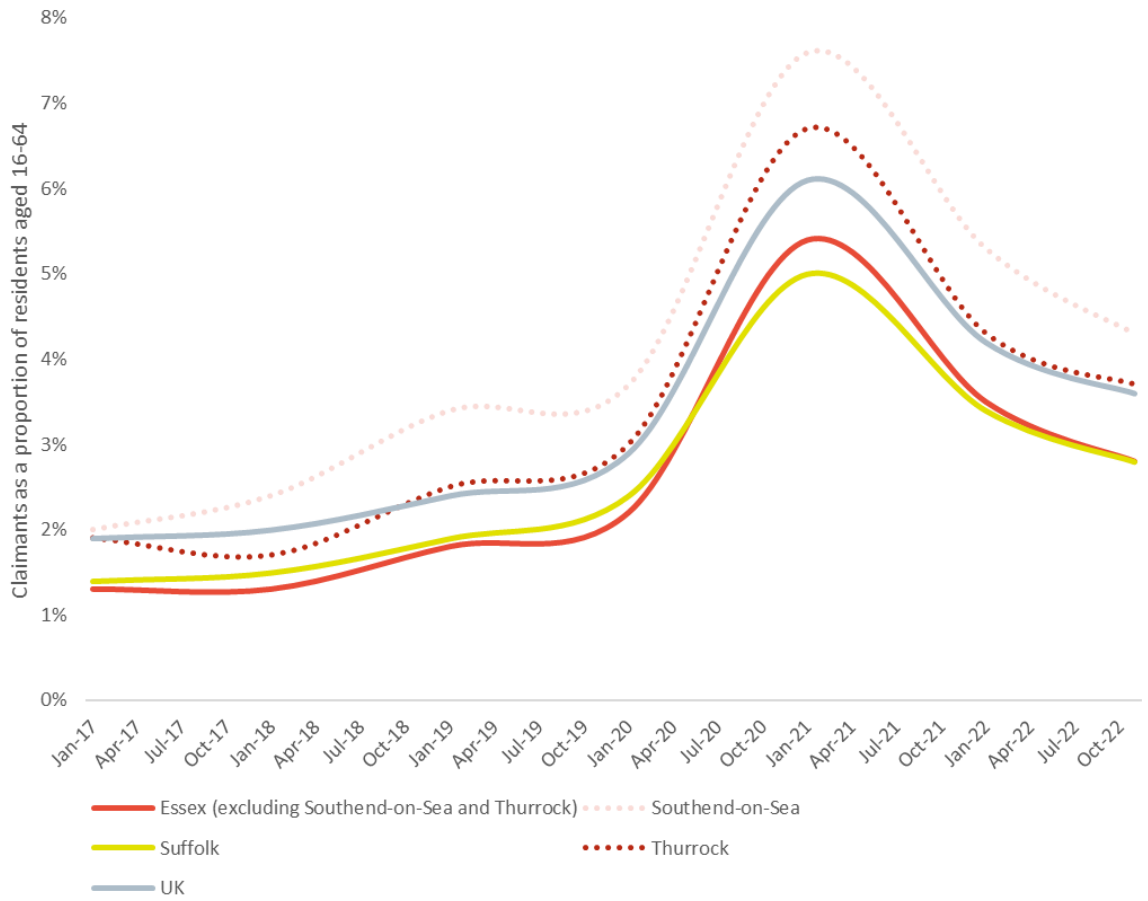

Plate 31.6 Claimant count change (2017-2022).
Please note this data is not presented for the overall Essex Study area as Southend on Sea and Thurrock are presented separately from the rest of Essex in the data due to their status as unitary authorities.

31.5.2.6 Earnings

86. The earnings data published by ONS distinguishes between:

- Resident based earnings: the average salaries of people who live in an area; and
- Workplace based earnings: the average salaries of people who work in an area.

87. In 2022, gross median workplace based annual earnings in Essex (excluding Southend on Sea and Thurrock) was about £32,100 per annum and £31,400 in Suffolk. Both locations are slightly lower than the UK average of £33,000 per annum.

88. At £35,000, resident based annual earnings in Essex was notably higher than the UK average of £33,000, whilst Suffolk's resident based annual earnings of £31,000 was lower than the UK average. Resident based earnings are higher in Essex than workplace based earnings, which suggests relatively high levels of out-migration by workers in higher-paid occupations (this is also the case for Southend-on-Sea and Thurrock).

Table 31.22 Resident and workplace median earnings for full-time employees (gross annual), 2022

Area	Residence-based earnings (£ per annum)	Workplace-based earnings (£ per annum)
Essex (excluding Southend on Sea and Thurrock)	£35,200	£32,100
Southend on Sea	£33,600	£28,300
Thurrock	£35,800	£33,600
Suffolk	£31,400	£31,400
UK	£33,000	£33,000

ONS (2022g). Please note it is not possible to present this data for the overall Essex Study area as Southend on Sea and Thurrock are presented separately from the rest of Essex in the data due to their status as unitary authorities.

31.5.2.7 Deprivation

89. Ministry of Housing, Communities & Local Government data for the 2019 Index of Multiple Deprivation (IMD) (2019) measures relative deprivation across LSOAs in the UK by compiling data across 7 domains, which include income, employment, education, health, crime, barriers to housing and services and the living environment.

90. As shown in Figure 31.3 (Volume II), deprivation levels are lower than average in both local study areas. In Suffolk 5% of all LSOA's are classed as being within the top 10% most deprived in England whilst, in Essex, 3% of LSOAs within the area are in the 10% most deprived.

91. The same pattern can be observed when examining the employment domain of deprivation (2019). 5% of LSOAs in Suffolk and 3% of LSOAs in Essex fall in the 10% most deprived areas in terms of employment.

31.5.3 Housing

92. The analysis of housing focuses on the districts of Essex and Suffolk as that is where demand for housing is likely to be most concentrated. Table 31.23 shows the number of premises and households in each of these areas based on council tax records and the 2021 Census.

Table 31.23 No. of premises and households

District	No. of premises	No. of households
Castle Point (Essex)	39,210	37,400
Colchester (Essex)	84,600	79,700
Southend on Sea (Essex)	82,560	78,300
Tendring (Essex)	73,120	67,500
Rochford (Essex)	37,210	35,600

District	No. of premises	No. of households
Maldon (Essex)	29,390	27,900
Thurrock (Essex)	69,540	66,400
Braintree (Essex)*	67,940	65,000
Babergh (Suffolk)*	42,480	40,200
East Suffolk (Suffolk)	120,240	110,700
Ipswich (Suffolk)	61,680	59,500

Source: Council Tax: Stock of properties, ONS, 2022i & Census 2021: Number of households, ONS,2022j.*These districts have been included for the assessment of significance.

93. Table 31.24 shows over 60% of housing is owner-occupied in all coastal districts as well as districts within a 45 minute drive of the onshore project area (including households who own the property outright or with a mortgage). This is over 70% in Castle Point, Rochford, Tendring and Maldon (all in Essex). The areas with the highest levels of rented accommodation (either social or private rented) are Colchester and Southend in Essex and Ipswich in Suffolk.

Table 31.24 Housing tenure

District	Owned (outright)	Owned (Mortgaged)	Shared ownership	Social rented	Private rented	Rent Free
Castle Point (Essex)	42%	40%	0.3%	6%	11%	1%
Colchester (Essex)	27%	33%	1%	17%	22%	1%
Southend on Sea (Essex)	29%	34%	0.4%	13%	23%	1%
Tendring (Essex)	45%	28%	0.4%	9%	17%	1%
Rochford (Essex)	40%	41%	0.2%	9%	9%	1%
Maldon (Essex)	36%	39%	1%	14%	11%	1%
Thurrock (Essex)	26%	40%	1%	19%	14%	1%
Braintree (Essex)*	30%	37%	1%	18%	14%	1%
Babergh (Suffolk)*	37%	32%	1%	16%	12%	2%
East Suffolk (Suffolk)	40%	29%	0.4%	15%	15%	1%
Ipswich (Suffolk)	28%	32%	1%	21%	18%	1%

Source: Tenure Type, Census 2021, ONS 2022 (accessed through UK Property Data (2022)) *These districts have been included for the assessment of significance.

94. According to UK Property data (a website which aggregates data from various property websites such as Rightmove and Zoopla), as of December 16th, 2022, there were 12,248 homes on the market for sale and 2,041 homes available to rent in costal districts of Essex and Suffolk.

95. As a percentage of the total housing stock, Maldon (4%) and Tendring (2%) had the highest percentage of homes for sale, while Southend-on-Sea (0.5%), Maldon (0.4%), Ipswich (0.4%) and Colchester (0.4%) had the highest percentage of homes to rent.

Table 31.25 Property type by current market stock (homes/flats available for sale) as of the 16th of December 2022

	Market stock of homes for sale	Homes for sale (% of Premises)	Market stock of homes to rent	Homes for rent (% of Premises)	Total Market Stock	Total market stock (% of Premises)
Castle Point (Essex)	745	1.9%	83	0.2%	828	2%
Colchester (Essex)	1,263	1.5%	347	0.4%	1,610	2%
Southend on Sea (Essex)	1,578	1.9%	435	0.5%	2,013	2%
Tendring (Essex)	1,498	2.0%	148	0.2%	1,646	2%
Rochford (Essex)	255	0.7%	N/A	N/A**	255	1%
Maldon (Essex)	1,096	3.7%	108	0.4%	1,204	4%
Thurrock (Essex)	989	1.4%	167	0.2%	1,156	2%
Braintree (Essex)*	1,614	2.4%	245	0.4%	1,859	3%
Babergh (Suffolk)*	938	2.2%	80	0.2%	1,018	2%
East Suffolk (Suffolk)	1,286	1.1%	193	0.2%	1,479	1%
Ipswich (Suffolk)	986	1.6%	235	0.4%	1,221	2%

Source: Portals & agents, Ministry of Housing, Communities & Local Government, Office for National Statistics accessed via UK Property Data (2022). *These districts have been included for the assessment of significance. ** Rochford rental data was not available (however sales data below is available).

96. Plate 31.7 shows demand for housing in Essex and Suffolk has remained strong over the past year. Price paid data (Land registry, 2022) shows that from November 2021- November 2022, 15,245 properties were sold in Essex and 7,888 were sold in Suffolk.

97. UK Property data (2022) shows the number of house sales[7] by month was fairly consistent between January 2022 and September 2022. Colchester made up the largest proportion of sales on average, whereas Rochford accounted for the fewest.

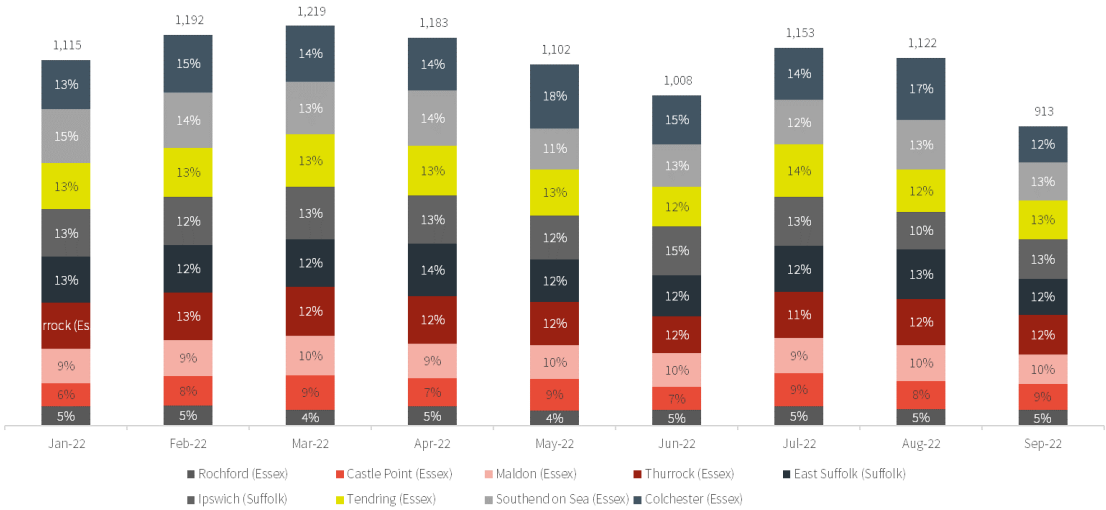

Plate 31.7 House Sales in Coastal districts from January-September 2022.

98. Absorption rates give an indication of the rate at which available homes are sold in a specific market during a given time period. This measures the total number of transactions in the latest three-month period as a percentage of current availability on the market. Typically, if the absorption rate falls below 10%, this implies a high level of supply relative to demand and homes take a longer time to sell. Rates above 20% indicate a shortage of supply.

99. The average monthly absorption rates for the coastal districts of Essex and Suffolk as well as districts within a 45 minute drive of the onshore project area fall between 9-21% for house sales, indicating a reasonable supply to demand ratio. However, average monthly absorption rates for the private rental market in all districts are >70% (with Rochford as an exception due to data not being available), indicating a shortage of rental accommodation which may cause rents to increase.

[7] Rental data by month is not available

Table 31.26 Average monthly absorption rates

	Sales	Rental
Castle Point (Essex)	11%	98%
Colchester (Essex)	13%	109%
Southend on Sea (Essex)	9%	80%
Tendring (Essex)	10%	89%
Rochford (Essex)	21%	N/A
Maldon (Essex)	11%	113%
Thurrock (Essex)	14%	145%
Braintree (Essex)*	11%	105%
Babergh (Suffolk)*	10%	89%
East Suffolk (Suffolk)	11%	113%
Ipswich (Suffolk)	14%	145%

Source: UK Property data (2022). *These districts have been included for the assessment of significance.

100. Chapter 32 Tourism and Recreation (Volume I) describes the existing environment in relation to the visitor economy and associated visitor accommodation. The chapter notes that the latest accommodation stock audit undertaken by Visit Britain in 2016 found there was a total of 587 serviced and non-serviced establishments in Essex County. This equates to 12,226 rooms and 55,368 bedspaces across the county. A breakdown by district is provided in Table 31.27 and Section 32.5 of Chapter 32 Tourism and Recreation (Volume I).

101. Table 32.19 in Chapter 32 Tourism and Recreation (Volume I) shows the accommodation availability around the onshore project area. This data is presented in Table 31.27 below and gives an indication of the accommodation stock that the construction workforce would have access to. Notably, during high seasons such as summertime, hotel occupancy rates are around 80% (Visit Britain, 2016), thus reducing the available rooms and bedspaces.

Table 31.27 Breakdown of accommodation availability around the onshore project area

District / Borough	Number of rooms	Number of bedspaces
Essex County		
Colchester Borough	1,200	2,595
Tendring District	929	2,306
Maldon District	153*	310*
Braintree District	224*	531*
Suffolk County		
Ipswich Borough	850	1,884

District / Borough	Number of rooms	Number of bedspaces
Babergh District	838	1,871
East Suffolk District	349	739

Source: Visit Britain (2016). *Please note figures are conservative estimates, assuming 30% are within reach of the onshore project area

31.5.4 Education

102. School and college performance data in England (ONS, 2022h) provides a breakdown of schools in each local authority district by type of school, education phase and pupil characteristics. There are 648 schools in Essex and 387 schools in Suffolk, the majority of which are primary schools (84%).

103. Data from the UK Government (Department for Education, 2022) shows that a high proportion of 16–17-year-olds participate in education or training within Essex (92%) and Suffolk (91%). This is similar to the national average (93%). Regarding NEETs, Essex matches the national figure at 2.6% but Suffolk has a notably higher percentage of NEETs (3.6%).

104. Special schools are defined as schools which pupils aged 11 and older can specialise in one of the four areas of special educational needs:

    a. Communication and interaction;

    b. Cognition and learning;

    c. Social, emotional and mental health; and

    d. Sensory and physical needs.

105. Schools can further specialise within these categories to reflect the special needs they help with, for example Autistic spectrum disorders, visual impairment or speech, language and communication needs.

106. There are 67 Special schools in Essex and Suffolk, which make up a small provision of total schools (6%).

31.5.5 Health provision

107. The General Practice (GP) data below is presented as an annual average from December 2021 to November 2022. NHS Suffolk and North East Essex ICB provides primary, mental health, community and acute hospital services across Suffolk and North East Essex. GP workforce data (NHS Digital, 2022) identifies 91 GP surgeries within the NHS Suffolk and North East Essex ICB area as of November 2022. Together these employ a total of 558 FTE GPs.

108. Consultation with NHS Suffolk and North East Essex ICB (see Table 31.1) highlighted that GPs and pharmacies are currently under resourced. Although there may be lower numbers of residents registered with the GP compared to elsewhere, those that are registered, often suffer from complex conditions which require greater GP time.

109. According to the data, there was an average of around 1,050,000 registered patients with GPs in the Suffolk and North East Essex ICB area. This implies that on average each GP serves 1,881 patients, which exceeds the national

average (of 1,760 patients per GP) and is also above the benchmark maximum threshold (of 1,800 patients per GP) recommended by the Healthy Urban Development Unit (HUDU) (London HUDU, 2019). Consultation with NHS representatives (undertaken in March 2023) suggested that residents find the wait time of GP appointments to be too long.

110. Notably 5 out the 7 districts in the ICB area exceed the HUDU benchmark of 1,800 patients per GP. Tendring has the highest patients per GP of 2,206 patients per GP with Colchester and Ipswich also exceeding 2,000 patients per FTE GP. This indicates there are significant capacity constraint issues in North East Essex and Ipswich.

Table 31.28 GP coverage health board and the UK, Dec 2021 - Nov 2022

		GP Practices	Registered patients	No. of FTE GP Practitioners	Patients per GP
Suffolk	Babergh (Suffolk)	8	90,560	49	1,836
	East Suffolk (Suffolk)	12	112,770	62	1,833
	Ipswich (Suffolk)	11	182,690	85	2,150
	Mid Suffolk (Suffolk)	9	98,630	61	1,613
	West Suffolk (Suffolk)	19	198,440	125	1,585
North East Essex	Colchester (Essex)	15	209,440	105	2,001
	Tendring (Essex)	17	157,040	71	2,206
NHS Suffolk and North East Essex ICB		91	1,050,000	558	1,881
England		6,479	61,750,00	35,079	1,760

Source: NHS Digital (2022). Note the NHS workforce data only covers England and therefore the UK is not presented. Patient numbers are rounded.

111. The table below shows the location of district general hospitals in the NHS Suffolk and North-East Essex ICB area. The area is also served by a number of community hospitals and health centres.

Table 31.29 General district hospitals and health centres

Name	Location
Ipswich Hospital	Heath Road, Ipswich, Suffolk, IP4 5PD
Colchester Hospital	Turner Road, Colchester, Essex, CO4 5JL
Halstead Hospital	78 Hedingham Road, Halstead, Essex, CO9 2DL

Name	Location
Fryatt Hospital	419 Main Road, Dovercourt, Harwich, Essex CO12 4EX
Clacton and District Hospital	Tower Road, Clacton-On-Sea, CO15 1LH

Source: NHS Suffolk and North -East Essex ICB (2022)

112. The Handbook to the NHS Constitution for England (Department of Health & Social Care, 2022) sets an overall target of 95% of all attendees at A&E facilities to be seen, discharged, admitted and/or transferred within four hours of arrival. This standard recognises that for 5% of all patients it may not be clinically appropriate to manage them within four hours of arrival at A&E.

113. Averaged data for September to November 2022 (NHS England, 2022) shows that 69.7% of all A&E patients in England spend less than four hours waiting time. This increases to 70.0% for emergency departments in the NHS Suffolk and North-East Essex ICB area. A notable disparity is observed between major emergency departments (49.0%) and other emergency departments/minor injury units (98.6%).

Table 31.30 A&E Patients seen in under 4 hours, 3-month average (September 2022-November 2022)

	A&E patients seen in under 4 hours
England	69.7%
NHS Suffolk and North-East Essex ICB board area - overall	70.0%
Major Emergency departments	49.0%
Other A&E/Minor injury unit	98.6%

Source: NHS England (2022) September-November 2022

114. Ambulance services aim to achieve the standards in the Handbook to the NHS Constitution (Department of Health & Social Care, 2022):

- Category 1 responses: Immediate response to a life-threatening condition, such as cardiac or respiratory arrest. Need immediate resuscitation and intervention to give the person the best chance of survival. The Handbook standards are set at a mean average waiting and response time of less than or equal to seven minutes, with the response time to 90% of all incidents being a maximum of 15 minutes;
- Category 2 responses: Serious conditions that do not pose an immediate risk to life, such as a heart attack or stroke, or for people suffering from sepsis or major burns. They require urgent assessment and rapid transportation, and should be responded to within 18 minutes;
- Category 3: Urgent calls such as abdominal pains, the late stages of labour, non-severe burns and diabetes. Patients will sometimes be treated in their own home. The target for services is to respond at least nine out of 10 times within 120 minutes; and
- Category 4: Non-urgent calls such as diarrhoea and vomiting, urine infections and back pain. These less urgent calls should be responded to at least nine out of 10 times within 180 minutes.

115. Ambulance service quality indicators (NHS England, 2022) show that the East of England Ambulance Service NHS Trust (responsible for Suffolk and Essex) have longer mean average ambulance response times for Category 1-4. The average Category 1 response time is 10 minutes which is longer than both the England average (eight minutes) and the NHS Constitution (seven minutes).

Table 31.31 Ambulance response times

NHS response category and waiting time commitments		NHS Constitution –	England -	East of England Ambulance service NHS Trust
Category 1	Mean average Category 1 response	7 minutes	8 minutes	10 minutes
	Response time to 90% of Category 1 incidents	15 minutes	14 minutes	19 minutes
Category 2	Mean average Category 2 response	18 minutes	41 minutes	1 hour 3 minutes
	Response time to 90% of Category 2 incidents	40 minutes	1 hour 30 minutes	2 hours 19 minutes
Category 3	Mean average Category 3 response	n/a	2 hours 23 minutes	5 hours 52 minutes
	Response time to 90% of Category 3 incidents	2 hours	3 hours 5 minutes	7 hours 43 minutes
Category 4	Mean average Category 4 response	n/a	2 hours 48 minutes	6 hours 48 minutes
	Response time to 90% of Category 4 incidents	3 hours	4 hours 45 minutes	12 hours 54 minutes

Source: NHS England (2022) and Department of Health & Social Care (2022).

31.5.6 Onshore social and community infrastructure facilities

116. Figure 31.3 (Volume II) shows the social community infrastructure within the LOCAI that could be affected by North Falls .

117. Table 31.32 displays further detail on the detailed onshore local social and community infrastructure facilities within the LOCAI.

Table 31.32 Social and community infrastructure facilities within the LOCAI

Name	Social community Infrastructure	Postcode	Distance from North Falls onshore project area (metres)
Tendring Primary School	School/Education	CO16 0BP	184
ACEs performance academy	School/Education	C013 0JU	10

Name	Social community Infrastructure	Postcode	Distance from North Falls onshore project area (metres)
Nanny Jo's Day nursery	School/Education	CO16 0JE	500
Tendring Technology college	School/Education	CO16 0LQ	500
All Saints Church	Churches	CO13 0JS	271
Great Holland Church	Churches	CO13 0JP	80
St Mary's	Churches	CO11 2PP	291
Thorpe Le Soken Police Station	Police Station	CO16 0LQ	500
The first Care services (The Firs)	Health Services	CO13 0NJ	221
Springbank Care Home in Essex	Health Services	CO16 0BX	362
Tendring Meadows	Health Services	CO16 0BZ	308
Holland Haven Country Park	Greenspace/Playgrounds	CO15 5TZ	308
Nissen Hut	Greenspace/Playgrounds	CO13 0EU	26
Tendring Green Allotments	Greenspace/Playgrounds	CO16 0BU	403

Source: Google Maps (2022). Distance from the North Falls onshore project area (metres) is measured as the distance from the community facility (identified using postcodes) to the closest perimeter of the North Falls onshore project area.

31.5.7 Economic value associated with local fishing sector

118. Chapter 14 Commercial Fisheries (Volume I) sets out the existing environment with regard to UK commercial fisheries. This shows there is a large cockle fishery in International Council for the Exploration of the Sea (ICES) rectangle 32F1 (where the majority of the offshore project area is located including the whole offshore cable corridor and interconnector cable corridor and almost all of the array areas). While the inshore section of the offshore cable corridor area overlaps with two cockle management areas it is understood that there is no overlap between cockle beds that are being commercially targeted and the offshore cable corridor.

119. Any cockle grounds that do overlap have been closed under the Cockle Fishery Flexible Permit Byelaw for the last 10 years. The active cockle fishery contributing to the landings are in the southwest corner of ICES rectangle in 32F1 and are therefore not considered further.

120. The landings from ICES rectangle 32F1 are worth an approximate £2.78 million per year (average 2016-2020), although around half of this is from the aforementioned cockles. The main species of value are whelks, sole, lobsters, bass, thornback rays and horse mackerel.

121. Local UK vessels active in the inshore section of the study area (34F1) operate mostly from Felixstowe Ferry, West Mersea and Harwich. Given their small size (generally under 10m) and limited operational range, these vessels primarily fish grounds within the UK's 12nm limit and mostly within the 6nm limit. The main methods employed along the coastline is potting for whelks, lobster and edible crabs, trawling for sole and thornback ray, netting for sole, bass and thornback ray and at lower levels, beam trawling for sole, midwater trawling for horse mackerel, and longlining for sole, bass and thornback ray.

122. Further offshore (32F2), comparatively low landings are recorded in the study area, and of this, beam trawling and potting represent the main fishing methods. The vessels targeting this area are typically larger in size.

123. VMS data indicates low levels of fishing activity by larger vessels within the offshore project area when compared to areas to the north of the Project in the central and northern North Sea, and to the south in the English Channel.

124. In 2021 the UK commercial fishing fleet performed as follows (Seafish, 2021):

- Total income = £923m
- Operating profit: £240m
- Full-time equivalent jobs:6,835
- Active vessels: 4,269
- Total fish and shellfish caught: £921m / 651,800 tonnes

125. According to ONS employment data (ONS, 2022) There were 60 FTEs employed in the marine fishing industry in Essex and less than 30 FTEs employed in the marine fishing industry in Suffolk. This represents 1.6% of the GB marine fishing industry (5,350 FTEs).

31.5.8 Economic value associated with local ports

126. Shipping and navigational impacts associated with North Falls are assessed within Chapter 15 Shipping and Navigation (Volume I). This assessment recognises that changes to shipping and navigation could have a further economic impact within the local and national economy. As the ports of Felixstowe and Harwich are the largest and closest ports in the vicinity of the offshore project area, it is assumed that the potential economic impacts associated with impacts on ports will be concentrated on economic activity associated Felixstowe and Harwich ports. For this reason, the existing environment data on economic impacts of ports is collected for the ports of Felixstowe and Harwich and the aggregation of UK ports.

127. The ports of Felixstowe and Harwich are owned and operated by Hutchinson Ports (the world’s leading port network, with 52 ports in 26 countries throughout Asia, the Middle East, Africa, Europe, the Americas and Australasia).

128. Felixstowe is the UKs busiest container port, dealing with 42% of the country's containerised trade (Port of Felixstowe, 2022), meaning it is of strategic importance for national and global supply chains.

129. On average the port handles four million twenty-foot equivalent units per annum and moves approximately 500 containers out of the port every day (BBC, 2022). In 2021, £9.2bn exports and £37.4bn imports passed through the port. More recent data shows that in August 2022, £693m of exports and £3.82bn of imports passed through Felixstowe (OEC, 2022).

130. Although no economic impact studies are publicly available for the port of Felixstowe regarding its GVA contribution to the UK economy, Oxford Economics completed a study in 2013 (Oxford Economics, 2013) which estimates that ports in the south-east have a direct GVA contribution of approximately £1.3bn to UK GVA. Such studies have a cost implication and therefore are usually not updated on a regular basis and as a result are often relatively old. Despite the age of the study, it nonetheless provides useful (best available) data.

131. The study further suggests that the sector's labour productivity is £65,400 per worker. As Felixstowe port supports an employment base of 2,550 people (BBC, 2022), it could be estimated that in 2022, the port of Felixstowe directly contributed £1.7bn to UK GVA.

132. The port will also support further economic activity as a result of supply chain and salary expenditure in the regional economy (known as indirect and induced effects). Using assumptions from the Oxford Economics study, it can be estimated that these support an additional 5,400 jobs in the South East (3,300 jobs as a result of indirect effects and 2,100 people as a result of induced effects).

133. In addition, the Port of Felixstowe also plays an important role in supporting efficient supply chains for businesses who use the port. Any disruption to its activities would therefore not just affect the Port itself, but also have wider consequences for the regional economy. There are currently no studies which have assessed this, or which provide data on the geography of businesses who use the port. However, should further information become available post submission of the PEIR this will be considered as part of the ES.

134. Harwich International Port's main use is for ferry services. The port hosts daily passenger and freight services to the Hook of Holland (Netherlands); as well as freight only services to Rotterdam Europort. Approximately 1 million passengers pass through Harwich International every year, travelling on ferry services to the Netherlands.

135. Harwich International Port offers transport operators a gateway into the rest of Europe with 25 weekly Ro-Ro connections to the Netherlands.

136. As of 2010, the port was the base for the installation of the offshore Greater Gabbard and Thanet offshore wind farms, and has also been used for Gunfleet Sands Offshore Wind Farm. The operations and maintenance base for the Galloper wind farm is housed in the port and is made up of a dedicated pontoon, warehouse and office space (Hutchinson Ports Harwich International 2023).

137. Felixstowe and Harwich ports and the new Gateway 14 business park off the A14, have unified to form Freeport East. Freeport East is one of eight new Freeports in England announced by the Chancellor of the Exchequer on 3 March 2021. The Freeport is proposed to be a hub for global trade and national regeneration as well as creating a hotbed for innovation that is proposed to have impact across the UK (Freeport East 2021).

31.5.9 Local minerals resources and associated economic activity

138. As described in Chapter 19 Ground Conditions and Contamination (Volume I), there are a number of Mineral Safeguarding Areas, and a Mineral Consultation Area located within the onshore project area.

139. In terms of employment supported in the mining and quarrying sector there are 100 FTE jobs within this sector in Tendring (0.3% of total FTE jobs). This is a higher proportion than is found in Essex (0.1% of total jobs or around 300 FTE jobs) and Great Britain (0.2% of total jobs or around 44,750 FTE jobs) (ONS 2022c).

140. According to the ONS data all the mining and quarrying sector jobs within Tendring are linked to the operation of gravel and sand pits (mining of clays and kaolin) sub sector.

141. Given the relatively small scale of jobs supported by the sector the economic value associated with the sector is also likely to be relatively small. It should be noted that it is typical for a relatively large amount of economic value to be generated per employee in this sector. This is because the sector is typically more capital intensive than other sectors.

31.5.10 Anticipated trends in baseline conditions

31.5.10.1 Future population

142. According to ONS 2018-based population projections, by 2033 there will be an additional 123,000 residents in Essex, 43,600 additional residents in Suffolk and 3.8 million additional residents in England. This is an increase in the population of 8% in Essex, 6% in Sussex and 7% nationally compared with the base year (2018).

143. In Essex, the working age population (aged 16 to 64) is expected to increase at a faster rate (5%) than the national average (3%) over the period 2018 to 2033. In contrast, Suffolk's working age population is expected to decline by 1% compared with the base year. It should be noted that declining working aged population is generally seen as a concern by economists. The size of the workforce available to employers in Suffolk may shrink, thus making it harder to grow the economy and fill vacancies.

144. The population aged 65 and over is expected to increase by 27% in Essex and 32% in Suffolk, representing an additional 81,000 and 57,000 residents respectively by 2033. Both areas follow the same pattern as national trends where it is estimated that the population aged 65+ will increase by 32% resulting in a total of about 3.2 million residents by 2033.

Table 31.33 Population Projections, Change in Population, 2018 to 2033

Area	Aged 0-15		Aged 16-64+		Aged 65+		Total Population	
	No. (000s)	% Change	No. (000s)	% Change	No. (000s)	% Change	No. (000s)	% Change
Essex	2.2	0.8%	40.3	4.5%	80.6	26.6%	123.3	8.3%
Suffolk	-8.3	-6.1%	-4.6	-1.0%	56.6	32.2%	43.6	5.8%
England	-455.0	-4.2%	1,041	3.0%	3,229	31.7%	3,815	6.8%

Source: ONS (2020). Note the UK is not presented here as population projections are undertaken separately, at different times, across England, Wales, Scotland and Northern Ireland.

31.5.10.2 Economic forecasts

145. The Office for Budget Responsibility (OBR) forecasts from November 2022 (see Plate 31.8), shows the medium-term economic outlook for the UK economy. During 2022, the UK experienced periods of stagnation in economic growth. The OBR's forecasted recovery in real incomes, consumption, and investment sees GDP return to growth in 2024 and output recover to its pre-pandemic level in the fourth quarter of that year. The medium-term fiscal outlook has materially worsened since the OBR's March 2022 forecast due to a weaker economy, higher interest rates, and higher inflation (the latter largely due to global factors).

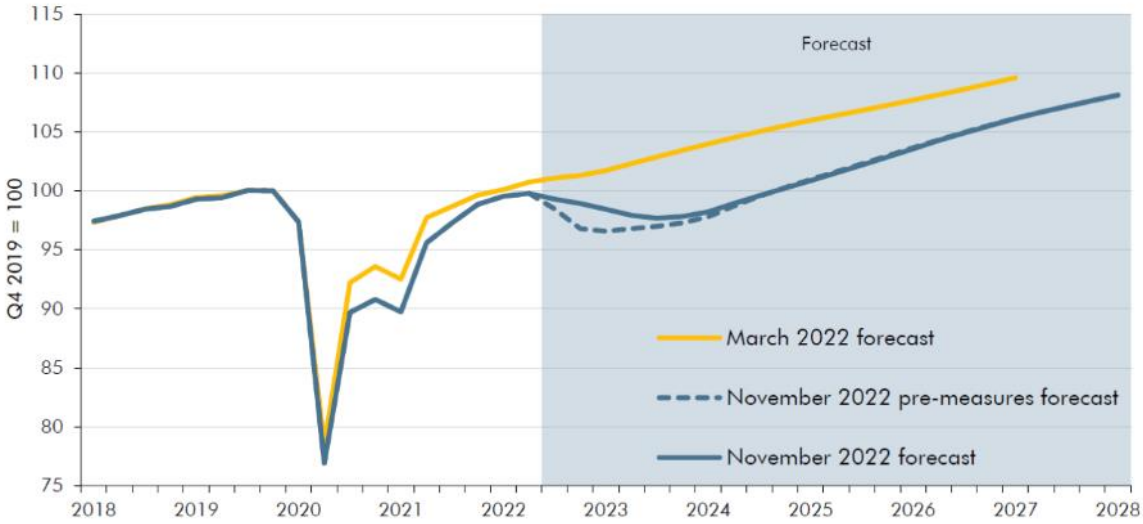

Plate 31.8 UK Economic Forecasts- Real GDP, November 2022.
Source: OBR (2022).

146. The latest economic forecasts (Essex County Council, 2021) for Greater Essex (see Plate 31.9) shows a strong recovery in GVA following the recession associated with Covid-19 (compound growth rate of 3.3% per annum from 2020 to 2024 slowing to 1.6% per annum after 2024). It should be noted that this does not account for economic shocks (and resulting recession) experienced in 2022 (i.e., the Ukraine War and the cost of living crisis). Employment is anticipated to continue to grow at a consistent rate of 0.6% per annum.

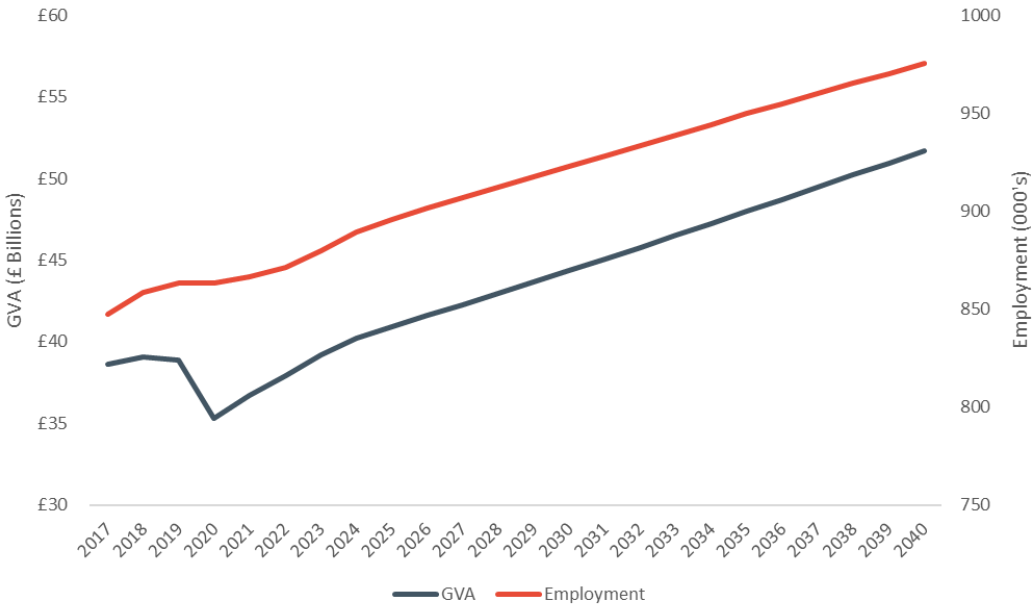

Plate 31.9 Cambridge Econometrics Projections for Essex, March 2021.

Source: Essex County Council (2021f).

147. The latest economic forecasts for Suffolk taken in 2019 (see Plate **31.10**) imply that GVA is expected to grow steadily across 2020 to 2040 with a compound growth rate of 1.4% per annum. It should be noted that this does not account for COVID-19 and economic shocks (and resulting recession) experienced in 2022 (i.e., the Ukraine War and the cost-of-living crisis). Employment is also anticipated to grow at a consistent rate of 0.5% per annum.

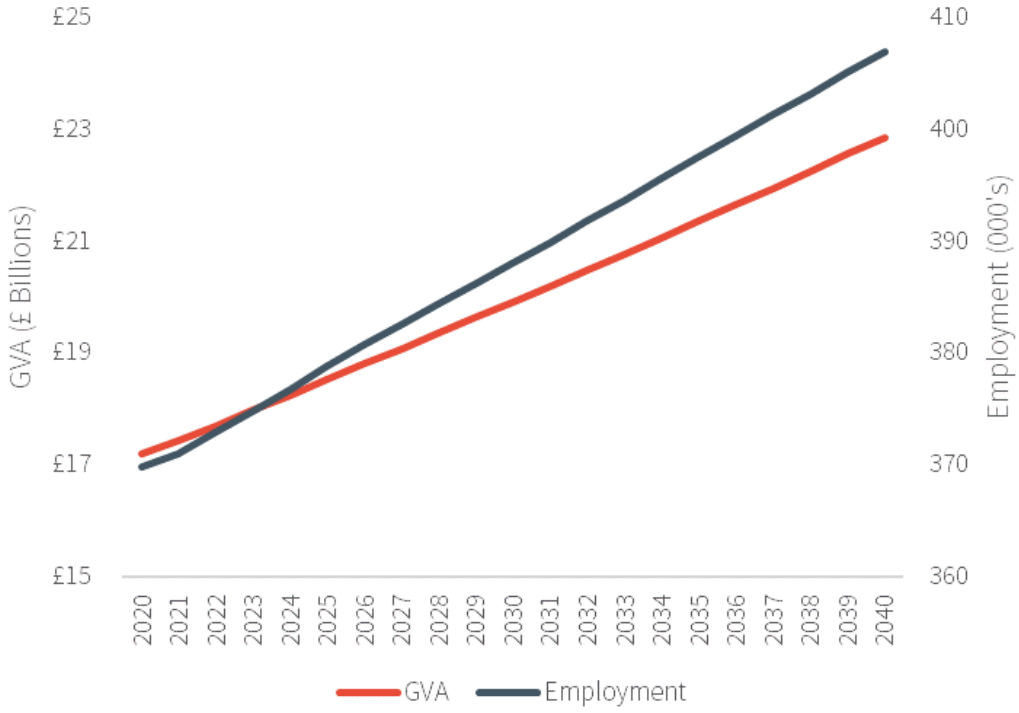

Plate 31.10 Cambridgeshire Insight Projections for Suffolk, 2019.

Source: East of England Forecasting Tool, Cambridgeshire Insight, (2019).

31.5.10.3 Cost of living

148. In the absence of increased development of offshore wind farms, such as North Falls, the UK is likely to remain a net importer of energy which would continue to increase UK living costs and therefore increase local and UK deprivation levels.

149. It should be noted that the 2022 cost of living crisis is unlikely to be a medium to long term issue in the UK. The OBR forecast that inflation will drop sharply from a record high level of 11% experienced at the end of 2022. Inflation is anticipated to be dragged below zero in the middle of the decade by falling energy and food prices before returning to its 2 per cent target in 2027 (OBR, 2022).

31.5.10.4 Brexit

150. The OBR note that the new trading relationship between the UK and EU, as set out in the 'Trade and Cooperation Agreement' (TCA) that came into effect on 1 January 2021, will reduce long-run productivity by 4% relative to remaining in the EU. This largely reflects the view that the increase in non-tariff barriers on UK-EU trade acts as an additional impediment to the exploitation of comparative advantage. The OBR also predict that both exports and imports will be around 15% lower in the long run than if the UK had remained in the EU.

31.5.10.5 Offshore wind sector

151. It is anticipated that the offshore wind sector will continue its growth trajectory towards the Government's policy objective of building towards an overall generation capacity of 50GW by 2030.

31.5.10.6 Climate change

152. Under a moderate climate change scenario, the health of the local, UK and global population may be adversely affected by reduced food production, warmer temperatures and increased natural disasters. The impacts of climate change are described in more detail within: Chapter 20 Air Quality, Chapter 21 Water Resources and Flood Risk, Chapter 28 Human Health and Chapter 33 Climate Change (Volume I).

31.6 Assessment of significance

153. The economic impact figures (i.e., impacts 1-4 for construction and operational phases and the impacts set out for the decommissioning phase) are based on the assumptions and results calculated in Appendix 31.1 (Volume III). Results are presented for three scenarios which make the following assumptions:

- Worst case scenario: representing an outcome where UK suppliers are uncompetitive;
- Baseline scenario: the most likely outcome based on the information available; and
- Enhanced scenario: an optimistic but plausible outcome.

154. A full methodology of THE economic impact study is provided in Appendix 31.1 (Volume III). The study started by building a supply chain narrative, assessing the potential to use local and national suppliers. This narrative was then used to undertake a local and UK content assessment to gauge the level of

expenditure that could be retained both locally and nationally. Economic impact modelling was undertaken using methods developed specifically for the offshore wind sector. The results were then validated using over 10 years of UK offshore wind farm local and UK content data.

155. Figures presented in Appendix 31.1 (Volume III) were then used to put these into a format most applicable to the PEIR assessment. It should be noted that:

- The PEIR chapter separates onshore and offshore economic benefits of North Falls. The overall impact would be a combination of onshore and offshore impacts, the combined impacts are presented at the beginning of Sections 31.6.1 and 31.6.2.
- Appendix 31.1 (Volume III) does not distinguish between onshore and offshore in the same way as is done for the chapter and therefore figures are equivalent but presented differently within this chapter.
- As outlined in Section 5.4 of Chapter 5 Project Description (Volume I), at this stage of the Project's development, some optionality is required in order to future-proof the DCO. One area of optionality is in relation to the National Grid connection point. As discussed in Chapter 1 Introduction (Volume I), NFOW is committed to working with the Department for Energy Security and Net Zero (DESNZ) to explore grid connection options as part of the Offshore Transmission Network Review (OTNR) process. Options are currently being reviewed (onshore and potential offshore connection points), however, the design basis for the PEIR is that there will be an onshore connection, however, if an offshore grid connection is used instead, the effects would be mostly limited to offshore impacts. This is the reason why offshore and onshore impacts are presented separately in the chapter
- The local employment and GVA quantified in the assessment of impacts 1-4 are based on the use of local businesses in the supply chain and therefore the assessment of impacts 1-4 does not include employment of workers who are usually based outside of the local study area but have temporarily moved in to work in the study area.
- This assessment should be considered alongside the existing evidence of the scale of local economic benefits from other operational offshore wind farms in close proximity to North Falls. For example, North Falls' sister project, Greater Gabbard represents a £1.5 billion investment and has created hundreds of jobs during construction as well as 100 long-term new roles (at its operations and maintenance base in Lowestoft) and has utilised a number of local firms in the supply chain.
    - Of the 100 new recruits to the Greater Gabbard operations base, 95% were from the local area and since inception, more than 10 local apprentices have graduated from the wind farm's apprentice training scheme as wind turbine and balance-of-plant technicians. Greater Gabbard also offered junior engineer roles in disciplines including electrical engineering, supervisory control and data acquisition engineering and control & instrumentation. Ex-fishermen have been employed on Crew transfer vessels as part of the drive to find locally skilled people to fill requirements for roles. North Falls will similarly provide contracting opportunities for local companies and career

opportunities for local people throughout each phase of its lifecycle (North Falls, 2022).

- With this in mind, the economic benefits of the development could in reality be significantly higher than the estimates based on the realistic worst case scenario presented in this assessment.

31.6.1 Potential effects during construction

156. The assessment of economic benefits uses the impacts presented in Appendix 31.1 (Volume III) to assess onshore and offshore construction effects separately within this chapter

157. The average per annum and peak annum combined onshore and offshore GVA and employment impacts during the seven year development and construction period are shown in Table 31.34 below.

158. It should be noted that of the annual impacts vary considerably over the seven year development and construction period with impacts considerably higher during the period which onshore and offshore infrastructure is being constructed.

The BVG report (Appendix 31.1, Volume III) assumes peak impacts during the construction phase will occur in the penultimate year of construction. As is evident in Table 31.34 the combined offshore and onshore peak impacts are estimated to be significantly higher than annual average impacts. For the purpose of the assessment the average annual impact across the seven year development and construction period is used to assess the magnitude employment and GVA impacts.

Table 31.34 Average and peak GVA and employment impacts generated per annum during the development and construction phase

	Worst Case Scenario (£ million)		Baseline Scenario (£ million)		Enhanced Scenario (£ million)	
GVA impacts						
UK impact						
	Annual average impact	Peak annual impact	Annual average impact	Peak annual impact	Annual average impact	Peak annual impact
Direct GVA	£20.3	£38.4	£28.7	£43.5	£44.9	£86.3
Indirect GVA	£9.1	£37.6	£14.0	£43.1	£25.3	£88.9
Total GVA	£29.4	£76.0	£42.7	£86.7	£70.2	£175.2
Local Impact (Essex & Suffolk)						
	Annual average impact	Peak annual impact	Annual average impact	Peak annual impact	Annual average impact	Peak annual impact
Direct GVA	£2.2	£5.9	£5.0	£10.3	£5.1	£10.5
Indirect GVA	£0.8	£3.7	£2.1	£10.4	£2.2	£10.6

	Worst Case Scenario (£ million)		Baseline Scenario (£ million)		Enhanced Scenario (£ million)	
Total GVA	£3.0	£9.6	£7.1	£20.6	£7.3	£21.2
Employment impacts						
UK impact						
	Annual average impact	Peak annual impact	Annual average impact	Peak annual impact	Annual average impact	Peak annual impact
Direct jobs (FTE)	260	580	380	840	530	1,340
Indirect jobs (FTE)	80	290	120	420	200	700
Total Direct + Indirect Jobs (FTE)	330	870	500	1,260	730	2,030
Local Impact (Essex & Suffolk)						
	Annual average impact	Peak annual impact	Annual average impact	Peak annual impact	Annual average impact	Peak annual impact
Direct jobs (FTE)	30	70	60	160	70	170
Indirect jobs (FTE)	5	30	20	80	20	80
Total Direct + Indirect Jobs (FTE)	30	100	80	240	80	250

Based on calculations by BVGA. Figures may not sum as rounding has been applied.

31.6.1.1 Impact 1: Direct economic benefit (supply chain) onshore

159. Employment supported by the development and construction of North Falls will contribute to the size and overall productivity of the local and UK economy and will help to support the recovery from the current period of constrained growth.

160. Table 31.35 summarises the potential annual GVA benefits supported by the onshore aspect of the development of North Falls. The impacts are presented for both the UK and the local Essex and Suffolk study area.

161. The direct (onshore) GVA effects supported by North Falls are expected to be generated mainly by the onshore civils work related to the installation and commissioning of the onshore infrastructure (i.e., installation of export cable, onshore substation and base construction). Most of this activity will take place within Essex because the North Falls onshore project area falls within Tendring (Essex). Remaining direct (onshore) employment effects would be driven by the development and project management of the onshore elements.

162. It is estimated that onshore construction activity will contribute between £24 and £27 million GVA per annum to the UK economy (based on the estimates for the worst case and enhanced scenario). This represents between £169 and £190 million over the North Falls' assumed seven-year development and construction phase. Note the seven-year development and construction phase would begin with pre construction development work and finish with the final construction activity before commissioning.

163. Of this, an estimated £15 to £44 million GVA (or £2 to £6 million per annum) is anticipated to be captured by businesses in Essex that access supply chain opportunities. The development of construction costs and sourcing assumptions (Appendix 31.1, Volume III) anticipate that Essex and Suffolk has local suppliers that could be drawn upon for North Falls, particularly for the installation and commissioning of onshore and offshore infrastructure.

Table 31.35 Average GVA impacts generated per annum by onshore development and construction activity

	Worst Case Scenario (£ million)	Baseline Scenario (£ million)	Enhanced Scenario (£ million)
UK impact			
Direct GVA	£16.7	£17.2	£17.4
Indirect GVA	£7.5	£8.4	£9.8
Total GVA	£24.2	£25.6	£27.2
Local Impact (Essex & Suffolk)			
Direct GVA	£1.6	£4.4	£4.4
Indirect GVA	£1.6	£5.6	£1.8
Total GVA	£2.2	£6.2	£6.2

Based on calculations by BVGA. Figures may not sum as rounding has been applied

31.6.1.1.1 Magnitude of impact

164. The assessment of magnitude is based on the worst case scenario impacts set out in Table 31.35. The magnitude of impact is set out in Table 31.36 below.

165. Based on total GVA of £1,950 billion in the UK in 2020 (the latest year for which estimates are available), it is estimated that under the 504MW capacity realistic worst case scenario, the Project's annual GVA contribution (of up to £24 million) to the UK economy will represent below 0.1% of the current baseline. On this basis, the magnitude of impact of the Project GVA at the UK national level is assessed as negligible.

166. If the more optimistic enhanced scenario is considered (£27 million), the increase in GVA would also represent a below 0.1% increase on the current baseline and therefore still be assessed as negligible.

167. At the Essex and Suffolk level, the £2.2 million of GVA supported throughout North Fall's development and construction phase are estimated to represent an increase of 0.003% of the current baseline. On this basis, the magnitude of impact of onshore construction activity on employment within Essex is therefore assessed as negligible.

Table 31.36 Assessment of magnitude of GVA impact related to onshore development and construction activity

	Realistic Worst Case Scenario GVA Impact	Existing Environment GVA	% Change	Magnitude of Impact
Local study area (Essex & Suffolk)	£2.2 million	£61.5 billion	0.004%	Negligible
UK	£24.2 million	£1,950 billion	0.001%	Negligible

31.6.1.1.2 Sensitivity

168. Economic growth and, in particular, anything that supports and promotes clean growth, is highlighted as a national priority in the Levelling Up White Paper (HM Government, 2022a) and the British Energy Security Strategy (HM Government, 2022b). Further national strategies support this by committing to help businesses and entrepreneurs seize opportunities in a low carbon economy (including offshore wind).

169. This priority is also reflected in local policies and strategies. The Essex Prosperity and Productivity Plan (Success Essex Board, 2020) seeks to support high-value sustainable jobs where everyone benefits from growth whilst promoting investment into renewable and low-carbon energy (including offshore wind). It should also be noted that GVA per head in the Essex and Suffolk local study area is lower than the UK average, evidencing a productivity challenge (see Section 31.5.2.4).

170. On this basis, the sensitivity of the receptor (i.e., economic output) is assessed as high at both the local (Essex and Suffolk) and UK level.

31.6.1.1.3 Significance of effect

171. With the sensitivity of the receptor assessed as high and the magnitude of impact assessed as negligible for Essex and Suffolk and at the UK level, the significance of effect is therefore assessed as minor beneficial. This is not considered to be significant in EIA terms.

172. It is assumed that the impact(s) of increased economic activity during the development and construction phase is temporary and short-term in nature.

31.6.1.2 Impact 2: Direct economic benefit (supply chain) offshore

173. Table 31.37 summarises the potential annual GVA benefits supported by the offshore infrastructure development of North Falls. The impacts are presented for both the UK and the local (Essex and Suffolk) study area. As explained in Table 31.3, the offshore GVA benefits are assessed for the combined area of Essex and Suffolk due to the uncertainty involved in disaggregating GVA impacts between the two areas.

Table 31.37 Average GVA impacts generated per annum by offshore development and construction activity

	Worst Case Scenario (£ Million)	Baseline Scenario (£ Million)	Enhanced Scenario (£ Million)
UK impact			
Direct GVA	£3.6	£11.5	£27.5

	Worst Case Scenario (£ Million)	Baseline Scenario (£ Million)	Enhanced Scenario (£ Million)
Indirect GVA	£1.6	£5.6	£15.5
Total GVA	£5.2	£17.1	£43.0
Local Impact (Essex & Suffolk)			
Direct GVA	£0.64	£0.67	£0.74
Indirect GVA	£0.24	£0.28	£0.31
Total GVA	£0.88	£0.95	£1.06

Based on calculations by BVGA. Figures may not sum as rounding has been applied

174. This shows that average GVA impacts for the UK are expected to range from £5.2m to £43m per annum over the seven-year development and construction phase. Of this, approximately £1 million per annum is expected to be captured by businesses in Essex or Suffolk that access supply chain opportunities, with only a minor difference between the three scenarios. Appendix 31.1 (Volume III) shows that the greatest opportunities for local suppliers to benefit relate to offshore engineering, permitting and electrical activities.

31.6.1.2.1 Magnitude of impact

175. The assessment of magnitude is based on the worst case scenario impacts set out in Table 31.37. The magnitude of impact is set out in Table 31.38 below.

176. Based on total GVA of £1,950 billion in the UK in 2020, North Falls' annual GVA contribution of c. £5 million per annum will represent below 0.1% of the current baseline. On this basis, the magnitude of impact of the Project on GVA at the UK national level is assessed as negligible.

177. If the more optimistic enhanced scenario is considered, the increase in GVA would also represent a below 0.1% increase on the current baseline and therefore still be assessed as negligible.

178. At the Essex and Suffolk level, the £0.9 million p.a. of GVA supported during North Falls' development and construction phase represents an increase of 0.001% from the current baseline. On this basis, the magnitude of impact of offshore construction activity on employment within the local study area is assessed as negligible. This would also be the same in the enhanced scenario.

Table 31.38 Assessment of magnitude of GVA impact related to offshore development and construction activity

	Realistic Worst Case Scenario GVA Impact	Existing Environment GVA	% Change	Magnitude of Impact
Local study area (Essex & Suffolk)	£0.88 million	£61.5 billion	0.001%	Negligible
UK	£5.2 million	£1,950 billion	0.0003%	Negligible

31.6.1.2.2 Sensitivity

179. As noted in Section 31.6.1.1.2, economic growth and job creation is accorded a high priority in both national and local policies and strategy documents, particularly where it relates to clean growth. As such, the sensitivity of the receptor (economic output) is assessed as high at the local level (Essex and Suffolk) and the UK level.

31.6.1.2.3 Significance of effect

180. With the sensitivity of the receptor assessed as high, and the magnitude of impact assessed as negligible at the UK national level, the effect of the Project is assessed as minor beneficial, which is not significant in the EIA terms. This conclusion is the same at the local level.

181. It is assumed that the effect on the economy generated during the North Falls development and construction phase is direct and temporary in nature.

31.6.1.3 Impact 3 :Employment onshore

182. Table 31.39 summarises the potential annual (FTE) job creation during the construction of onshore elements of the Project. The impacts are presented for both the UK and the local (Essex and Suffolk) study areas.

183. At the UK level, the total onshore employment impact (including direct and indirect effects) is estimated to range from an average of 280 to 310 FTE jobs per annum over the seven-year development and construction phase. As above, most of the direct jobs are expected to be related to onshore civils work during the installation and commissioning of the onshore infrastructure (i.e., export cable, onshore substation and base construction). The activity will take place mostly within Essex because the North Falls onshore project area falls within Tendring (Essex). The other jobs are associated with development and project management of the construction of onshore infrastructure.

184. It is estimated that between 20 and 70 local FTE jobs linked to the development and construction of onshore electrical infrastructure will be in businesses located in the Essex and Suffolk local study area who access supply chain opportunities. The socio-economic study undertaken (Appendix 31.1, Volume III) indicates that the greatest potential for local employment benefits is during the development and installation of the onshore cable, substation and equipment. Analysis of local supply chain capability undertaken as part of the existing environment analysis (see Section 31.5.2.3), also shows that Essex has a higher concentration of employment in a number of sectors which could benefit from supply chain opportunities (e.g. construction, land-based transport and civil engineering).

Table 31.39 Potential employment impacts generated per annum by onshore development and construction activity (FTEs)

	Worst Case Scenario	Baseline Scenario	Enhanced Scenario
UK impact			
Direct jobs (FTE)	210	230	240
Indirect jobs (FTE)	60	70	80

	Worst Case Scenario	Baseline Scenario	Enhanced Scenario
Total Direct + Indirect Jobs (FTE)	280	300	310
Local Impact (Essex and Suffolk)			
Direct jobs (FTE)	20	60	60
Indirect jobs (FTE)	5	10	10
Total Direct + Indirect Jobs (FTE)	20	70	70

Based on calculations by BVGA.

Some totals may not add up due to rounding. Impacts have been rounded to the nearest 10 FTEs unless FTEs are <10. In this case, they have been rounded to the nearest 5 FTEs.

Total (FTE) jobs provided in the table above do not include any jobs that are based outside of the UK. This includes any jobs required to support onshore/ offshore construction which may be required to temporarily be based in the UK.

31.6.1.3.1 Magnitude of impact

185. The assessment of magnitude is based on the worst case scenario impacts set out in Table 31.39. The magnitude of impact is set out in Table 31.40 below.

186. For the UK, the 280 FTE jobs supported by the development and construction of North Falls represents below 0.1% of the current baseline. On this basis, the magnitude of impact of onshore construction activity on employment at the UK level is assessed as negligible. If the more optimistic enhanced scenario is considered, the increase in employment would still represent a below 0.1% increase on the current baseline and therefore still be assessed as negligible.

187. At the Essex level, the 20 FTE jobs supported throughout North Falls` development and construction phase represent an increase of 0.002% of the current baseline. On this basis, the magnitude of impact of onshore construction activity on employment in Essex and Suffolk is assessed as negligible.

188. The impact of increased employment during the development and construction phase is temporary and short-term in nature.

Table 31.40 Assessment of magnitude of employment impact related to onshore development and construction activity

	Realistic Worst Case Scenario Employment Impact (FTEs)	Existing Environment Employment (FTEs)	% Change	Magnitude of Impact
Local study area (Essex and Suffolk)	20	884,000	0.002%	Negligible
UK	280	25,541,000	0.001%	Negligible

31.6.1.3.2 Sensitivity

189. At the UK level, the British Energy Security Strategy (HM Government, 2022b) expects the offshore wind sector to grow to support around 90,000 jobs by 2030.

Job creation is further identified as a policy priority within NALEP's Strategic Economic Plan (NALEP, 2014), which aims to deliver 95,000 additional jobs across the period of 2012 to 2026.

190. However, Essex's labour market context (See 31.5.2.5) shows that the proportion of working age people who are economically inactive in Essex is 3% lower than the UK average. Essex's unemployment rate is also 0.8 percentage points lower than the national average. As such, the sensitivity of the receptor at the local level (Essex) is assessed as medium. As national unemployment rates and economic inactivity rates are higher than the local level (3.9% and 22% respectively), the sensitivity of the UK level is assessed as high.

31.6.1.3.3 Significance of effect

191. At the UK level, with the sensitivity of the receptor assessed as high and the magnitude of impact assessed as negligible, the significance of effect is therefore assessed as minor beneficial. This is not considered to be significant in EIA terms.

192. At the local level (Essex), with the sensitivity of the receptor assessed as medium and the magnitude of impact assessed as negligible, the significance of effect is therefore assessed as minor beneficial. This is not considered to be significant in EIA terms.

193. It is assumed that the employment impact supported during the development and construction phase is temporary and short-term in nature.

31.6.1.4 Impact 4: Employment offshore.

194. Table 31.41 summarises the potential average annual (FTE) employment effects during development and construction of offshore infrastructure. The impacts are presented for both the UK and the combined local study area comprising both Essex and Suffolk.

Table 31.41 Potential employment impacts generated per annum by offshore development and construction activity (FTEs)

	Worst Case Scenario	Baseline Scenario	Enhanced Scenario
UK impact			
Direct jobs (FTE)	40	150	290
Indirect jobs (FTE)	10	50	130
Total Direct + Indirect Jobs (FTE)	50	200	420
Local Impact (Essex & Suffolk)			
Direct jobs (FTE)	10	10	10
Indirect jobs (FTE)	2	2	2
Total Direct + Indirect Jobs (FTE)	10	10	10

Based on calculations by BVGA.

Some totals may not add up due to rounding. Impacts have been rounded to the nearest 10 FTEs unless FTEs are <5. In this case, they have been rounded to the nearest 1 FTEs.

Total (FTE) jobs provided in the table above do not include any jobs that are based outside of the UK. This includes any jobs required to support onshore/ offshore construction which may be required to temporarily be based in the UK.

195. At the UK level, it is estimated that the offshore development and construction activity will support between 50 to 420 FTE jobs per annum over the assumed seven-year development and construction period.

196. Of these, it is estimated that approximately 10 FTE jobs will be located within the local study area (Essex and Suffolk). The economic study (Appendix 31.1, Volume III), identifies that the greatest opportunities for local employment benefits relate to offshore developing, engineering and permitting activities and offshore electricals. Analysis of local supply chain capability undertaken as part of the existing environment analysis (see Section 31.5.2.3), also showed that both Essex and Suffolk have a high concentration of employment in several relevant sectors.

31.6.1.4.1 Magnitude of impact

197. The assessment of magnitude is based on the worst case scenario impacts set out in Table 31.41. The magnitude of impact is set out in Table 31.42 below.

198. For the UK study area, the worst case scenario based 50 FTE jobs per annum supported by offshore development and construction activity represents below 0.1% of the current baseline. On this basis, the magnitude of impact for the UK is assessed as negligible. If the more optimistic enhanced scenario (420 FTE jobs per annum) is considered the increase in employment would still represent a below 0.01% increase on the current baseline and would therefore still be assessed as negligible.

199. At the local level, the 10 FTE jobs supported during the development and construction phase would represent an increase of 0.001% above the current baseline. On this basis, the magnitude of impact for the local area is assessed as negligible.

200. It is assumed that the impact of increased employment during the development and construction phase is temporary and short-term in nature.

Table 31.42 Assessment of magnitude of employment impact related to offshore development and construction activity

	Realistic Worst Case Scenario Employment Impact (FTEs)	Existing Environment Employment (FTEs)	% Change	Magnitude of Impact
Essex and Suffolk study areas	10	884,000	0.001%	Negligible
UK	50	25,541,000	0.0002%	Negligible

31.6.1.4.2 Sensitivity

201. As noted in Section 31.6.1.3.2, job creation is a high priority in both national and local policies and strategies. However, given that the current rate of unemployment and inactivity in the local study area is low (particularly in Suffolk, which has an unemployment rate below 2%), the sensitivity of receptor at the local level (Essex and Suffolk) is assessed as medium and high for the UK.

31.6.1.4.3 Significance of effect

202. At the UK level, with the sensitivity of the receptor assessed as high and the magnitude of impact assessed as negligible, the significance of effect is assessed as minor beneficial. This is not considered to be significant in EIA terms.

203. At the local level (Essex and Suffolk), with the sensitivity of the receptor assessed as medium and the magnitude of impact assessed as negligible, the significance of effect is assessed as minor beneficial. This is not considered to be significant in EIA terms.

204. It is assumed that the employment impact supported during the development and construction phase are temporary and short-term in nature.

31.6.1.5 Impact 5: Pressure on local onshore infrastructure and services (housing and health)

205. The assessment of pressure on local onshore infrastructure and services considers the maximum impact and is therefore based on the peak employment impacts rather than annual averages. It should be noted that employment impacts vary significantly across the development and construction phase and therefore employment impacts are considerably lower in other years (especially the development phase before construction commences) than the figures presented in this section.

206. As noted in Chapter 32 Tourism and Recreation (Volume I), peak construction demand for onshore workers has been determined to be a total of 480 workers under worst case assumptions.

207. Under the maximum impact scenario, the construction of North Falls would see up to 480 non-local workers involved in installation and commissioning activities of both offshore and onshore infrastructure across Essex and Suffolk.

208. It is assumed that non-local workers are very unlikely to bring additional family members with them to the local area due to the nature of the job and the period over which the work is required.

209. Furthermore, any in-migration required to support either offshore and/ or onshore construction activity would be temporary, with most workers being based either within close proximity to a port and/ or the onshore project area.

210. The 480 non-local jobs are anticipated to be broken down by 354 workers for landfall and onshore cable route works and a further 126 for onshore substation works.

211. It is expected that non-local workers would fill most onshore construction jobs and that they would be prepared to travel up to 45 minutes to reach construction sites. Thus, in addition to the Tendring District, the non-local workforce is assumed to locate in Colchester Borough, Maldon District, and Braintree District in Essex County and Ipswich Borough, Babergh District, and East Suffolk District in Suffolk County.

212. The impact on reductions in tourist accommodation availability due to a non-local based workforce is assessed within Chapter 32 Tourism and Recreation (Volume I) as negligible. As construction workers are expected to primarily use temporary visitor accommodation there is therefore no impact on private rented or owner occupied housing during the construction phase of North Falls.

31.6.1.5.1 Magnitude of impact

213. The influx of construction workers may require basic health services when they are in the local area, they may also require public ambulance, GP and hospital services in very limited and urgent circumstances.

214. It is highly likely that the vast majority of the 480 non-local onshore construction workers would not register with a local GP while staying in visitor accommodation. However, using benchmark estimates of 1,800 patient registrations per one FTE GP (developed by the London Healthy Urban Development Unit (HUDU), 2019), it is estimated that an additional 480 non-local construction workers (if all they were to register) would generate demand for less than 0.3 FTE GPs. To put this into context there are:

- 12 GP practices and 62 FTE GPs in East Suffolk;
- 17 GP practices and 71 FTE GPs in Tendring;
- 15 GP practices and 105 FTE GPs in Colchester;
- 11 GP practices and 85 FTE GPs in Ipswich; and
- 8 GP Practices and 49 FTE GPs in Babergh.

215. Even when assuming a more localised unrealistic worst case where all FTE workers demanded GP services of one doctor located in Tendring, then this would still only represent a demand for less 0.4% of Tendring's FTE GP capacity.

216. Given the very limited scale of increase in demand set out above the magnitude of impact is assessed as negligible in the context of the study area (East Suffolk, Tendring, Colchester, Ipswich and Babergh).

31.6.1.5.2 Sensitivity

217. Given the demand and availability of accommodation set out in Section 31.5, the findings of Chapter 32 Tourism and Recreation (Volume I) on accommodation during the construction phase (negligible significance of effect) and the lack of onshore construction workers requirement for rented accommodation the sensitivity of the accommodation receptor can be assessed as Low.

218. Tendring has the highest potential to see a disturbance to healthcare infrastructure due to the location of onshore and local ports infrastructure and therefore the location in which non-local construction workers are most likely to migrate to.

219. The overall position with regards to health facilities in Essex and Suffolk is set out in more detail in Section 31.5. This indicates that that a high proportion of Accident and Emergency (A&E) patients are having to wait longer than the minimum target times and the local area is exceeding national average ambulance wait times. Tendring has the highest patients per GP of 2,206 patients per GP with Colchester and Ipswich also exceeding 2,000 patients per FTE GP. This suggests there are significant capacity constraint issues in North East Essex and Ipswich. On this basis, the sensitivity of the health care receptor is assessed as high.

31.6.1.5.3 Significance of effect

220. There is no impact predicted on the housing (private rented accommodation) receptor and effects on visitor accommodation are considered in Chapter 32 Tourism and Recreation (Volume I). Therefore, the significance of effect on pressure on local onshore infrastructure is focused on the effect on health care.

221. With the sensitivity of the health care receptor assessed as high and the magnitude of impact on health care assessed as negligible, the significance of effect of the Project on pressure on infrastructure due to the influx of construction workers is therefore assessed as minor adverse. This is not considered to be significant in EIA terms.

31.6.1.6 Impact 6: Onshore disturbance (noise, air, visual, and traffic) to social and community infrastructure facilities.

222. This section considers the extent to which onshore construction activity related to North Falls may have a direct effect on social and community infrastructure facilities located within 500 m of the North Falls onshore project area (defined as the LOCAI). This assessment draws primarily on the assessment of the following aspect chapters submitted as part of the North Falls PEIR assessment:

- Chapter 20 Onshore Air Quality (Volume I);
- Chapter 26 Noise and Vibration (Volume I); and
- Chapter 27 Traffic and Transport (Volume I).

223. The assessment presented in Chapter 30 Landscape Visual Impact Assessment (Volume I) is not considered further in the assessment of magnitude of impact because:

- There is no social community infrastructure identified within 500m of the substation;
- Visual effects along the cable route and landfall are considered to be short term, reversible and transient in nature (i.e. the cable route construction takes place over a relatively short time period) – so much so that effects at particular locations/viewpoints were not considered, it was only the effects on landscape character that were assessed in Chapter 30 Landscape Visual Impact (Volume I) (assessed as negligible).

31.6.1.6.1 Magnitude of impact

224. There is potential disruption to social community infrastructure related to construction traffic. For example construction vehicles may use up parking spots usually used to access social community infrastructure, could cause traffic delays when users of social community infrastructure are travelling to use the social community infrastructure or could cause noise disruptions to the social community infrastructure premises.

225. Chapter 27 Traffic and Transport (Volume I) includes an assessment of the effects of construction traffic using narrow rural roads, referred to as driver delay (highway geometry). This finds potential for pre mitigation moderate adverse effects. The proposed mitigation measures would reduce the number of single occupancy vehicle trips by grouping employees into. After taking these mitigation measures in to account the residual effect becomes minor adverse.

226. Chapter 26 Noise and Vibration (Volume I) assessed the potential noise and vibration effects of the construction and of North Falls. With the application of best practicable means and additional mitigation measures to be specified in the final Construction Environmental Management Plan, the residual effect upon all receptors was assessed to be not significant in EIA terms.

227. Chapter 20 Onshore Air Quality (Volume I) determines a number of relevant mitigation measures to reduce the effects of the development of North Falls onshore infrastructure on air quality. Given the implementation of these mitigation measures the residual effect during the construction phase is assessed as not significant for all of the impacts assessed.

228. The assessment also assessed the effect on driver delays due to capacity as being minor adverse but driver delays due to specific road closures to have a pre mitigation effect of up to moderate adverse depending on which road was considered. A number of mitigation measures are proposed which reduce this effect to negligible. Similarly the effect on amenity was assessed as moderate adverse at its most severe (this was assessed at several links). A range of potential noise mitigation measures are proposed, such as reducing peak LV and HGV numbers and the implementation of a temporary reduction in the speed limit which would reduce the residual effect to minor adverse.

229. Given the mitigation listed above, no residual effects greater than minor adverse have been found in the traffic and transport assessment.

230. The baseline analysis of the existing environment (Section 31.5) has identified 13 social and community infrastructure facilities located within a 500 m buffer from the onshore project area (defined as the LOCAI), which includes four education facilities, three greenspace/playground facilities, three churches, three health facilities, and one police station. Leisure facilities are not considered here as they are considered to be recreational assets.

Table 31.43 Magnitude of impact on users of social and community infrastructure facilities within the LOCAI impacted by onshore construction activity of North Falls

Name	Distance from North Falls onshore project area (metres)	Magnitude of impact	Justification
ACEs performance academy	10	Negligible	Given the close proximity of the social impact receptor to the North Falls onshore project area (within 100m) it is recognised there could be a risk of disturbance to the receptor. Importantly this risk is reduced as: • No residual effects greater than minor adverse were found in the traffic and transport assessment. • Following mitigation, the assessment of effects related to noise and air quality found no significant residual effects.
Nissen Hut	26	Negligible	
Great Holland Church	80	Negligible	

Name	Distance from North Falls onshore project area (metres)	Magnitude of impact	Justification
Tendring Primary School	184	Negligible	As distance from the Project increases, the potential for impact disruption related to noise, air and visual impacts are significantly reduced. In addition, following mitigation the assessments related to noise and air quality found no significant residual effects. In addition, no residual effects greater than minor adverse were found in the traffic and transport assessment. Therefore, traffic disruption to users of social community infrastructure is predicted to be minimal. There are a number of projects located over 150 m from the North Falls onshore project area. Given the assessments of potential for disturbance related to noise, air, visual and traffic, the social and community receptors greater than 150m from the Project are not anticipated to experience any adverse impacts related to construction activity.
The first Care services (The Firs)	221	Negligible	
All Saints Church	271	Negligible	
St Mary's	291	Negligible	
Tendring Meadows	308	Negligible	
Holland Haven Country Park	308	Negligible	
Springbank Care Home in Essex	362	Negligible	
Tendring Green Allotments	403	Negligible	
Thorpe Le Soken Police Station	500	Negligible	
Nanny Jo's Day Nursery	500	Negligible	
Tendring Technology College	500	Negligible	

Note: Distance from the North Falls onshore project area (metres) is measured as the distance from the community facility (identified using postcodes) to the closest perimeter of the North Falls onshore project area. Magnitude of impact has been assessed assuming relevant mitigation measures identified in other topic chapters are implemented.

31.6.1.6.2 Sensitivity

231. The current position with regards to the social and community infrastructure in the LOCAI is set out in the baseline analysis (See Section 31.5.6).

232. The Local Plan for Tendring (Tendring District Council, 2017) emphasises the importance of community infrastructure within the LOCAI:

> *"It is important that local communities are supported by a range of community facilities as they provide local employment opportunities, are a focal point for community life and can reduce the need for people to travel long distances for essential goods and services. The loss of community facilities can have a substantial impact on people's quality of life, wellbeing and overall viability of the local area. With the growing number of older people in Tendring District, access to locally based facilities will become increasingly important to ensure sustainable communities. The council will expect new development to retain, and where possible, improve existing local community facilities. It is important that these are integrated into the design of new development where possible."*

233. In particular regard to Education and Health, the local plan states that Tendring District Council wishes to improve and provide good quality educational opportunities and prospects for Tendring's residents and work with partners to ensure adequate provision of healthcare facilities to support growing communities.

234. Given the importance of social and community infrastructure facilities on community sustainability and well-being, the sensitivity of all receptors located within the LOCAI is therefore assessed as medium.

31.6.1.6.3 Significance of effect

235. As outlined in Table 31.11, the significance of effect is determined by considering its sensitivity alongside the magnitude of impact, giving the results in Table 31.44.

Table 31.44 Assignment of significance of residual effect on users of social and community infrastructure facilities within the LOCAI impacted by onshore construction activity of North Falls

Name	Sensitivity	Magnitude of impact	Significance of effect
ACEs performance academy	Medium	Negligible	Minor Adverse
Nissen Hut			
Great Holland Church			
The first Care services (The Firs)			
Tendring Primary School			
All Saints Church			
St Mary's			
Tendring Meadows			
Holland Haven Country Park			
Springbank Care Home in Essex			
Gunfleet Boating Club			
Tendring Green Allotments			
Thorpe Le Soken Police Station			
Nanny Jo's Day Nursery			
Tendring Technology College			

236. It is assumed that the effect on social and community infrastructure facilities sustained during North Fall's development and construction phase is indirect and temporary in nature.

31.6.1.7 Impact 7: Wider economic effects from disruption to shipping and navigation

237. The assessment of wider economic effects from disruption to shipping and navigation is related to the potential for North Falls to impact negatively on the economic value associated with major local ports (Felixstowe and Harwich). All other ports have been scoped out of the assessment due to the proximity ports to North Falls, shipping lane patterns and the level of economic activity associated with other local ports in comparison to the ports of Felixstowe and Harwich.

31.6.1.7.1 Magnitude of impact

238. For the purposes of the PEIR assessment, the reasonable worst-case scenario is to assume the parameters set out in Table 15.2 Chapter 15 Shipping and Navigation (Volume I).

239. For all of the potential impacts assessed in the shipping and navigation assessment a tolerable impact has been found taking into account the need for mitigation to be agreed with the Maritime and Coastguard Agency. Particularly relevant is the assessment on the impact on vessels transiting to/from local ports in the area, including use of approach channels, port operations and pilotage.

240. It is therefore very likely that the vast majority of ships will be able access the ports of Felixstowe and Harwich. Overall, imports and exports entering the port, ferry and transport services will be largely unaffected as alternative routes can be used.

241. In addition, should any ship be unable to access the ports of Felixstowe and Harwich because of the construction of North Falls it is assumed they would have access to another major UK port.

242. As noted in Section 31.5, it is estimated the Port of Felixstowe directly contributed around £1.7bn to UK GVA in 2022 and Harwich is an internationally important port for connecting to the Netherlands.

243. Given the assumptions set out above the assessment finds that there would be a negligible magnitude of impact on the scale of employment and GVA linked to ports of Felixstowe and Harwich resulting from the construction of North Falls at both the local (Essex and Suffolk) and UK levels.

244. In addition, if there were any negative impact it is unlikely this would have an impact on the national level of imports and exports and ferry/cruise and Ro-Ro services due to access to other major ports across the UK. However, it should be noted that there is potential for leakage of economic impact at a regional level. The other major ports in the South East, London and East of England include the Port of London and The Port of Dover, no other port in England is as big as Felixstowe in terms of container port traffic.

31.6.1.7.2 Sensitivity

245. When considered together Harwich and Felixstowe are part of Freeport East and are a major source of jobs and GVA to the UK. They form an essential element of the UK's port infrastructure, with Felixstowe dealing with 48% of the country's container trade and Harwich acting as a major link to the Netherlands. Given the importance of ports to the economic growth in the local and national

context and the policy priority placed on economic growth at local and national levels (as noted in Section 31.6.1.1.2), the sensitivity is therefore assessed as high at both the local (Essex and Suffolk) and UK level.

31.6.1.7.3 Significance of effect

246. With the sensitivity of the receptor assessed as high, and the magnitude of impact assessed as negligible at the local (Essex and Suffolk) and UK national level, the effect of North Falls is assessed as minor adverse, which is not significant in EIA terms.

247. It is assumed that the wider economic effects from disruption to shipping and navigation during the North Falls development and construction phases is indirect and temporary in nature.

31.6.1.8 Impact 8: Wider economic effects from disruption to fishing

31.6.1.8.1 Magnitude of impact

248. Disruption to fishing activity has the potential to lead to economic effects to the fishing industry and economic agents that are closely tied to the fishing industry. This would mainly occur if the volume or value of the Essex and Suffolk catch reduced or the impacts led to increases in costs of the catch.

249. Chapter 14 Commercial Fisheries (Volume I) assesses the magnitude of a variety of impacts during the construction phase of North Falls that may influence both the volume and the value of the catch across Essex and Suffolk coasts:

- Impact 1: Temporary loss or restricted access to fishing grounds – this could influence the volume and therefore value of the fishing catch in Essex and Suffolk
- Impact 2: Displacement of fishing activities into other areas - this could influence the volume and therefore value of the fishing catch in Essex and Suffolk
- Impact 3: Increased steaming times to fishing grounds – This could increase the costs of the catch and effect the volume and value of the catch if the time spent fishing was reduced.
- Impact 4: Interference with fishing activities (navigational conflict) – This could affect the volume and value of the catch if the time spent fishing was rescued.
- Impact 5: Safety issues for fishing vessels – This could lead to lower volume and value of a catch and also lead to high costs if additional money needs to be spent on health and safety.

250. Of the above impacts, the magnitude of impacts ranged from negligible to low. Following the proposed mitigation, none of the impacts listed above resulted in an impact greater than minor adverse and as such the wider economic effects from disruption to fishing are anticipated to be low.

31.6.1.8.2 Sensitivity

251. Chapter 14 Commercial Fisheries (Volume I) assesses the sensitivity of a variety of impacts during the construction phase of North Falls. The assessment of sensitivity of these impacts is also relevant to the assessment of wider economic effects from disruption to fishing:

252. During the construction phase the sensitivity of impacts was assessed as low or negligible for impacts but the following:

- Impact 1: Temporary loss or restricted access to fishing grounds – for UK local inshore vessels this was assessed as high (for nearshore areas) and medium (for extended operational ranges).
- Impact 4: Interference with fishing activities (navigational conflict) – assessed as medium sensitivity for static / passive gear fisheries.
- Impact 5: Safety issues for fishing vessels – assessed as medium sensitivity.

253. Sensitivity in the Chapter 14 Commercial Fisheries (Volume I) is assessed by considering the dependency on fishing grounds that overlap with the Project due to very limited operational range and lack of operational versatility; and/or high dependence on a single fishing ground; and/or very limited ability to adapt to the potential impact. However, for the socio-economic assessment a receptor is defined as being of high sensitivity where it is identified as policy priority (as a result of economic potential and/ or need). There is evidence of considerable socio-economic challenges and/ or opportunities for the receptor within the study area.

254. Commercial fishing from a socio-economic perspective is often high on the agenda of Government policy. The UK fishing industry has been in long term decline. However, in terms of local economic strategy the fishing industry comprises a very small proportion of the Essex and Suffolk economies and the sector is not highlighted in any of the county level economic strategy documents.

255. Based on the evidence presented in this section, sensitivity of the wider economic effects from disruption to fishing is assessed as medium.

31.6.1.8.3 Significance of effect

256. With the sensitivity of the receptor assessed as medium, and the magnitude of impact assessed as low local (coastal) level, the effect of the North Falls assessed as minor adverse, which is not significant in EIA terms.

257. It is assumed that the wider economic effects from disruption to fishing during the North Falls development and construction phases is indirect and temporary in nature.

31.6.1.9 Impact 9: Wider economic effects related to minerals

258. The assessment findings of Chapter 19 Ground Conditions and Contamination (Volume I) have informed the potential for wider socio-economic effects related to minerals effects. The main impact on socio-economics is associated with the sterilisation of future mineral resources which could affect businesses (especially who are located in Essex) in the industry who may be wishing to develop the mineral resources in the LOCAI.

31.6.1.9.1 Magnitude of impact

259. Chapter 19 Ground Conditions and Contamination (Volume I) identified a low magnitude of impact on the sterilisation of future mineral resources during the construction phase. Additional mitigation would include consultation with the Essex Minerals and Waste Planning Authority with regards to the feasibility of mineral extraction prior to development. This would be supported by ground

investigations prior to construction to help better determine the depth, accessibility and quality of the mineral resource and enable a quantification of the amount of the mineral that may be sterilised. A Mineral Resource Assessment would be undertaken if required, to provide an indication of the likely quality and extent of the mineral resource, the commercial viability of extraction and environmental impact.

260. It is assumed under a realistic worst case scenario that there is limited disruption to businesses ability to operate in Essex, and as a result there would be minimal wider economic impacts in terms of job losses or lost GVA. On this basis, the magnitude of impact is assessed as negligible in the context of the economic activity of the minerals sector within Essex.

31.6.1.9.2 Sensitivity

261. The minerals sector is not identified as a local priority sector, there are only a limited number of jobs within the sector locally (100 FTE jobs in Tendring) and sterilisation of future mineral resources is assessed as medium sensitivity within Chapter 19 Ground Conditions and Contamination (Volume I). On this basis the sensitivity of wider economic effects related to minerals is assessed as medium.

31.6.1.9.3 Significance of effect

262. With the sensitivity of the receptor assessed as medium, and the magnitude of impact assessed as negligible at both the UK and local level, the effect of North Falls is assessed as minor adverse, which is not significant in EIA terms.

263. It is assumed that the effect on the wider economy from impacts related to minerals generated during the North Falls construction phases is direct and temporary in nature.

31.6.1.10 Impact 10: Volume and value of tourism

264. The assessment considers the extent to which the volume and value of tourism within the marine and coastal local study area and Tendring may be affected by construction activity (both onshore and offshore) of North Falls. The assessment focusses on the visitor economy of the study area. On this basis, the assessment of the impact of the Project's construction on the volume and value of tourism in the study area.

265. To explore the temporary impacts on the local tourism economy during the construction phase due to tourist perceptions of offshore wind farms, a literature review is provided in Chapter 32 Tourism and Recreation, Section 32.5 (Volume I). The review covers research examining the relationship between the development and operation of offshore wind farms and their associated infrastructure and an area's tourism value both pre- and post-development.

266. The baseline analysis (see Chapter 32 Tourism and Recreation, Section 32.5 (Volume I)) of the research examining the relationships between the visual impacts of offshore wind farms and their construction upon tourism activity, and the associated visitor economy, demonstrates that:

- Whilst there is potential for some visitors to be discouraged from making future visits to an area affected by the construction of a wind farm development, this is likely to be balanced (and in some cases exceeded) by visitors reporting that they will visit more frequently.

- The research also points out that visitors and tourism-related businesses recognise the potential for positive impacts associated with extra expenditure to the local economy arising from construction activity or, in some cases, the additional interest in learning about the Project and seeing its construction and operation.
- The ex-ante research typically focusses on measuring opinions of what the impacts in the visitor economy could be prior to implementation of the scheme. However, the limited available ex-post research (research based on knowledge and retrospection) suggests that even where there have been negative effects, these are typically limited to displaced tourism, with visitors diverting to neighbouring areas.

267. The relationship between visitors' attitudes to wind farm developments, their construction (i.e. construction of onshore and offshore infrastructure) and the consequences upon visitors' behaviours is complex. Overall, the research does not suggest that the extent to which tourists are attracted to an area by the quality of the landscape is important in determining their reactions to wind farm developments. In addition, tourism-related businesses often recognise the potential for positive impacts associated with the increase in local expenditure arising from construction activity and the potential change in visitor profile.

31.6.1.10.1 Magnitude of impact

268. Overall, the research described in Chapter 32 Tourism and Recreation (Volume I) suggests that activity related to the construction of onshore and offshore infrastructure of offshore wind farm developments does not have a significant effect on the overall volume of and value of tourism activity. In most instances, the available research (such as studies by University of the West of England (2004); Ipsos MORI (2014) and Glasgow Caledonian University (2008)) suggests that visitors do not expect their behaviour to be influenced (either positively and/ or negatively) by the presence of construction activity related to wind farm developments.

269. A more recent study by Biggar Economics (2020) was undertaken for input into the examination of the Scottish Power Renewables East Anglia ONE North and East Anglia TWO Offshore Windfarms. The study suggests that based on its analysis of 11 areas with offshore wind farms located within 40km of the shoreline (including Norfolk Coast AONB, which is linked to multiple offshore windfarms and located along the East Anglia coast), there is no evidence that points to a relationship between the construction of offshore wind farms and an overall reduction in tourism activity, visitor spending or tourism-related employment.

270. An assessment of the characteristics of visitors is presented in Chapter 32 Tourism and Recreation, Section 32.5 (Volume I). This relies upon limited local survey evidence on visitor characteristics such as the demographic profiles of visitors. Overall, the survey analysis of visitor characteristics implies there is no evidence that the characteristics of visitors to Suffolk and Essex would make them more sensitive to offshore wind farm development compared to visitors to other similar coastal areas across the UK.

271. Chapter 32 Tourism and Recreation (Volume I) assessed the magnitude of impact for the following receptors during the construction of North Falls:

- Low magnitude of impact on both the visual impacts on marine and coastal tourism and recreational assets and visual impacts on onshore tourism and recreational assets;
- Negligible to low magnitude of impact on disruptions to marine tourism and recreational activities, coastal tourism and recreational assets and onshore tourism and recreational assets;
- No impact is predicted on reductions in tourist accommodation availability due to the temporary influx of non-local workers to the local area; and
- Low magnitude of impact on disruptions due to construction road traffic.

272. There are no significant effects identified during the construction phase in Chapter 32 Tourism and Recreation (Volume I).

273. On the basis of the analysis outlined above, the magnitude of impact of construction activity on the volume and value of tourism is assessed as negligible.

31.6.1.10.2 Sensitivity

274. As noted in Chapter 32 Tourism and Recreation, Section 32.5 (Volume I), the tourism industry is important for supporting employment across Essex where it accounted for 6.5% of all employment in 2020 (Visit Essex, 2020). From 2017 to 2019 (pre covid) there were above 50 million day trips and over 2 million overnight stay trips per year to Essex. The tourism sector is especially important to the Tendring District in which the sector is worth almost £402 million and accounts for 17.9% of employment (Tendring District Council, 2021). Tourism also plays a significant role in driving the local economy in East Suffolk with the tourism sector accounting for 9.3% of all employment in 2020. The value of East Suffolk's tourism economy is higher than any other district in Suffolk, making it a tourist hub for the county (East Suffolk Council, 2022). From 2017 to 2019 (pre Covid) there were above 11 million day trips and around 700,000 overnight stay trips per year to East Suffolk.

275. The Tourism policy review conducted in Chapter 32 Tourism and Recreation, Section 32.4 (Volume I), highlights the key role the sector is anticipated to play in supporting growth of the local economy.

276. On the basis of the above, the sensitivity of the volume and value of tourism is therefore assessed as high.

31.6.1.10.3 Significance of effect

277. With the sensitivity of the receptor assessed as high, and the magnitude of impact assessed as negligible, the effect of North Falls is assessed as minor adverse, which is not significant in EIA terms.

278. It is assumed that the effect on the volume and value of tourism during North Falls' construction is indirect and temporary in nature.

31.6.2 Potential effects during the operational phase

279. The employment supported during the Project`s operational phase could contribute to the growth of the local and sub-regional economy. O&M and service support will be required for the ongoing operation of the wind turbines, balance of plant, and associated transmission assets. This area of the supply

chain usually has a high level of local content, and the spending continues over the operational lifetime of the wind farm, which is anticipated to be 30 years. Expenditure relates to wind farm administration (out of a local O&M base), vessel operation, training (including health and safety), turbine maintenance, balance of plant maintenance fees, rent and transmission charges.

280. The assessment of economic benefits uses the impacts presented in Appendix 31.1 (Volume III) to assess onshore and offshore operational phase effects separately.

281. The average per annum combined onshore and offshore GVA and employment impacts during the operational phase are shown in Table 31.45 below.

Table 31.45 Average GVA impacts generated per annum during the operational phase

	Worst Case Scenario (£ million)	Baseline Scenario (£ million)	Enhanced Scenario (£ million)
GVA impacts			
UK impact			
Direct GVA	£12.6	£13.1	£12.8
Indirect GVA	£5.7	£6.4	£7.2
Total GVA	£18.3	£19.6	£20.0
Local Impact (Essex & Suffolk)			
Direct GVA	£6.4	£6.3	£6.5
Indirect GVA	£2.4	£2.6	£2.7
Total GVA	£8.9	£8.9	£9.3
Employment impacts			
UK impact			
Direct jobs (FTE)	70	150	150
Indirect jobs (FTE)	40	40	50
Total Direct + Indirect Jobs (FTE)	110	190	20
Local Impact (Essex and Suffolk)			
Direct jobs (FTE)	70	70	70
Indirect jobs (FTE)	20	20	20
Total Direct + Indirect Jobs (FTE)	90	90	90

Based on calculations by BVGA. Figures may not sum as rounding has been applied.

31.6.2.2 Impact 1: Direct economic benefit (supply chain) onshore infrastructure

282. Onshore activities during the operational phase relate to the O&M of onshore infrastructure, and therefore generally does not include the majority of activity at the O&M base, which is primarily focussed towards offshore O&M. There is no ongoing requirement for regular maintenance of the onshore export cables following installation, however access to the onshore export cables would be required to conduct emergency repairs, if necessary. The onshore substation would not be staffed, however access would be required periodically for routine maintenance activities (Chapter 5 Project Description, Volume I).

283. Table 31.46 below summarises the potential GVA benefits supported by onshore activities during the operational phase of North Falls.

284. The impacts are presented for both the UK and the local (Essex) study areas. At the UK level, the potential (onshore infrastructure) operational GVA impacts generated (including direct and indirect effects) is estimated to support GVA of £333,800 per annum over an anticipated 30 year operational phase. This is the same in all three scenarios.

285. The direct (onshore infrastructure) GVA effects supported by North Falls during the operational phase are anticipated to result from the O&M of the onshore infrastructure (particularly transmission maintenance onshore, which maintains the connections between offshore renewable energy generation and the onshore electricity network). Most of this activity will take place within Essex, due to the location of the onshore project area.

286. The onshore infrastructure expenditure retained locally within Essex is estimated to support £143,200 of GVA per annum.

Table 31.46 Potential GVA impacts generated per annum by operational activity related to onshore infrastructure

	Worst Case Scenario	Baseline Scenario	Enhanced Scenario
UK impact			
Direct GVA	£230,000	£230,000	£230,000
Indirect GVA	£103,800	£103,800	£103,800
Total Direct + Indirect GVA	£333,800	£333,800	£333,800
Local Impact (Essex)			
Direct GVA	£103,800	£103,800	£103,800
Indirect GVA	£39,400	£39,400	£39,400
Total Direct + Indirect GVA	£143,200	£143,200	£143,200

Based on calculations by BVGA– Page 28-31 Economic impacts tables Appendix 31.1 (Volume III).

Some totals may not add up due to rounding. Impacts have been rounded to the nearest £100. Note that there were minor differences between scenarios regarding the balance of direct to indirect GVA however, as these differences were so small, the analysis has assumed all scenarios to be the same.

31.6.2.2.1 Magnitude of impact

287. The average annual contribution to GVA of £333,800 is less than 0.1% of the current baseline. On this basis, the magnitude of impact of the onshore elements of the Project on GVA at the UK national level is assessed as negligible. This is the same in all scenarios.

288. At the Essex level, the £143,200 supported throughout the Project`s operational phase represents an increase of 0.0003% of the current baseline. On this basis, the magnitude of impact is assessed as negligible.

Table 31.47 Assessment of magnitude of GVA impact related to onshore operational activity

	Realistic Worst Case Scenario GVA	Existing Environment GVA (£ billion)	% Change	Magnitude of Impact
Local study area (Essex and Suffolk)	£143,200	£61.5 billion	0.0002%	Negligible
UK	£333,800	£1,950 billion	0.00002%	Negligible

31.6.2.2.2 Sensitivity

289. Based on the reasoning set out in Section 31.6.1.1.2, the sensitivity of the receptor (i.e., economic output) is assessed as high at both the local (Essex and Suffolk) and UK level.

31.6.2.2.3 Significance of effect

290. With the sensitivity of the receptor assessed as high and the magnitude of impact assessed as negligible for the local impact area (Essex and Suffolk) and the UK, the significance of effect is therefore assessed as minor beneficial. This is not considered to be significant in EIA terms.

291. It is assumed that the effect on the economy generated during the Project`s operational phase is direct and permanent in nature.

31.6.2.3 Impact 2: Direct economic benefit (supply chain) related to offshore infrastructure

292. The operational phase of North Falls has the potential to support GVA in O&M activity associated with the ongoing O&M of the offshore infrastructure. This will take place at an O&M base where O&M staff will be located.

293. It is likely that the O&M base would be located within Suffolk or Essex where suitable ports such as Harwich or Lowestoft are available.

294. Table 31.48 below summarises the potential GVA effects supported by offshore activities during the operational phase of North Falls. At the UK level, this is estimated to support an average GVA impact of between £18 to £20 million per annum over an assumed 30 year operational phase.

295. The direct (offshore) GVA effects supported by North Falls during the operational phase are anticipated to result primarily from the O&M of the offshore infrastructure. This covers activity relating to wind farm administration, vessel operation, training and health and safety, turbine maintenance, and balance of plant maintenance.

296. It should be noted that this economic value creation is tied to the wider economic value creation of low carbon industries in the UK and the UK's offshore wind industry in particular.

297. The offshore infrastructure expenditure retained locally (either in Essex or Suffolk) is estimated to support GVA of £9 million per annum throughout North Fall's operational phase.

Table 31.48 Potential GVA impacts generated per annum by operational activity (FTEs) related to offshore infrastructure

	Worst Case Scenario (£ Million)	Baseline Scenario (£ Million)	Enhanced Scenario (£ Million)
UK impact			
Direct GVA	£12.4	£12.9	£12.5
Indirect GVA	£5.6	£6.3	£7.1
Total Direct + Indirect GVA	£17.9	£19.2	£19.6
Local Impact (Essex or Suffolk)			
Direct GVA	£6.3	£6.2	£6.4
Indirect GVA	£2.4	£2.5	£2.7
Total Direct + Indirect GVA	£8.7	£8.7	£9.1

Based on calculations by BVGA – Page 28-31 Economic impacts tables Appendix 31.1 (Volume III). Figures may not sum as rounding has been applied.

31.6.2.3.1 Magnitude of impact

298. The assessment of magnitude is based on the worst case scenario impacts set out in Table 31.48. The magnitude of impact is set out in Table 31.49 below.

299. Under the realistic worst case scenario, the £17.9 million supported by the operational phase of North Falls represents less than 0.1% of the current baseline. On this basis, the magnitude of impact of North Falls on GVA at the UK national level is assessed as negligible. This would be the same in all scenarios.

300. At the local (Essex and Suffolk) level, the £8.7m per annum created during the operational phase represents an increase of 0.01% on the current baseline. On this basis, the magnitude of impact is assessed as negligible.

Table 31.49 Assessment of magnitude of GVA impact related to offshore operational activity

	Realistic Worst Case Scenario GVA	Existing Environment GVA	% Change	Magnitude of Impact
Local study area (Essex and Suffolk)	£8.7 million	£61.5 billion	0.01%	Negligible
UK	£17.9 million	£1,950 billion	0.0009%	Negligible

Please note that indirect impacts are based on the assessment of local impacts set out in Section 2.2.1 Local impacts, Appendix 31.1 (Volume III).

31.6.2.3.2 Sensitivity

301. Based on the reasoning set out in Section 31.6.2.2.2 the sensitivity of the receptor (i.e., economic output) is assessed as high at the local level (Essex and Suffolk) and the UK level.

31.6.2.3.3 Significance of effect

302. With the sensitivity of the receptor assessed as high, and the magnitude of impact assessed as negligible at both the UK and local level (Essex and Suffolk), the effect of North Falls is assessed as minor beneficial, which is not significant in EIA terms.

303. It is assumed that the impact of increased employment during the operational phase of North Falls is permanent and long-term.

31.6.2.4 Impact 3: Increased employment related to onshore infrastructure

304. Once operational, North Falls has the potential to support employment associated with the ongoing O&M of the onshore infrastructure (e.g. maintenance of the onshore export cables).

305. Table 31.50 summarises the potential annual (FTE) employment effects of the operations and maintenance phase related to onshore electrical infrastructure but not including the operations & maintenance base activity (which is associated with operation and maintenance of offshore infrastructure). At the UK level, the total effect (including direct and indirect effects) is three FTE jobs per annum over the 30 year operational phase. This is the same in all scenarios.

306. The onshore electrical infrastructure expenditure retained locally within Essex is estimated to support one FTE job per annum throughout North Fall's operational phase.

Table 31.50 Potential employment impacts generated per annum by operational activity (FTEs) related to onshore infrastructure

	Worst Case Scenario	Baseline Scenario	Enhanced Scenario
UK impact			
Direct jobs (FTE)	3	3	3
Indirect jobs (FTE)	1	1	1
Total Direct + Indirect Jobs (FTE)	3	3	3
Local Impact (Essex)			
Direct jobs (FTE)	1	1	1
Indirect jobs (FTE)	0	0	0
Total Direct + Indirect Jobs (FTE)	1	1	1

Based on calculations by BVGA.

Total (FTE) jobs provided in the table above do not include any jobs that are based outside of the UK. This includes any jobs required to support onshore/ offshore construction which may be required to temporarily be based in the UK.

31.6.2.4.1 Magnitude of impact

307. The three FTE jobs supported by the operational phase for onshore electrical infrastructure represents less than 0.1% of the current baseline. On this basis, the magnitude of impact at the UK level is assessed as negligible in all scenarios.

308. At the local (Essex and Suffolk) level, the one FTE job supported during the operational phase represents an increase of 0.0001% on the current baseline. On this basis, the magnitude of impact of O&M activity on employment within Essex is assessed as negligible.

Table 31.51 Assessment of magnitude of employment impact related to onshore O&M activity

	Realistic Worst Case Scenario Employment Impact (FTEs)	Existing Environment Employment (FTEs)	% Change	Magnitude of Impact
Local study area (Essex and Suffolk)	1	884,000	0.0001%	Negligible
UK	3	25,541,000	0.00001%	Negligible

31.6.2.4.2 Sensitivity

309. As noted in Section 31.6.1.3.2, although job creation is an important local and national priority, the economic inactivity and unemployment rate in Essex and Suffolk is currently low and below the national average. On this basis, the sensitivity of the receptor is assessed as medium in the local area (Essex and Suffolk) and high in the UK.

31.6.2.4.3 Significance of effect

310. At the UK level, with the sensitivity of the receptor assessed as high and the magnitude of impact assessed as negligible, the significance of effect is therefore assessed as minor beneficial. This is not considered to be significant in EIA terms.

311. At the local level (Essex and Suffolk), with the sensitivity of the receptor assessed as medium and the magnitude of impact assessed as negligible, the significance of effect is therefore assessed as minor beneficial. This is not considered to be significant in EIA terms.

312. It is assumed that the impact of increased employment during the operational phase of North Falls is permanent, long-term and irreversible in nature.

31.6.2.5 Impact 4: Increased employment related to offshore infrastructure

313. North Falls has the potential to support employment in O&M activity associated with the ongoing O&M of the offshore infrastructure.

314. Table 31.52 summarises the potential annual (FTE) employment effects due to O&M of the offshore infrastructure. At the UK level, these will range between 110 and 190 FTE jobs per annum over the 30 year operational phase.

315. The offshore infrastructure expenditure retained locally within Essex and Suffolk is estimated to support an average of between 80 and 90 FTE jobs per annum (depending upon the assessment scenario) throughout the operational phase.

316. The jobs can be considered in the context of the wider development of the low-carbon wind industry in the UK and will largely be long term jobs within the renewable sector and as such will help to develop skills that are needed as part of the UK's transition to Net Zero.

Table 31.52 Potential employment impacts generated per annum by operational activity (FTEs) related to offshore infrastructure

	Worst Case Scenario	Baseline Scenario	Enhanced Scenario
UK impact			
Direct jobs (FTE)	70	140	140
Indirect jobs (FTE)	40	40	50
Total Direct + Indirect Jobs (FTE)	110	190	190
Local Impact (Essex or Suffolk)			
Direct jobs (FTE)	70	70	70
Indirect jobs (FTE)	20	20	20
Total Direct + Indirect Jobs (FTE)	80	80	90

Based on calculations by BVGA.

Some totals may not add up due to rounding. Impacts have been rounded to the nearest 10 FTEs unless FTEs are <10. In this case, they have been rounded to the nearest 5 FTEs.

Total (FTE) jobs provided in the table above do not include any jobs that are based outside of the UK. This includes any jobs required to support onshore/ offshore construction which may be required to temporarily be based in the UK.

31.6.2.5.1 Magnitude of impact

317. The assessment of magnitude is based on the worst case scenario impacts set out in Table 31.52. The magnitude of impact is set out in Table 31.53 below.

318. Under the realistic worst case scenario the 110 FTE jobs supported by the O&M of offshore infrastructure represents less than 0.1% of the current baseline. On this basis, the magnitude of impact on employment at the UK level is assessed as negligible. This would be the same in all scenarios.

319. At the local (Essex and Suffolk) level, under the realistic worst case scenario the 80 FTE jobs supported during the operational phase represent 0.01% of employment levels in the local area. On this basis, the magnitude of impact is assessed as negligible.

320. It is assumed that the effect of increased employment during the operational phase is permanent, long-term and irreversible in nature.

Table 31.53 Assessment of magnitude of employment impact related to offshore operational activity

	Realistic Worst Case Scenario Employment Impact (FTEs)	Existing Environment Employment (FTEs)	% Change	Magnitude of Impact
Local study area (Essex and Suffolk)	80	884,000	0.01%	Negligible
UK	110	25,541,000	0.0004%	Negligible

31.6.2.5.2 Sensitivity

321. As noted in Section 31.6.1.3.2, although job creation is an important local and national priority, the economic inactivity and unemployment rate in Essex and Suffolk is currently low and below the national average. The Economic Strategy for Norfolk & Suffolk (NALEP, 2022b) aims for 27,000 new job opportunities to be generated by the clean energy sector in Norfolk and Suffolk between 2019 to 2030, making job creation an important local priority for Suffolk in the North Falls context. On this basis the sensitivity of receptor is assessed as medium in the local area (Essex and Suffolk) and high in the UK.

31.6.2.5.3 Significance of effect

322. At the UK level, with the sensitivity of the receptor assessed as high and the magnitude of impact assessed as negligible, the significance of effect is therefore assessed as minor beneficial. This is not considered to be significant in EIA terms.

323. At the local level of Essex and Suffolk, with the sensitivity of the receptor assessed as medium and the magnitude of impact assessed as negligible, the significance of effect is therefore assessed as minor beneficial. This is not considered to be significant in EIA terms.

324. It is assumed that the employment effect supported during the operational phase is permanent and long-term

31.6.2.6 Impact 5: Pressure on local onshore infrastructure and services (housing and health)

325. In Section 31.6.1 the assessment of change in demographics during the construction phase was based on the peak year in order to assess the worst case scenario. During the operational phase, employment is forecast to be broadly stable over time and therefore annual averages have been used.

326. The magnitude of impact on demographics in the local study area will be determined by a) the total number of jobs that need to take place in the area and b) the number of these that are accessed by people from outside the study area and therefore need to temporarily relocate into the area to carry out the work.

327. Appendix 31.1 (Volume III) estimates the operational phase of offshore and onshore infrastructure will support 215 direct jobs per annum in total. This includes all jobs regardless of whether they are accessed by local, UK based or international workers. It can also be assumed that most job-related activities will take place close to the O&M base or offshore, with some of these offshore workers using the O&M base or port as an onshore base. The exceptions to this are jobs associated with 'major component maintenance', which the

assessment anticipates will not be undertaken locally, along with fees, rent and transmission charges. Excluding the jobs associated with 'major component maintenance' activities, leaves at least 152 jobs that would need to be physically located in the local study area.

328. It is estimated that 64 of these jobs will be accessed by local workers in the worst case scenario. This means a maximum of 88 workers would need to move to the local area to undertake O&M activities (152-64). The majority of these would be temporary visits; the assessment presented in Appendix 31.1 (Volume III) also notes that most routine activities including administration, vessel operation and routine/minor maintenance will be done by the local workforce. More specialised but infrequent O&M activities, such as balance of plant maintenance, would be undertaken by contractors from other parts of the UK who visit the area temporarily when required.

329. Nevertheless, to account for the fact that some work will be longer term or permanent in nature, it is assumed that 30% of workers (26) will relocate to the area on a long term basis and that a number of these will bring their families. Applying the average UK household size of 2.4 means that 62 people would be expected to relocate to the area on a long term basis, with a further 62 moving to the area temporarily (70% of 88). The total increase in population is therefore estimated to be 124.

330. An influx of 124 people would represent an increase of less than 0.1% in the local population of either of the local study areas. Therefore, the magnitude of impact is assessed as negligible in both areas.

Accommodation

331. The demand for accommodation during the operational phase will be driven by the number of non-local operational phase workers who (temporarily or permanently) relocate into the local area to undertake work and the extent to which accommodation vessels will be used to house offshore operational workers.

332. As a worst case scenario, it is assumed that all 88 FTE non-local operational workers require accommodation. Since most of these will be temporary contract workers rather than permanent staff undertaking routine activities, it is assumed most demand will be for visitor accommodation. However, given that some work will be longer term in nature, it is also assumed that a small percentage of workers will require longer term or permanent accommodation in the form of owner occupied and private rented properties (see Table 31.54).

Table 31.54 Estimated accommodation requirements during the operational phase of North Falls

Type of accommodation	% Split	Number of people seeking accommodation
Visitor accommodation	70%	62
Owner occupied housing	15%	13
Private rented housing	15%	13

Please note the assumed split between types of accommodation is based on the assessor's professional judgement based on the fact that most of non-local workers during the operational phase will be temporary contract workers

rather than permanent staff undertaking routine activities and that short term temporary workers are more likely to utilise visitor accommodation.

333. For energy projects of this nature, the typical working assumption is for home-based workers to be drawn from within a 90-minute travel to work area, whilst non-local workers typically find accommodation within a 45-minute travel to work catchment area. It is therefore assumed that the demand for accommodation is focused on districts within 45 minutes of either Harwich (in Essex) or Lowestoft (in Suffolk).

Healthcare

334. As a worst case scenario, it is assumed that all 88 FTE non-local operational workers move into the local study areas, although the majority of these are likely to do so on a temporary basis, with around 26 (30%) moving to the area for a long period of time with their families.

335. It is assumed that only people moving to the area on a long term basis will wish to register with a GP. Therefore, the maximum increase in demand is assumed to relate to these 26 workers and their families (62 patients in total).

336. Using benchmark estimates of 1,800 patient registrations per FTE GP (developed by the London Health Urban Development Unit (HUDU), 2019), it is estimated that the additional 62 patients would generate demand for 0.03 FTE GPs.

337. In addition to this, the increase in the local population could also lead to increased demand for other health services including secondary care and ambulance services. There are no established benchmarks that allow the assessment to quantify this increase in demand. However, given that all people moving into the area are likely to be of working age or lower, the increased demand for hospital and ambulance services from an additional 124 people is expected to be minimal.

31.6.2.6.1 Magnitude of impact

Accommodation

338. Based on the worst case scenario set out earlier in this section, in the case of accommodation, operation of North Falls would result in increased demand for 62 visitor accommodation places, 13 homes for owner occupation and 13 homes for rent (see Table 31.54). This demand would be focused on areas within a 45 minute drive time of the O&M port, which may be in Harwich or Lowestoft.

339. Chapter 32 Tourism and Recreation (Volume I) showed that the average number of overnight trips between 2017 and 2019 (pre-Covid) was 2.4m in Essex and 700,000 in East Suffolk. In this context the increased demand due to the Project a small fraction of current demand for visitor accommodation in both areas.

340. Increased demand for 13 homes for owner occupation and 13 homes for rent would be a small fraction of current stock of housing and demand for accommodation in both areas (the baseline position is set out in Section 31.5.3).

341. The magnitude of impact on accommodation is therefore also assessed as negligible.

Health Care

342. As noted above, it is estimated that the increase in population would generate demand for 0.03 FTE GPs. There would also be an increase in demand for secondary care and ambulance services but given that the incoming workers will be of working age and the majority in good health, this would be minimal. On this basis, the magnitude of impact is assessed as negligible.

31.6.2.6.2 Sensitivity

Accommodation

343. As described in Section 31.6.1.5.2, the delivery of good quality housing is a priority at a national and local level.

344. Section 31.5.3 (Housing) used absorption rates to measure the capacity of the local housing market to accommodate increased demand. The absorption rate for the sales market is below 20% in all local authority areas except Rochford in Essex, indicating there is capacity to accommodate increased demand. However absorption rates are much higher for private rented housing (80 to 145%) indicating an undersupply. The sensitivity of the receptor is therefore assessed as medium for the owner-occupied market and high for the private rented market.

Health Care

345. Tendring and East Suffolk are the most likely to experience increased demand for health services due to the location of onshore infrastructure and potential locations for an O&M base.

346. The position with regards to health facilities in Essex and Suffolk is described in Section 31.5. The baseline analysis indicates that a high proportion of A&E patients are having to wait longer than the minimum target times and the local areas are exceeding national average ambulance wait times. Tendring has the highest patients per GP ratio of 2,206 with Colchester and Ipswich also exceeding 2,000 patients per FTE GP. This indicates very significant capacity constraint issues in North East Essex and Ipswich. On this basis, the sensitivity of the receptor is assessed as high.

31.6.2.6.3 Significance of effect

Accommodation

347. The sensitivity of the accommodation receptor is assessed as medium for owner occupied housing and high for private rented housing in both local study areas. The magnitude of impact on accommodation is assessed as negligible in both areas for both tenures. The significance of effect is therefore assessed as minor adverse for owner occupied accommodation and minor adverse for private rented accommodation. These are not significant in EIA terms.

Health Care

348. With the sensitivity of the healthcare receptor assessed as high and the magnitude of impact on healthcare assessed as negligible in both local study areas, the significance of effect is therefore assessed as minor adverse. This is not considered to be significant in EIA terms.

31.6.2.7 Impact 6: Onshore disturbance (noise, air, visual, and traffic) to social and community infrastructure facilities

31.6.2.7.1 Magnitude of impact

349. In Section 31.6.1.6 the assessment of the onshore disturbance (related to noise, air, visual, and traffic) to social and community infrastructure facilities during the construction phase is presented. During the operational phase of North Falls, the impacts related to noise, air quality, visuals and traffic at landfall and along the cable corridor are deemed to be much lower than the impact during the construction phase (as set out in Chapter 20 Onshore Air Quality Chapter 26 Noise and Vibration, Chapter 27 Traffic and Transport and Chapter 30 Landscape Visual Impact Assessment, Volume I). This is primarily because activity along the buried cable route and at landfall during operation is expected to be limited to occasional maintenance visits. The onshore substation will be unmanned and also subject to occasional maintenance visits.

350. For the reasons set out above it is assumed there will be negligible magnitude of impact from disruption to social and community infrastructure receptors within 500m of landfall or the onshore cable project area, due to noise, air, visual, and traffic effects. No social and community infrastructure receptors have been identified within 500m of the onshore substation and therefore onshore disturbance (related to noise, air, visual, and traffic) to social and community infrastructure is assessed as negligible.

31.6.2.7.2 Sensitivity

351. As noted in Section 31.6.1.6.2, given the importance of social and community infrastructure facilities on community sustainability and well-being, the sensitivity of all receptors located within the LOCAI is therefore assessed as medium.

31.6.2.7.3 Significance of effect

352. The sensitivity of the onshore social and community infrastructure receptors within 500m of the North Falls onshore project area is assessed as medium and the magnitude of impact on social and community infrastructure facilities within the LOCAI assessed as negligible. Therefore, the significance of effect of North Falls related to disturbance on onshore social and community infrastructure facilities is assessed as minor adverse. This is not considered to be significant in EIA terms.

31.6.2.8 Impact 7: Wider economic effects from disruption to shipping and navigation

31.6.2.8.1 Magnitude of impact

353. Based on the findings of Chapter 15 Shipping and Navigation (Volume I), the disruption to shipping and navigation during the operational phase is deemed to be lower than potential disruption to shipping and navigation during the construction phase. Therefore, the assessment finds that there would be a negligible magnitude of impact on the scale of employment and GVA linked to Felixstowe Port and Harwich International Port resulting from the construction of North Falls at both the local (Essex and Suffolk) and UK levels.

31.6.2.8.2 Sensitivity

354. Given the importance of imports and exports to economic growth in the local and national content and the policy priority placed on economic growth at local

and national levels (as noted above in Section 31.6.1.1.2) the sensitivity is therefore assessed as high at both the local (Suffolk) and UK level.

31.6.2.8.3 Significance of effect

355. With the sensitivity of the receptor assessed as high and the magnitude of impact assessed as negligible at the Suffolk and UK national level, the wider economic effect of the operational phase of North Falls from disruption to shipping and navigation is predicted to be of minor adverse significance, which is not significant in EIA terms.

356. It is assumed that the effect on wider economic effects from disruption to shipping and navigation during the North Falls operations and maintenance phase is indirect and permanent in nature.

31.6.2.9 Impact 8: Wider economic effects from disruption to fishing

31.6.2.9.1 Magnitude of impact

357. Chapter 14 Commercial Fisheries (Volume I) assesses the magnitude of a variety of impacts during the operational phase of North Falls that may influence both the volume and the value of the catch across Essex and Suffolk coasts:

- Impact 7: Temporary loss or restricted access to traditional fishing ground– this could influence the volume and therefore value of the fishing catch in Essex and Suffolk
- Impact 8: Long-term loss or restricted access to traditional fishing ground- this could influence the volume and therefore value of the fishing catch in Essex and Suffolk
- Impact 9: Displacement of fishing activities into other areas– this could influence the volume and therefore value of the fishing catch in Essex and Suffolk
- Impact 10: Increased steaming times to fishing grounds – This could effect the volume and value of the catch if the time spent fishing was reduced.
- Impact 11: Interference with fishing activities (navigational conflict)
- Impact 12: Safety issues for fishing vessels - This could lead to lower volume and value of a catch and also lead to high costs if additional money needs to be spent on health and safety.
- Impact 13: Impacts on commercial fishing as a result of impacts on commercially exploited species - this could influence the volume and therefore value of the fishing catch in Essex and Suffolk.

358. Of the above impacts, the magnitude of impacts ranged from negligible to low. Following the proposed mitigation, none of the impacts listed above resulted in an impact greater than minor adverse and as such the wider economic effects from disruption to fishing are anticipated to be low.

31.6.2.9.2 Sensitivity

359. Chapter 14 Commercial Fisheries (Volume I) assesses the sensitivity of a variety of impacts during the operational phase of North Falls:

360. During the operational phase the sensitivity of impacts was assessed as low or negligible for impacts but the following:

- Impact 7: Temporary loss or restricted access to traditional fishing ground– for UK local inshore vessels this was assessed as high (for nearshore areas) and medium (for extended operational ranges).
- Impact 8: Long-term loss or restricted access to traditional fishing ground – for UK local inshore vessels this was assessed as high (for nearshore areas) and medium (for extended operational ranges).
- Impact 10: Increased steaming times to fishing grounds – assessed as medium sensitivity for static / passive gear.
- Impact 12: Safety issues for fishing vessels – assessed as medium sensitivity.

361. Based on the evidence presented above and in Section 31.6.1.8, the sensitivity of the wider economic effects from disruption to fishing is assessed as medium.

31.6.2.9.3 Significance of effect

362. With the sensitivity of the receptor assessed as medium, and the magnitude of impact assessed as low local (coastal) level, the effect of North Falls is assessed as minor adverse, which is not significant in EIA terms.

363. It is assumed that the wider economic effects from disruption to fishing during North Falls' operational phase is direct and permanent in nature.

31.6.2.10 Impact 9: Wider economic effects related to minerals

31.6.2.10.1 Magnitude of impact

364. Chapter 19 Ground Conditions and Contamination (Volume I) identified a medium magnitude of impact on the sterilisation of future mineral resources during the operational phase. This resulted in a (significant) moderate adverse pre mitigation effect. The assessment proposed mitigation measures which (if required) would involve a mineral resource assessment to determine the amount of mineral at risk from sterilisation and the viability of extraction. The findings of this assessment would then be used to inform the construction process. This mitigation reduces the effect to minor adverse.

365. Therefore, the magnitude of impact is assessed as negligible in the context of the economic activity of the minerals sector within Essex. This is the same as the magnitude of impact during the construction phase (Section 31.6.1.9.1).

31.6.2.10.2 Sensitivity

366. Based on the reasoning set out in Section 31.6.1.9.2, the sensitivity of the receptor (i.e., economic output) is assessed as medium.

31.6.2.10.3 Significance of effect

367. With the sensitivity of the receptor assessed as medium, and the magnitude of impact assessed as negligible at both the UK and local level, the effect of North Falls is assessed as minor adverse, which is not significant in EIA terms.

368. It is assumed that the effect on the wider economy from impacts related to minerals generated during North Falls' operational phase is direct and permanent in nature.

31.6.2.11 Impact 10: Volume and value of tourism

369. Once fully constructed and commissioned, the main source of potential visual effects are from the presence of the offshore infrastructure, onshore substation

and the associated above ground structures located within the onshore substation zone. The onshore export cables will be completely buried underground for its entire length where practicable. The only source of potential visual effects along the final onshore cable route is from the above ground link boxes at jointing bays, which are small in size and will be located at field boundaries and fence lines to minimise any visual effects.

31.6.2.11.1 Magnitude of impact

370. As noted in 31.6.1.10, the analysis presented in Chapter 32 Tourism and Recreation (Volume I) suggests that wind farm developments do not have a significant effect on the overall volume and value of tourism activity.

371. Chapter 32 Tourism and Recreation (Volume I) assessed the magnitude of impact for the following receptors during the operation of North Falls:

- Negligible to low magnitude of impact on both the visual impacts on marine and coastal tourism and recreational assets and the visual impacts on onshore tourism and recreational assets;
- Negligible magnitude of impact on disruptions to marine tourism and recreational activities, coastal tourism and recreational assets and onshore tourism and recreational assets;
- No impact is predicted on reductions in tourist accommodation availability due to the temporary influx of a non-local workforce; and

372. There are no significant effects identified during the operational phase in Chapter 32 Tourism and Recreation (Volume I).

373. Overall, the magnitude impact from the operational phase of North Falls on the volume and value of tourism economy is unlikely to be greater than during the construction phase. This due to the greater level of activity during the construction phase that could impact on tourism volume and value.

374. On this basis the magnitude of impact on the volume and value of tourism during operation is assessed as negligible.

31.6.2.11.2 Sensitivity

375. The sensitivity of the tourism economy, once North Falls is operational, will be the same as that identified during the construction phase. As such, the sensitivity of the receptor is therefore assessed as high.

31.6.2.11.3 Significance of effect

376. With the sensitivity of the receptor assessed as high and the magnitude of impact assessed as negligible, the effect of North Falls' operational activity on the receptor is of minor adverse significance, which is not significant in EIA terms.

377. It is assumed that the operational effect of North Falls is long term, indirect and reversible in nature.

31.6.3 Potential effects during decommissioning

378. This section describes the potential effects associated with the decommissioning of the onshore and offshore infrastructure with regards to

socio-economics. Further details are provided in Chapter 5 Project Description (Volume I).

379. It is generally accepted that industry best practice, rules, and legislation change and develop over time. As a result. no decision has been made regarding the final decommissioning policy for the onshore export cables. However, the most likely scenario is that the cables would be pulled through the ducts and removed, with the ducts themselves sealed and capped and left in-situ.

380. In relation to the onshore substation, no decision has been made regarding the final decommissioning plan for the onshore project substation, as it is recognised that industry best practice, rules and legislation change over time.

381. A full EIA would be carried out ahead of any decommissioning works being undertaken. The detailed activities and methodology for decommissioning would be determined later within the Project lifetime, in line with relevant policies at that time, but would be expected to include:

- Dismantling and removal of electrical equipment;
- Removal of cabling from the site;
- Removal of any building service equipment;
- Demolition of the buildings and removal of fences; and
- Landscape and reinstatement of the site.

382. The decommissioning methodology cannot be finalised until immediately prior to decommissioning but would be in line with relevant policy at that time.

383. Offshore decommissioning activities are likely to take place across the final two years of the programme lifetime and include the removal of all WTG and OSP components and part of the foundations that are above seabed level. Cable and scour protection would likely be left in situ, while buried cables would be cut at the ends and left in situ.

384. As an alternative to decommissioning, the owners may wish to consider re-powering the wind farm. Should the owners choose to pursue this option, this would be subject to a new consenting application.

385. The decommissioning process is generally the reverse of the installation process during construction.

386. Appendix 31.1 (Volume III) provides an estimate of the levels of direct economic benefits that may result because of the decommissioning of North Falls. This is set out in Table 31.55 below and shows that impacts (per annum) during the decommissioning phase are less than during the (average annual) impacts during the construction phase.

Table 31.55 Potential direct economic (supply chain) impacts generated per annum by decommissioning activity

	Worst Case Scenario (£ Million)	Baseline Scenario (£ Million)	Enhanced Scenario (£ Million)
Offshore impacts			
UK impact			
Direct GVA	£8.7	£10.4	£11.2
Indirect GVA	£3.9	£4.7	£6.4
Total Direct + Indirect GVA	£12.6	£15.1	£17.6
Local Impact (Essex)			
Direct GVA	£3.6	£3.6	£3.6
Indirect GVA	£1.4	£1.4	£1.4
Total GVA	£5.0	£5.0	£5.0

Based on calculations by BVGA. Figures may not sum as rounding has been applied.

387. Appendix 31.1 (Volume III) also provides an estimate of the levels of employment levels that may result because of the decommissioning of North Falls. This is set out in Table 31.56 below.

Table 31.56 Potential employment impacts generated per annum by decommissioning activity (FTEs)

	Worst Case Scenario	Baseline Scenario	Enhanced Scenario
Offshore impacts			
UK impact			
Direct jobs (FTE)	80	100	110
Indirect jobs (FTE)	25	30	40
Total Direct + Indirect Jobs (FTE)	105	125	150
Local Impact (Essex)			
Direct jobs (FTE)	35	35	35
Indirect jobs (FTE)	10	10	10
Total Direct + Indirect Jobs (FTE)	40	40	40

Based on calculations by BVGA.

Total (FTE) jobs provided in the table above do not include any jobs that are based outside of the UK. This includes any jobs required to support onshore/ offshore construction which may be required to temporarily be based in the UK.

Figures may not sum as rounding (to the nearest 5) has been applied.

388. Given the scale of employment and direct economic benefits are significantly lower than during the development and construction phase the magnitude of impact is therefore assessed as negligible.

389. In principle (given the scale of economic benefits for the decommissioning phase set out above), it is assumed that the magnitude of impact of all impacts considered will mirror (but are likely to be lower than) the effect relating to the development and construction phase. Similarly, the sensitivity of the receptor is based on the current policy context and socio-economic conditions, as per the assessment of both construction and operational phases. On this basis, the impact of the decommissioning phase of North Falls is assessed as set out in Table 31.57 below.

390. Given the lower levels of employment and economic activity associated with the decommissioning phase and the nature of decommissioning activity it is assumed that all other impacts assessed would be less than the equivalent impact during the development and construction phase. Therefore, the significance of effect is assumed to be at most equal to the equivalent impact found during the development and construction phase. Where it is logical to reduce the magnitude of impact a reduction has been applied. The sensitivity on the other hand mirrors the development and construction phase assessment.

391. In some instances, magnitude of impact is assessed differently to the development and construction phase. For example, when assessing the impacts related to the influx of decommissioning workers it is more accurate to mirror the assessment of significance during the operational phase due to the scale of employment predicted (which is lower than both the construction and operational phases). Therefore, for impacts related to changing demographics (Changing demographics and pressure on local onshore infrastructure and services) during the decommissioning phase the assessment magnitude of impact mirrors the operational phase assessment.

Table 31.57 Impacts of decommissioning phase of North Falls

Impact	Magnitude	Sensitivity	Significance of effect	Study Area	Nature of Impact
Direct economic benefit (supply chain) onshore	Negligible	High	Minor beneficial	Essex UK	Temporary Short-term
Direct economic benefit (supply chain) offshore	Negligible	High	Minor beneficial	Essex & Suffolk UK	Temporary Short-term
Employment onshore	Negligible	High	Minor beneficial	Essex UK	Temporary Short-term
Employment offshore	Negligible	High	Minor beneficial	Essex & Suffolk UK	Temporary Short-term
Pressure on local onshore social and community infrastructure facilities (housing and health)	Negligible (health) to Low (housing)	Medium (housing) to high (health)	Minor adverse (housing and health)	Essex & Suffolk (focused on Colchester Borough, Maldon District, and Braintree District in Essex County and Ipswich Borough, Babergh District, and East Suffolk District in Suffolk County)	Temporary Short-term
Disturbance (noise, air, visual, and traffic) to onshore social and community infrastructure facilities	Negligible (health) to Low (housing)	Medium	Negligible to minor adverse	LOCAI	Temporary Short-term
Wider economic effects from disruption to shipping and navigation	Negligible	High	Minor adverse	Suffolk UK	Temporary Short-term
Wider economic effects from disruption to fishing	Low	Medium	Minor adverse	Coastal districts in Essex and Suffolk	Temporary Short-term
Wider economic effects related to minerals	Negligible	Medium	Negligible	Essex	Temporary Short-term

Impact	Magnitude	Sensitivity	Significance of effect	Study Area	Nature of Impact
Volume and value of tourism	Negligible	High	Minor adverse	East Anglian coastal and offshore waters, Suffolk coast, Essex coast, and Tendring.	Temporary Short-term

Impacts related to jobs and GVA (first four rows) are based on calculations by BVGA.

31.7 Potential monitoring requirements

392. No monitoring requirements have been identified for socio-economics.

31.8 Cumulative effects

31.8.1 Identification of potential cumulative effects

393. The first step in CEA process is to identify whether other plans, projects and activities have the potential to add to North Falls' residual effects on the local environment and thereby generate cumulative effects (described as 'impact screening'). This is considered in Table 31.58. Only potential effects assessed in Section 31.6 as negligible or above are included in the CEA (i.e. those assessed as 'no impact' are not taken forward as there is no potential for them to contribute to a cumulative impact).

394. Please note that offshore and onshore economic benefits have been grouped together as it is often not possible to disaggregate these when assessing the economic effects of other projects included in the cumulative assessment.

395. Table 31.58 concludes that, in relation to the socio-economic assessment, there is potential for cumulative effects on all receptors at the local and sub-regional levels.

Table 31.58 Potential cumulative effects

Impact	Potential for cumulative effect	Rationale
Construction		
Direct economic benefit (supply chain) (offshore and onshore)	Yes	Multiple construction projects over a sustained period could increase investment and economic benefits for local, sub-regional and national economies. There is also scope to strengthen local supply chains.
Employment (offshore and onshore)	Yes	Multiple construction projects could increase the number of employment opportunities.
Pressure on local onshore infrastructure and services (housing and health)	Yes	Multiple construction projects could result in increased in-migration resulting in change to the demographic profile. Increased population at the local level may increase pressure on the provision of social, community and health infrastructure.
Onshore disturbance (noise, air, visual, and traffic) to social and community infrastructure facilities	Yes	Where onshore projects are in close proximity to each other there may be potential for cumulative effects on noise, air quality, visual amenity and traffic, which cause disruption to social and community infrastructure.

Impact	Potential for cumulative effect	Rationale
Wider economic effects from disruption to shipping and navigation	Yes	Should the development of multiple offshore projects cause further disruption to shipping lanes there may be potential for greater levels of impact on the operations of the ports of Felixstowe and Harwich, which in turn could impose economic costs on the local area.
Wider economic effects from disruption to fishing	Yes	The development of multiple offshore projects could have a potential negative cumulative effect on the volume and value of fishing catches. This in turn could affect the incomes of communities that are dependent on fishing.
Wider economic effects related to minerals	Yes	Residual effects on MSAs and MCAs may be exacerbated by other projects if located within the same safeguarding area.
Volume and value of tourism	Yes	Cumulative effects arising from multiple developments in close proximity to North Falls have the potential to affect the volume and value of visitors to Essex and Suffolk.
Operation		
Direct economic benefit (supply chain) (offshore and onshore)	Yes	Substantial long-term and permanent employment and economic benefits (both direct and indirect) may be supported as a result of O&M supported by cumulative projects. A strategic approach to the delivery and O&M of cumulative projects could lead to increased investment and development of the local supply chain. In addition, increased employment opportunities may lead to opportunities for up-skilling and re-skilling of the local labour market.
Employment (offshore and onshore)	Yes	
Pressure on local onshore infrastructure and services (housing and health)	Yes	Due to the long-term and permanent nature of the jobs, there may be potential for long-term changes to the local population due to inward-migration. The operational phase typically supports fewer jobs, and therefore have a lower impact on demographics. Furthermore, the potential for re-skilling and up-skilling local workers could reduce the need for in-migration. Increased levels of in-migration due to the employment needs of cumulative projects may increase pressure on and/ or reduce access to social, community, housing and health infrastructure for existing residents.
Onshore disturbance (noise, air, visual, and traffic) to social and community infrastructure facilities	Yes	Social and community infrastructure facilities (i.e., social, community and health infrastructures) within the LOCAI may experience limited cumulative onshore disturbance in areas where projects overlap with the LOCAI and add to the levels of disruption.
Wider economic effects from disruption to shipping and navigation	Yes	Should the O&M of multiple offshore projects cause further disruption to shipping lanes there may be potential for greater levels of impact on the operations of the ports of Felixstowe and Harwich, which in turn could impose costs on the local economy and supply chains.

Impact	Potential for cumulative effect	Rationale
Wider economic effects from disruption to fishing	Yes	The operation of multiple offshore projects could have a potential cumulative impact on the volume and value of fishing catches. This in turn could affect the incomes of communities that are dependent on fishing.
Wider economic effects related to minerals	Yes	Residual effects on Mineral Safeguarding Areas and Mineral Consultation Areas may be exacerbated by other projects if located within the same safeguarding area.
Volume and value of tourism	Yes	The operation of multiple offshore and onshore projects could have a potential cumulative impact on the volume and value of tourism.
Decommissioning		
Detailed plans for the approach (i.e. method) to the decommissioning of North Falls are still being developed. More detail about the decommissioning of North Falls will be provided in due course, however, assumptions guiding the assessment of the decommissioning phase are outlined in Table 31.4. Detailed information about the decommissioning phase of the other cumulative projects identified varies. It has been assumed that overall, the exact approach to decommissioning will be determined by the relevant legislation and guidance at the time of decommissioning. That said, the cumulative impacts generated as a result of decommissioning activity are assumed to be the same, albeit lower than those identified during the construction stage.		

31.8.2 Other plans, projects and activities

396. The second step in the cumulative assessment is the identification of the other plans, projects and activities that may result in cumulative impacts for inclusion in the CEA (described as 'project screening'). This information is set out in Table 31.59 below. It provides the relevant details of each project, including current status (e.g. under construction), planned construction period, closest distance to North Falls, status of available data and rationale for including or excluding from the assessment.

397. The project screening has been informed by the development of a CEA Project List which forms an exhaustive list of plans, projects and activities in a very large study area relevant to North Falls. The list has been appraised, based on each project's relevance and the assessor's ability to carry out a robust assessment of cumulative effects given the information available. The list has been informed by considering the relevant ZOIs for each impact as is set out in Table 31.3.

Table 31.59 Summary of projects considered for the CEA in relation to socio-economics (project screening)

Project	Status	Construction Period	Closest Distance from the array areas (km)	Distance from the offshore cable corridor (km)	Closest distance from the onshore project area (km)	Confidence in Data	Included in the CEA (Y/N)	Rationale
Offshore wind farms								
Scroby Sands	Operational since 2004	Built	69	84	N/A	N/A	N	Scoped out because wind farm infrastructure is located in Norfolk, outside of the local study areas (Suffolk and Essex).
Norfolk Vanguard Offshore Wind Farm	DCO consented	2024 - 2027	96	117	N/A	High	N	Scoped out due to the onshore infrastructure and operational base of Norfolk Vanguard being located in Norfolk, outside of the local study areas (Suffolk and Essex).
Norfolk Boreas Offshore Wind Farm	DCO consented and has CfD	2024 - 2027	113	135	N/A	High	N	Scoped out because the onshore infrastructure and operational base of Norfolk Boreas will be located in Norfolk, outside of the local study areas (Suffolk and Essex).

Project	Status	Construction Period	Closest Distance from the array areas (km)	Distance from the offshore cable corridor (km)	Closest distance from the onshore project area (km)	Confidence in Data	Included in the CEA (Y/N)	Rationale
East Anglia ONE Offshore Wind Farm	Operational since 2020	Built	38	60	N/A	High	N	Scoped out as East Anglia ONE is operational and is therefore considered part of the existing baseline environment.
Greater Gabbard Offshore Wind Farm	Operational since 2012	Built	N/A	0	N/A	Medium	N	Scoped out as Greater Gabbard is operational and is therefore considered part of the existing baseline environment.
East Anglia TWO Offshore Wind Farm	Approved (DCO issued in 2022)	Mid 2020s	8	20	47	High	Y	The East Anglia TWO Offshore Wind Farm's impact area is likely to overlap with the assessment's Suffolk study area on a number of receptors, and construction periods could overlap.
East Anglia ONE North Offshore Wind Farm	Approved (DCO issued in 2022)	Mid 2020s	24	36	N/A	High	Y	The East Anglia ONE North Offshore Wind Farm's impact area is likely to overlap with the assessment's

Project	Status	Construction Period	Closest Distance from the array areas (km)	Distance from the offshore cable corridor (km)	Closest distance from the onshore project area (km)	Confidence in Data	Included in the CEA (Y/N)	Rationale
								Suffolk study area on a number of receptors.
East Anglia THREE Offshore Wind Farm	Construction phase	Construction commenced in 2022.	44	56	N/A	High	Y	Whilst construction is assumed to be completed before installation and commissioning of North Falls has begun, the East Anglia THREE Offshore Wind Farm is likely to interact with some of the receptors identified during the operational phase
Five Estuaries Offshore Wind Farm	Pre-application	2028 – 2030	0	8	0 (Scoping area directly overlaps with North Falls' onshore project area)	High	Y	The onshore project area for Five Estuaries Offshore Wind Farm covers largely the same area as North Falls. There is also a possibility that both projects are constructed at the same time.
Galloper Offshore Wind Farm	Operational since 2018	Built	N/A	0	15	Medium	N	Scoped out as Galloper is operational and is therefore considered

Project	Status	Construction Period	Closest Distance from the array areas (km)	Distance from the offshore cable corridor (km)	Closest distance from the onshore project area (km)	Confidence in Data	Included in the CEA (Y/N)	Rationale
								part of the existing baseline environment.
Kentish Flats (and Extension)	Operational since 2010	Built	54	38	46	High	N	Scoped out as the onshore infrastructure and operational base of Thanet Offshore Wind Farm is located in Kent, outside of the local study areas (Suffolk and Essex) and the projects are already built and therefore part of the existing baseline.
Thanet Offshore Wind Farm	Operational since 2010	Built	N/A	24	N/A	Medium	N	Scoped out as the onshore infrastructure and operational base of Thanet Offshore Wind Farm is located in Kent, outside of the local study areas (Suffolk and Essex).
Gunfleet Sands Offshore Wind Farm	Operational since 2010	N/A	N/A	43	N/A	Medium	N	Scoped out - as Gunfleet Sands Offshore Wind Farm is operational and is therefore considered

Project	Status	Construction Period	Closest Distance from the array areas (km)	Distance from the offshore cable corridor (km)	Closest distance from the onshore project area (km)	Confidence in Data	Included in the CEA (Y/N)	Rationale
								part of the existing baseline environment.
London Array Offshore Wind Farm	Operational since 2013	N/A	N/A	19	N/A	Medium	N	Scoped out as London Array is operational and is therefore considered part of the existing baseline environment.
Proposed interconnectors and other energy transmission infrastructure								
East Anglia GREEN	Site selection / pre-scoping	2027-2031	N/A	N/A	0 (Scoping area directly overlaps with North Falls onshore project area.)	Low	Y	The latest proposals include building a new 400,000 volts (400 kV) electricity overhead transmission line, work at existing substations and building a new substation to connect new proposed offshore wind farms to the electricity transmission network. The proposed substation area for East Anglia GREEN is in close proximity to

Project	Status	Construction Period	Closest Distance from the array areas (km)	Distance from the offshore cable corridor (km)	Closest distance from the onshore project area (km)	Confidence in Data	Included in the CEA (Y/N)	Rationale
								North Falls' proposed onshore substation zone. Therefore, cumulative effects on socio-economics could occur
NeuConnect Interconnector	Pre-construction	2022-2028	0	0	N/A	High	N	Scoped out as the landfall and onshore infrastructure for NeuConnect Interconnector is planned to be located in Kent. The project is screened out as insufficient details available about this proposal to undertake any meaningful cumulative impact assessment.
Nautilus Interconnector	Pre-application	Information unavailable	N/A	N/A	44	Medium	N	Scoped out as the landfall and onshore infrastructure for Nautilus is planned to be located in East Suffolk and there are insufficient details

Project	Status	Construction Period	Closest Distance from the array areas (km)	Distance from the offshore cable corridor (km)	Closest distance from the onshore project area (km)	Confidence in Data	Included in the CEA (Y/N)	Rationale
								available about this proposal to undertake any meaningful cumulative impact assessment.
Sea Link HVDC Link	Pre-application	Information unavailable	Information unavailable	Information unavailable	20	Medium	N	Scoped out as the landfall and onshore infrastructure for Sea Link is planned for in East Suffolk and Kent. Thus, there is little potential for spatial cross over in cumulative effects on socio-economics.
LionLink Interconnector	Early planning	Information unavailable	Information unavailable	Information unavailable	Information unavailable	N/A	N	Scoped out as insufficient details available about this proposal to undertake any meaningful cumulative impact assessment.
Other onshore developments								
Bradwell B new nuclear power station	Pre application	Predicted 9 – 12 years	N/A	N/A	21	High	N	Scoped out as insufficient details available about this

Project	Status	Construction Period	Closest Distance from the array areas (km)	Distance from the offshore cable corridor (km)	Closest distance from the onshore project area (km)	Confidence in Data	Included in the CEA (Y/N)	Rationale
								proposal to undertake any meaningful cumulative impact assessment.
Sizewell C Project	Approved (DCO issued in 2022)	2022 – 2034	N/A	N/A	49	High	Y	Sizewell C Nuclear Power Station will be located in Suffolk. Therefore it may interact with some receptors, particularly effects on employment, GVA and demographic change.
Bramford to Twinstead Overhead Line	Pre application	2024-2028	N/A	N/A	14	High	N	Scoped out- The Bramford to Twinstead Overhead Line may overlap with the study area used in the assessment. However the project is currently on-hold until connection of Sizewell C to the national grid is required (in the late-2020s). The project is scoped out as insufficient

Project	Status	Construction Period	Closest Distance from the array areas (km)	Distance from the offshore cable corridor (km)	Closest distance from the onshore project area (km)	Confidence in Data	Included in the CEA (Y/N)	Rationale
								details available about this proposal to undertake any meaningful cumulative impact assessment.
A12 Chelmsford to A120 Widening Scheme	Pre application	Information unavailable	N/A	N/A	27	High	N	Scoped out as insufficient details available about this proposal to undertake any meaningful cumulative impact assessment.
Lake Lothing Third Crossing	Approved (DCO issued 2020)	Over 2 years	N/A	N/A	76	High	Y	Lake Lothing Third Crossing will be located in Suffolk and may interact with some receptors included in the assessment.
Longfield Solar Farm	Examination	2024-2026	N/A	N/A	35	High	Y (operational phase only)	The Longfield Solar Farm is located in Chelmsford, Essex and therefore the impact area is likely to overlap with the assessment's Essex study area on a number of receptors.

Project	Status	Construction Period	Closest Distance from the array areas (km)	Distance from the offshore cable corridor (km)	Closest distance from the onshore project area (km)	Confidence in Data	Included in the CEA (Y/N)	Rationale
								However the construction phase is unlikely to overlap with the installation and commissioning activity of North Falls and therefore only effects during the operational phase are scoped in.
Oikos Marine & South Side Development	Pre application	2023-2026	N/A	N/A	56	High	N	Scoped out – The Oikos Marine & South Side Development is located on Canvey Island, Essex. Therefore, the impact area is likely to overlap with the assessment's Essex study area on a number of receptors. However, the project is scoped out as insufficient details available about this proposal to undertake any meaningful

Project	Status	Construction Period	Closest Distance from the array areas (km)	Distance from the offshore cable corridor (km)	Closest distance from the onshore project area (km)	Confidence in Data	Included in the CEA (Y/N)	Rationale
								cumulative impact assessment.
Progress Power Station	Decided	Construction is expected to last approximately 24 months and the power station is due to the enter commercial operation by 2024.	N/A	N/A	46	Medium	Y (but N for the construction period)	The Power progress station is situated at Eye Airfield Industrial Estate, Mid Suffolk. Commercial operation is expected to begin within October 2024 and as such it may interact with some receptors identified during the operational phase.
Ipswich Rail Chord	Operational since 2014	Built	N/A	N/A	17	Low	N	Scoped out as construction is complete and the Ipswich Rail Chord falls outside of the LOCAI. It is unlikely that the project will interact with the receptors identified during either phase.
Rivenhall IWMF and Energy Centre	Pre-application	Information unavailable	N/A	N/A	27	Low	N	Scoped out as insufficient details available about this proposal to undertake

Project	Status	Construction Period	Closest Distance from the array areas (km)	Distance from the offshore cable corridor (km)	Closest distance from the onshore project area (km)	Confidence in Data	Included in the CEA (Y/N)	Rationale
								any meaningful cumulative impact assessment.
Sunnica Energy Farm	Examination	2023-2025 (at the earliest)	N/A	N/A	55	High	Y (But N for construction phase)	Sunnica Energy Farm's construction phase is expected to take place from 2023-2025 at the earliest. It is therefore not expected to coincide with the construction phase of North Falls. However, as the Energy farm is located in Suffolk its operational phase (2025-2065) will overlap with North Falls and likely effect a number of receptors.
Thurrock Flexible Generation Plant	Approved (DCO issued in 2022)	2 year period – assumed to be 2021 -2023 in the planning submission but this has been delayed.	N/A	N/A	66	High	Y (but N for construction phase)	The Thurrock Flexible Generation Plant is located in Thurrock, Essex. Therefore, the impact area is likely to overlap with the assessment's Essex

Project	Status	Construction Period	Closest Distance from the array areas (km)	Distance from the offshore cable corridor (km)	Closest distance from the onshore project area (km)	Confidence in Data	Included in the CEA (Y/N)	Rationale
								study area on a number of receptors. However, the construction of this project is likely to be completed before the installation and commissioning activity of North Falls begins and therefore the project is scoped out of the construction phase effects.
Expansion of Luton Airport	Pre-application	2023-2026	N/A	N/A	95	High	N	Scoped out as the Luton Airport expansion project's impact area does not interact with the Suffolk or Essex Study areas.
Land adjacent to Lawford Grid Substation Ardleigh Road Little Bromley Essex CO11 2QB (50 MW	Approved	Information unavailable	N/A	N/A	0.3	High	N	Scoped out as the project will most likely be fully constructed prior to North Falls' planned construction start date. The development is small-scale and was not

Project	Status	Construction Period	Closest Distance from the array areas (km)	Distance from the offshore cable corridor (km)	Closest distance from the onshore project area (km)	Confidence in Data	Included in the CEA (Y/N)	Rationale
battery storage project)								considered an EIA development, thus no cumulative operational effects on socio-economics are anticipated
Proposed erection of three buildings (use classes E.g. (iii), B2 and B8), a new access and highway works, parking and servicing and hard and soft landscaping at Horsley Cross CO11 2NZ	Awaiting decision	Predicted to complete within six months of construction commencing	N/A	N/A	0.1	Medium	N	Scoped out as the project will most likely be fully constructed prior to North Falls' planned construction start date. The development is small-scale and was not considered an EIA development, thus no cumulative operational effects on socio-economics are anticipated.

Please note the temporal overlap is based on potential to for construction activity to overlap during the commissioning and installation phase (2027-2030) of North Falls in which the vast majority of impact will occur. The spatial overlap is based on the potential for impact on socio-economic receptors assessed in this assessment within the local study areas (Essex, Suffolk and the LOCAI).

For the construction period projects have been assumed to be approved without significant delay to begin construction.

31.8.3 Assessment of cumulative impacts

398. Table 31.59 shows that only East Anglia ONE North, East Anglia TWO, Five Estuaries, East Anglia GREEN, Lake Lothing and Sizewell C have potential to overlap with the construction of North Falls (commissioning and installation phase, 2027-2030). The onshore infrastructure and port locations of the projects listed above are as follows:

- East Anglia ONE North Offshore Wind Farm – Cable infrastructure landfall near Sizewell to the main development area inland from Knodishall. (Scottish Power Renewables 2023a);
- East Anglia TWO Offshore Wind Farm – as above (Scottish Power Renewables 2023b);
- Five Estuaries Offshore Wind Farm – Cable infrastructure landfall located in Tendring, near Great Holland to potential substation zone adjacent to existing Lawford 132 kV Substation (RWE, 2023);
- Lake Lothing Third Crossing – Lowestoft in East Suffolk;
- Sizewell C - Near Leiston in East Suffolk; and
- East Anglia GREEN - Reinforcement of the electricity transmission network between Norwich Main, Norfolk Tilbury, Essex and Bramford, Suffolk substations.

31.8.3.1 Construction

Table 31.60 Cumulative effects from other projects on socio-economics during the construction phase

Project	Construction impacts 1 to 4: Cumulative effects on employment and direct economic benefit	Construction impact 5: Pressure on health and accommodation	Construction impacts 7-8: Wider economic effects from disruption to shipping and navigation and fishing	Construction impacts 6 and 9: Impacts related to onshore disturbance (noise, air, visual, and traffic) to onshore social and community infrastructure facilities and wider economic effects on minerals and mining	Construction impact 10: Cumulative effect on employment and direct economic benefit
East Anglia TWO Offshore Wind Farm	<u>Impact on employment</u> The tourism, recreation and socio-economics assessment of East Anglia TWO identified a moderate beneficial effect for both onshore and offshore construction on the local, regional and national labour markets. The assessment predicted that onshore construction would support an average 265 (direct, indirect and induced), with around a third (86) of these jobs being local (within 60 minutes' drive). Within NALEP, East Anglia TWO was also estimated to generate 100 to 300 FTE jobs during construction of	<u>Impact on demographics</u> Based on the assessment of North Falls, the magnitude of impact on demographics during the construction of East Anglia TWO and East Anglia ONE North could be expected to be negligible to low. Temporary (i.e. in-migrant) workers are likely to locate within close proximity of the local port(s) used for offshore construction activity and the onshore infrastructure. <u>Pressure on health and accommodation</u> As impacts on demographics would be expected to similar to North Falls the related pressure on health and accommodation	Wider economic effects related to disruption to shipping and navigation n/a Wider economic effects related to disruption to commercial fishing Chapter 14 Commercial Fisheries (Volume I) presents a CEA. The chapter proposes appropriate mitigation where relevant. Providing these mitigation measures are imposed the anticipated cumulative wider economic effects on shipping form the development of other offshore projects is	n/a	The tourism, recreation and socio-economics assessment of East Anglia TWO did not assess the impact on the volume and value of tourism as a whole during the construction phase. It did however identify a major beneficial effect for Tourism Enhancement (local accommodation businesses and their employees). The assessment predicted a negligible significance of effect on tourism and recreation disturbance (Royal HaskoningDHV, 2019a).

Project	Construction impacts 1 to 4: Cumulative effects on employment and direct economic benefit	Construction impact 5: Pressure on health and accommodation	Construction impacts 7-8: Wider economic effects from disruption to shipping and navigation and fishing	Construction impacts 6 and 9: Impacts related to onshore disturbance (noise, air, visual, and traffic) to onshore social and community infrastructure facilities and wider economic effects on minerals and mining	Construction impact 10: Cumulative effect on employment and direct economic benefit
	offshore infrastructure (Royal HaskoningDHV, 2019a). Impact on GVA The impact on GVA is not assessed in the ES. However GVA effects are likely to be similar to employment effects.	would also be expected to be similar to North Falls.	anticipated to be of low magnitude.		
East Anglia ONE North Offshore Wind Farm	Impact on Employment The tourism, recreation and socio-economics assessment of East Anglia ONE North identified a moderate beneficial effect for both onshore and offshore construction on the local and regional labour market. The impact figures mirrored the assessment of East Anglia TWO Offshore Wind Farm (Royal HaskoningDHV, 2019b).			n/a	The tourism, recreation and socio-economics assessment of East Anglia ONE North mirrored the assessment of East Anglia Two stated above (Royal HaskoningDHV, 2019b).

Project	Construction impacts 1 to 4: Cumulative effects on employment and direct economic benefit	Construction impact 5: Pressure on health and accommodation	Construction impacts 7-8: Wider economic effects from disruption to shipping and navigation and fishing	Construction impacts 6 and 9: Impacts related to onshore disturbance (noise, air, visual, and traffic) to onshore social and community infrastructure facilities and wider economic effects on minerals and mining	Construction impact 10: Cumulative effect on employment and direct economic benefit
	Impact on GVA The impact on GVA is not assessed in the ES. However GVA effects are likely to be similar to employment effects.				
Five Estuaries Offshore Wind Farm	No information on employment or GVA effects is available. However the project is anticipated to have a capacity of 300MW and therefore employment and GVA impacts would not be expected to be higher than North Falls.	Five Estuaries offshore and onshore infrastructure is located close enough to North Falls onshore project area to result in high potential for overlapping impacts on demographics and related pressures. Impact on demographics No information on demographic effects is available. However the project is anticipated to have a capacity of 300MW and therefore effects on demographics due to change in demograghics would not be	Wider economic effects related to disruption to shipping and navigation This impact on shipping and navigation is strongly tied to the location of the ports of Felixstowe and Harwich. Given the proximity of Five Estuaries Offshore Wind Farm there could be potential for cumulative effects on disruption to shipping lanes. This will be considered in Chapter 14 Shipping and Navigation at the ES stage. It is assumed that the additional disruption	Impacts related to onshore disturbance (noise, air, visual, and traffic) to onshore social and community infrastructure facilities. Five Estuaries Offshore Wind Farm: Scoping area directly overlaps with North Falls' onshore project area and the onshore project construction period is estimated to be 2028 to 2030. A new onshore substation is proposed to be built as part of the East Anglia GREEN proposals by National Grid.	No information on the impact on tourism volume and value is available. However the project is anticipated to have a capacity of 300MW and impacts on tourism volume and value would expected to be similar to North Falls.

Project	Construction impacts 1 to 4: Cumulative effects on employment and direct economic benefit	Construction impact 5: Pressure on health and accommodation	Construction impacts 7-8: Wider economic effects from disruption to shipping and navigation and fishing	Construction impacts 6 and 9: Impacts related to onshore disturbance (noise, air, visual, and traffic) to onshore social and community infrastructure facilities and wider economic effects on minerals and mining	Construction impact 10: Cumulative effect on employment and direct economic benefit
		expected to be higher than North Falls. Pressure on health and visitor accommodation As impacts on change in demograghics would not be expected to be higher than North Falls the related pressure on health and visitor accommodation would also be expected to be lower than North Falls.	to shipping caused by the development of Five Estuaries Offshore Wind Farm would not change the assessment of the wider economic impact associated with the ports of Felixstowe and Harwich. Wider economic effects related to disruption to commercial fishing Chapter 14 Commercial Fisheries (Volume I) presents a CEA. The chapter proposes appropriate mitigation where relevant. Providing these mitigation measures are imposed, the anticipated cumulative wider economic effects on shipping form the development of other offshore projects is anticipated to be of low magnitude.	This will be located in close proximity to the onshore substation zone for the North Falls. Information available from the scoping stage suggests Five Estuaries Offshore Wind Farm would use a similar onshore cable route to North Falls. It is anticipated that best practice mitigation will be recommended for Five Estuaries and East Anglia GREEN in order to reduce potential for adverse effects. Impacts related to noise, air quality, traffic and visuals for Five Estuaries are likely be similar in nature to those predicted for North Falls. There is no assessment available on the effects on minerals and mining from either East Anglia GREEN or	

Project	Construction impacts 1 to 4: Cumulative effects on employment and direct economic benefit	Construction impact 5: Pressure on health and accommodation	Construction impacts 7-8: Wider economic effects from disruption to shipping and navigation and fishing	Construction impacts 6 and 9: Impacts related to onshore disturbance (noise, air, visual, and traffic) to onshore social and community infrastructure facilities and wider economic effects on minerals and mining	Construction impact 10: Cumulative effect on employment and direct economic benefit
East Anglia GREEN	Insufficient information available at the time of writing	Insufficient information available at the time of writing	n/a	Five Estuaries Offshore Wind Farm. Mitigation measures associated with mineral resources specifically are not included within the Scoping Report for East Anglia GREEN. It is however, anticipated that mitigation measures for East Anglia GREEN would be similar to those of North Falls given the nature of the project. Should this be the case, residual cumulative effects are not considered to increase from what is predicted for North Falls, which are deemed not significant in EIA terms. As noted within Chapter 19 Ground Conditions and Contamination (Volume I) identification and assessment of the areas of strategic	Insufficient information available at the time of writing

Project	Construction impacts 1 to 4: Cumulative effects on employment and direct economic benefit	Construction impact 5: Pressure on health and accommodation	Construction impacts 7-8: Wider economic effects from disruption to shipping and navigation and fishing	Construction impacts 6 and 9: Impacts related to onshore disturbance (noise, air, visual, and traffic) to onshore social and community infrastructure facilities and wider economic effects on minerals and mining	Construction impact 10: Cumulative effect on employment and direct economic benefit
				mineral resources located within the Five Estuaries onshore project areas is to be undertaken as part of the baseline characterisation of their site. Therefore, proposed mitigation measures have not been included within the Scoping Report. An assessment of the potential cumulative effects on strategic mineral resources will be made once the information is available. It is however, anticipated that mitigation measures for Five Estuaries would be similar to those of North Falls given the nature of the project. Should this be the case, residual cumulative effects are not considered to increase from what is predicted for North Falls, which are deemed not significant in EIA terms.	

Project	Construction impacts 1 to 4: Cumulative effects on employment and direct economic benefit	Construction impact 5: Pressure on health and accommodation	Construction impacts 7-8: Wider economic effects from disruption to shipping and navigation and fishing	Construction impacts 6 and 9: Impacts related to onshore disturbance (noise, air, visual, and traffic) to onshore social and community infrastructure facilities and wider economic effects on minerals and mining	Construction impact 10: Cumulative effect on employment and direct economic benefit
Little Bromley BESS	n/a	n/a	n/a	At this stage in the North Falls design, prior to selection of a final onshore substation location within the onshore substation zone, it has not been possible to undertake a detailed assessment of cumulative operational noise effects with the proposed Little Bromley BESS. Assessment of the cumulative operational noise effects will be considered in detail within the CEA in the ES when sufficient information is available. As detailed in Chapter 27 Traffic and Transport (Volume I), no cumulative construction traffic effects are anticipated for this project.	n/a

Project	Construction impacts 1 to 4: Cumulative effects on employment and direct economic benefit	Construction impact 5: Pressure on health and accommodation	Construction impacts 7-8: Wider economic effects from disruption to shipping and navigation and fishing	Construction impacts 6 and 9: Impacts related to onshore disturbance (noise, air, visual, and traffic) to onshore social and community infrastructure facilities and wider economic effects on minerals and mining	Construction impact 10: Cumulative effect on employment and direct economic benefit
Lake Lothing Third Crossing	There has not been an assessment of jobs or GVA for East Anglia GREEN or Lake Lothing Third Crossing. However, the assessment still notes the potential for these projects to produce economic benefits for the local area. Any new information that becomes available post PEIR, will be drawn upon in the production of the ES.	n/a	n/a	n/a	There has not been an assessment on tourism for Lake Lothing Third Crossing.
Sizewell C	The socio-economics assessment of Sizewell C found that at peak construction, the project has potential to support around 7,800 jobs (including home-based, as well as non-local workers). Overall, the assessment found a moderate beneficial impact on the labour market	The assessment of Sizewell C found that, of the peak employment of 7,900 on-site jobs during construction, around 2,000 are likely to be taken up by home-based workers. The remaining 5,900 workers are anticipated to be non-local. The effect of Sizewell C on population was found to be Negligible or Minor (Not	n/a	n/a	The assessment of Sizewell C does not consider the impact on the overall volume and value of tourism.

Project	Construction impacts 1 to 4: Cumulative effects on employment and direct economic benefit	Construction impact 5: Pressure on health and accommodation	Construction impacts 7-8: Wider economic effects from disruption to shipping and navigation and fishing	Construction impacts 6 and 9: Impacts related to onshore disturbance (noise, air, visual, and traffic) to onshore social and community infrastructure facilities and wider economic effects on minerals and mining	Construction impact 10: Cumulative effect on employment and direct economic benefit
	(including home-based recruitment) within the project's 90-minute catchment (extending from Colchester in the south, to Bury St Edmunds in the west and Norwich in the north).	Significant) at 60-minute area scale. Sizewell C's Accommodation Strategy states that around 3,000 bedspaces could be made available in a bespoke worker campus and/ or caravan park located close to site. Ultimately this means that around 2,900 construction workers on the Sizewell C project will be required to be based either within formal (e.g. hotels and B&Bs) or latent (e.g. people's spare bedrooms) accommodation. Traditionally, non-local workers locate themselves within a 60-minute catchment of the site. In the case of the Sizewell C project, this corresponds roughly with the Suffolk County boundary. The assessment found that,			

Project	Construction impacts 1 to 4: Cumulative effects on employment and direct economic benefit	Construction impact 5: Pressure on health and accommodation	Construction impacts 7-8: Wider economic effects from disruption to shipping and navigation and fishing	Construction impacts 6 and 9: Impacts related to onshore disturbance (noise, air, visual, and traffic) to onshore social and community infrastructure facilities and wider economic effects on minerals and mining	Construction impact 10: Cumulative effect on employment and direct economic benefit
		following mitigation, there were no significant effects on accommodation. It should be noted that the majority of demographic impacts from North Falls are likely to be located in Essex and therefore this reduces the potential for cumulative effects with Sizewell C.			

31.8.3.1.1 Cumulative effects on employment and direct economic benefit

399. Of the projects listed above none of the EIA based socio-economic assessments (available on the National Infrastructure Planning / local planning authority websites) considered the direct economic benefit of construction to the local economy. However, a number of the assessments did consider employment impacts.

400. Given that the impact on the economy is not assessed or quantified by all assessments, it is not possible to quantify the cumulative effect on GVA. Furthermore, it should be noted that the employment estimate for Sizewell C relates to the peak year rather than the average for the construction period.

401. Based on the limited information available and the professional judgement of assessors, the magnitude of impact is considered to be high. However, this is subject to considerable uncertainty and will be revisited for the ES when more information should be available.

402. With the sensitivity of the receptor assessed as high for the Essex and Suffolk study area, and the magnitude of impact assessed as high, the cumulative effect is therefore assessed as major beneficial, which is considered to be significant in EIA terms.

403. It is assumed that the cumulative effect of increased economic activity resulting from construction of the identified schemes is temporary and short-term in nature.

31.8.3.1.2 Cumulative effects on pressure on local onshore infrastructure and services (housing and health)

404. It should be noted that this assessment includes projects in Suffolk located a significant distance from North Falls onshore infrastructure, however, there may still be limited cross over in terms of travel to work zones and therefore projects in Suffolk are included in the CEA. For example, Sizewell C is over an hour drive time from the onshore infrastructure, despite this, the travel to work areas used for the assessments of Sizewell C and North Falls do overlap. As distance from North Falls increases potential cumulative effects also decrease.

405. Very few of the assessments reviewed as part of the CEA have considered the effect of change in demographics during construction.

406. Given the scale of the non-local workforce that is likely to locate within Essex and Suffolk, the magnitude of impact on demographics is considered to be low, although this is also subject to uncertainty. With the sensitivity of the receptor assessed as low for the local study area and a magnitude of impact assessed as medium, the cumulative effect is therefore assessed as minor adverse, which is not considered to be significant in EIA terms.

407. The employment effects above suggest the offshore wind developments in the CEA (East Anglia ONE North, East Anglia TWO, Five Estuaries) could be expected to result in a similar requirement for visitor accommodation as has been assessed for North Falls, but only Five Estuaries onshore infrastructure is located close enough to North Falls onshore project area to result in high potential for overlapping impacts.

408. Section 31.6.1.5.1 found North Falls would, in isolation, have a negligible effect on increased pressure on local health services. This is predicted to remain at a negligible magnitude of impact when considering the cumulative effects of other projects screened in proposed developments. This assessment accounts for the nature of demand for healthcare by construction workers and the temporary period in which construction workers will be located in the local area. It should be noted that many non-local construction workers are assumed to stay registered with their local GPs and that construction workers are statistically relatively unlikely to require local health services except from when succumbing to a relatively small number of work related accidents (as noted in Section 31.6.1.5.1). With the sensitivity of the receptor assessed as high at the local study area, and a magnitude of impact assessed as low, the cumulative impact of the projects identified alongside North Falls on the receptor at construction is therefore assessed as minor adverse, which is not considered to be significant in EIA terms.

31.8.3.1.3 Cumulative effects related to onshore disturbance (noise, air, visual, and traffic) to onshore social and community infrastructure facilities and wider economic effects from disruption to minerals resource

409. Impacts related to noise, air quality, traffic and visuals for Five Estuaries are likely be similar in nature to those predicted for North Falls.

410. At this stage it is anticipated that cumulative effects with North Falls will remain not significant in EIA terms however a more detailed assessment of the in-combination impacts will be considered within the CEA in the ES when sufficient information is available.

411. At this stage, given cumulative effects related to sterilisation of future mineral resources are not considered to increase from what is predicted for North Falls the assessment of wider economic cumulative effects from disruption to minerals is assessed as negligible which is not significant in EIA terms. A more detailed assessment of effects will be considered within the CEA in the ES when sufficient information is available.

31.8.3.1.4 Cumulative effect on the volume and value of tourism

412. Of the projects considered alongside North Falls as part of the cumulative assessment, only the assessments of the East Anglia ONE North and East Anglia TWO schemes have considered the project's effect on the volume and value of tourism. Specifically these projects considered the effect on tourism employment. Overall, the assessment found that construction activity may have negligible effects on tourism employment. This is consistent with the assessment of North Falls and the wider evidence base considered.

413. Given the evidence base presented in the assessment of North Falls and the cumulative projects potential tourism impacts, the cumulative effects are also predicted to be negligible.

414. With the sensitivity of the tourism receptor assessed as high for the study area, and the magnitude of impact assessed as negligible, the cumulative effect is therefore assessed as minor adverse during construction, which is not considered to be significant in EIA terms.

31.8.3.1.5 Other cumulative effects (Wider economic effects from disruption to shipping and navigation and commercial fishing)

415. No other publicly available offshore wind farm assessment considered in the CEA has considered the impact of wider economic impacts from disruption to shipping and navigation during construction. This impact is strongly tied to the location of the ports of Felixstowe and Harwich. Given the proximity of Five Estuaries Offshore Wind Farm there could be potential for cumulative effects on disruption to shipping lanes.

416. As noted in the assessment of shipping and navigation project vessel movements will be managed via marine coordination to ensure any impact on third party vessels accessing local ports is minimised, and other developers should be applying the same measures.

417. Given ongoing work being undertaken to refine the project design, the preliminary conclusions on shipping and navigation presented in this PEIR will be revisited and assessed as part of the ES submitted with the DCO.

418. It is assumed that the additional disruption to shipping caused by the construction of Five Estuaries Offshore Wind Farm would not change the assessment of the wider economic impact associated the ports of Felixstowe and Harwich.

419. As noted within Chapter 19 Ground Conditions and Contamination (Volume I):

- Identification and assessment of the areas of strategic mineral resources located within the Five Estuaries onshore project areas is to be undertaken as part of the baseline characterisation of their site. Therefore, proposed mitigation measures have not been included within the Scoping Report. An assessment of the potential cumulative effects on strategic mineral resources will be made once the information is available. It is, however, anticipated that mitigation measures for Five Estuaries would be similar to those of North Falls given the nature of the project. Should this be the case, residual cumulative effects are not considered to increase from what is predicted for North Falls, which are deemed not significant in EIA terms.
- Mitigation measures associated with mineral resources specifically are not included within the Scoping Report for East Anglia GREEN. It is however, anticipated that mitigation measures for East Anglia GREEN would be similar to those of North Falls given the nature of the project. Should this be the case, residual cumulative effects are not considered to increase from what is predicted for North Falls, which are deemed not significant in EIA terms.

420. The sensitivity of the fishing industry is assessed as medium, and it is assumed there would be at most a low magnitude of economic effects associated with potential disruption to fishing during the construction phase. Chapter 14 Commercial Fisheries (Volume I) notes a number of mitigation measures relevant for mitigating potential disruption to commercial fishing. It is assessed that cumulative effects on shipping will be of minor adverse significance.

31.8.3.2 Operational phase

Table 31.61 Cumulative effects from other projects on socio-economics during the operational phase

Project	Operational phase impacts 1 to 4: Cumulative effects on employment and direct economic benefit	Operational phase impacts 5: Pressure on health and visitor accommodation	Operational phase impacts 7-8: Wider economic effects from disruption to shipping and navigation, fishing	Operational phase impacts 6 and 9: Impacts related to onshore disturbance (noise, air, visual, and traffic) to onshore social and community infrastructure facilities and wider economic effects on minerals and mining	Operational phase impact 10: Volume and value of tourism
East Anglia TWO Offshore Wind Farm	Impact on employment and GVA There are relatively minor effects predicted during the operational phase compared to the size of the local economy. Within the region of 100 FTE jobs supported at and O&M base. Similarly, this will support a reasonably limited level of GVA. The effect of each of these wind farms on GVA and employment in the on Essex or Suffolk would therefore be predicted to be negligible in the context of the size of the local economy.	Once operational, the offshore wind farm projects in the CEA are likely to support far fewer jobs than during the construction phase and are therefore likely to result in far fewer people moving into the area. Based on the North Falls assessment each wind farm could be expected to require non-local workers during the operational phase. The scale of workers required and the spatial spread of workers across Essex and Suffolk would lead to a negligible magnitude of impact on pressure on health and visitor accommodation.	Wider economic effects related to disruption to shipping and navigation n/a Wider economic effects related to disruption to commercial fishing Chapter 14 Commercial Fisheries (Volume I) presents a CEA. The chapter proposes appropriate mitigation where relevant. Providing these mitigation measures are imposed the anticipated cumulative wider economic effects on shipping form the development of other offshore projects is anticipated to be of low magnitude.	n/a	The tourism, recreation and socio-economics assessment of East Anglia TWO assessed the impact on long term tourism during the operational phase. The assessment identified a negligible effect on long term tourism (Royal HaskoningDHV, 2019a).

Project	Operational phase impacts 1 to 4: Cumulative effects on employment and direct economic benefit	Operational phase impacts 5: Pressure on health and visitor accommodation	Operational phase impacts 7-8: Wider economic effects from disruption to shipping and navigation, fishing	Operational phase impacts 6 and 9: Impacts related to onshore disturbance (noise, air, visual, and traffic) to onshore social and community infrastructure facilities and wider economic effects on minerals and mining	Operational phase impact 10: Volume and value of tourism
East Anglia ONE North Offshore Wind Farm			Wider economic effects related to disruption to shipping and navigation n/a Wider economic effects related to disruption to commercial fishing Chapter 14 Commercial Fisheries (Volume I) presents a CEA. The chapter proposes appropriate mitigation where relevant. Providing these mitigation measures are imposed the anticipated cumulative wider economic effects on shipping form the development of other offshore projects is anticipated to be of low magnitude.	n/a	The tourism, recreation and socio-economics assessment of East Anglia ONE North mirrored the assessment of East Anglia Two stated above (Royal HaskoningDHV, 2019b).

Project	Operational phase impacts 1 to 4: Cumulative effects on employment and direct economic benefit	Operational phase impacts 5: Pressure on health and visitor accommodation	Operational phase impacts 7-8: Wider economic effects from disruption to shipping and navigation, fishing	Operational phase impacts 6 and 9: Impacts related to onshore disturbance (noise, air, visual, and traffic) to onshore social and community infrastructure facilities and wider economic effects on minerals and mining	Operational phase impact 10: Volume and value of tourism
Five Estuaries Offshore Wind Farm			Wider economic effects related to disruption to shipping and navigation No other publicly available offshore wind farm assessment considered in the CEA projects has considered the impact of disruption to shipping and navigation during the construction. This impact is strongly tied to the location of the ports of Felixstowe and Harwich. Given the proximity of Five Estuaries Wind Farm there could be potential for cumulative impacts on disruption to shipping lanes during North Falls' operation. This will be considered in Chapter 14 Shipping and Navigation at the ES stage. It is assumed that the	Disruption related to noise, air quality, traffic and during the operation of Five Estuaries Offshore Wind Farm alongside the cable at landfall is likely to be much lower than disruption experienced during the construction phase of North Falls. There are no social community infrastructure receptors identified within 500m of the onshore substation zone. Although the exact location of the onshore substation of Five Estuaries Offshore Wind Farm and the location of East Anglia GREEN is not yet know it is assumed that they will be close to the onshore substation zone for North Falls and as such there will be no social community infrastructure located within 500 m of any of	No information on the impact on tourism volume and value is available. However the project is anticipated to have a capacity of 300MW and impacts on tourism volume and value would expected to be similar to North Falls.

Project	Operational phase impacts 1 to 4: Cumulative effects on employment and direct economic benefit	Operational phase impacts 5: Pressure on health and visitor accommodation	Operational phase impacts 7-8: Wider economic effects from disruption to shipping and navigation, fishing	Operational phase impacts 6 and 9: Impacts related to onshore disturbance (noise, air, visual, and traffic) to onshore social and community infrastructure facilities and wider economic effects on minerals and mining	Operational phase impact 10: Volume and value of tourism
			additional disruption to shipping and navigation caused by the operation of Five Estuaries Offshore Wind Farm would not change the assessment of the wider economic impact associated with imports and exports transiting through the ports of Felixstowe and Harwich. Wider economic effects related to disruption to commercial fishing Chapter 14 Commercial Fisheries (Volume I) presents a CEA. The chapter proposes appropriate mitigation where relevant. Providing these mitigation measures are imposed the anticipated cumulative wider economic effects on shipping form the development of other offshore projects is	the onshore substations or East Anglia GREEN. A more detailed assessment will be conducted at ES stage once more information about substation locations is available. Following the approach to the assessment as laid out during the construction phase CEA, at this stage cumulative effects related sterilisation of future mineral resources are not considered to increase from what is predicted for North Falls.	

Project	Operational phase impacts 1 to 4: Cumulative effects on employment and direct economic benefit	Operational phase impacts 5: Pressure on health and visitor accommodation	Operational phase impacts 7-8: Wider economic effects from disruption to shipping and navigation, fishing	Operational phase impacts 6 and 9: Impacts related to onshore disturbance (noise, air, visual, and traffic) to onshore social and community infrastructure facilities and wider economic effects on minerals and mining	Operational phase impact 10: Volume and value of tourism
			anticipated to be of low magnitude.		
East Anglia GREEN	There has not been an assessment of jobs or GVA for East Anglia GREEN	n/a	n/a		Insufficient information available at the time of writing
Lake Lothing Third Crossing	There has not been an assessment of jobs or GVA for Lake Lothing Third Crossing. However, the assessment still notes the potential for these projects to produce economic benefits for the local area. Any new information that becomes available post PEIR, will be drawn upon in the production of the ES.	n/a	n/a	n/a	There has not been an assessment on tourism for Lake Lothing Third Crossing.
Sizewell C	The cumulative effect of projects on operational phase employment will be driven mainly by the Sizewell C project. Once fully operational, Sizewell C is	The socio-economics assessment of Sizewell C went into further detail and assessed the project's effects on various indicators related to demographic change (such as pre-school, primary	n/a	n/a	The assessment of Sizewell C does not consider the impact on the overall volume and value of tourism.

Project	Operational phase impacts 1 to 4: Cumulative effects on employment and direct economic benefit	Operational phase impacts 5: Pressure on health and visitor accommodation	Operational phase impacts 7-8: Wider economic effects from disruption to shipping and navigation, fishing	Operational phase impacts 6 and 9: Impacts related to onshore disturbance (noise, air, visual, and traffic) to onshore social and community infrastructure facilities and wider economic effects on minerals and mining	Operational phase impact 10: Volume and value of tourism
	anticipated to support around 900 jobs, to which a further 1,000 temporary jobs will be added every 18-months to support refuelling and/ or maintenance activity. To this, the direct jobs supported by a number of offshore wind farm projects need to be added, which are likely to add up to a few hundred jobs on the basis of the typical requirements of offshore wind farms (but fewer than the direct jobs supported at Sizewell C).	school and secondary school capacity, the provision of social services, County Council-run services, sports facilities, District Council services, policing services in addition to fire and rescue services). Overall, the assessment identified a negligible effect at the Suffolk and/ or district level(s), but minor adverse impact at the ward level. Whilst some disruption/ disturbance to social, community and health infrastructure could be expected, the impact is likely to be localised. Since most in-migration associated with North Falls is likely to be focused on Essex, it is not expected that there will be any overlap in effects. The assessment for Sizewell C identifies a negligible impact on health infrastructure during the projects' operational phase.			

31.8.3.2.1 Cumulative effects on employment and direct economic benefit

421. The CEA for the operational phase assumes the effects from the operational phase of CEA projects will be lower than the effects assessed during the construction phase.

422. On this basis of the information presented in Table 31.59, the overall magnitude of impact on employment during the projects' operational phase is assessed as low. With the sensitivity of the receptor assessed as high, the significance of effect is assessed as moderate beneficial. This is considered to be significant in EIA terms.

423. It is assumed that the impact of increased employment supported as a result of the schemes identified is permanent, long-term and irreversible in nature.

31.8.3.2.2 Cumulative effects on pressure on local onshore infrastructure and services (housing and health)

424. Once operational, most of the projects in the CEA are likely to support far fewer jobs than during the construction phase and are therefore likely to result in far fewer people moving in to the area. Almost all assessments reviewed (with the exception of the socio-economic assessment of Sizewell C) exclude the assessment of the projects' impact on demographics during the operational phase.

425. The assessment for Sizewell C identifies a negligible impact on health infrastructure during the projects' operational phase. The effect of the East Anglia ONE North and THREE projects is anticipated to be of a similar scale to North Falls, but focused on Suffolk rather than Essex.

426. On this basis, the overall magnitude of impact on social, community and health infrastructure during the projects' operational phase (i.e. including North Falls) is assessed as negligible.

427. With the sensitivity of the health infrastructure receptor assessed as high, and the magnitude of effect assessed as negligible, the overall CEA cumulative effect is assessed as minor adverse. This is not considered to be significant in EIA terms.

428. Given the magnitude of impact on accommodation is assessed as low during the operational phase of North Falls the magnitude of impact on cumulative sites including North Falls is also assessed as low. The overall impact of the CEA projects (including North Falls) is therefore assessed as minor adverse. This is not considered to be significant in EIA terms.

31.8.3.2.3 Cumulative effects related to onshore disturbance (noise, air, visual, and traffic) to onshore social and community infrastructure facilities and potential economic impacts associated with effects on minerals resource

429. East Anglia GREEN and Five Estuaries Offshore wind farm overlap with the onshore project and there are a number of other projects that have been scoped out including two housing projects within the LOCAI which have not been included in the CEA due to the small scale of the projects and a battery storage project at Lawford.

430. Based on the limited information at this stage the magnitude of impact assessed as negligible, the overall impact of the CEA projects (including North Falls) is

therefore assessed as negligible. This is not considered to be significant in EIA terms.

431. At this stage cumulative effects related sterilisation of future mineral resources are not considered to increase from what is predicted for North Falls. The assessment of wider economic cumulative effects to businesses operating in the minerals industry is assessed as negligible which is not significant in EIA terms. A more detailed assessment of the impacts will be considered within the CEA in the ES when more information is available.

31.8.3.2.4 Cumulative effect on the volume and value of tourism

432. Of the projects considered alongside North Falls as part of the cumulative assessment, only the assessment of the East Anglia ONE North and East Anglia TWO schemes have considered the project's effect on the volume and value tourism (by assessing the effect on tourism employment). Overall, the assessment found that construction activity may have the negligible effects on tourism long term tourism. This is consistent with the assessment of North Falls and the wider evidence base considered.

433. Given the evidence base presented in the assessment of North Falls and the cumulative projects potential tourism impacts, the cumulative effects are also predicted to be negligible.

434. With the sensitivity of the tourism receptor assessed as high for the study area, and the magnitude of impact assessed as negligible, the cumulative effect is therefore assessed as minor adverse during operation, which is not considered to be significant in EIA terms.

31.8.3.2.5 Other cumulative effects (Wider economic effects from disruption to shipping and navigation, fishing and effects on minerals)

435. The sensitivity of the fishing industry is assessed as medium, and it assumed there would be at most a low magnitude of economic effects associated with potential disruption to fishing. Chapter 14 Commercial Fisheries (Volume I) notes a number of mitigation measures relevant for mitigating potential disruption to commercial fishing during the operational phase. It is assessed that cumulative effects on shipping will be of minor adverse significance.

436. It is assumed that the additional disruption to shipping and navigation caused by the operation of Five Estuaries offshore wind farm would not change the assessment of the wider economic impact associated with imports and exports transiting through the ports of Felixstowe and Harwich.

437. With the sensitivity of the disruption to port infrastructure receptor assessed as high, and the magnitude of impact assessed as negligible, the overall impact of the CEA projects (including North Falls) is therefore assessed as minor adverse. This is not considered to be significant in EIA terms.

31.9 Interactions

438. This section establishes the interactions between socio-economics and other physical, environmental and human receptors. The objective is to identify where the accumulation of effects on a single receptor may result in the need for additional mitigation measures.

439. Table 31.62 below summarises the inter-relationships that are considered of relevance to socio-economics, and identifies where these have been considered within this assessment.

Table 31.62 Socio-economic interactions

Topic and description	Related chapter (Volume I)	Where addressed in this chapter	Rationale
Construction			
Direct economic benefit (supply chain) onshore	n/a	n/a	No additional inter-related effects on direct economic benefit (supply chain) during construction have been identified that would change the standalone assessment from minor beneficial.
Direct economic benefit (supply chain) offshore			
Employment onshore			No additional inter-related effects on employment during construction have been identified that would change the standalone assessment from minor beneficial.
Employment offshore			
Pressure on local onshore infrastructure and services (housing and health)	Chapter 32 Tourism and Recreation	See Section 31.6.1.5 of this assessment.	The influx of construction workers requiring serviced accommodation has the potential to impact on the demand for visitor accommodation used to house the construction workers, and therefore has potential to displace a small number of visitors should visitor accommodation become fully occupied. No additional inter-related effects on local onshore infrastructure and services (housing and health) during construction have been identified that would change the standalone assessment from minor beneficial.
Disturbance (noise, air, visual, and traffic) to	Chapter 20 Air Quality	See Section 31.6.1.6 of the assessment.	Potential impacts related to noise, air quality,

Topic and description	Related chapter (Volume I)	Where addressed in this chapter	Rationale
onshore social and community infrastructure facilities	Chapter 26 Noise and Vibration Chapter 27 Traffic and Transport Chapter 30 Landscape Visual Impact Assessment		visuals and traffic have potential to impact on the area's community infrastructure. This is assessed in full within the Section 31.6.1.6.
Wider economic effects from disruption to shipping and navigation	Chapter 15 Shipping and Navigation	See Section 31.6.1.7 of the assessment.	Potential to disruption to shipping and navigation has the potential to impact on the wider economic benefits of local ports. This is assessed in full within the Section 31.6.1.7.
Wider economic effects from disruption to fishing	Chapter 14 Commercial Fisheries	See Section 31.6.2.9 of the assessment.	Potential to disruption to the fishing industry has potential to impact on the economic benefits associated with the fishing industry. This is assessed in full within the Section 31.6.2.9.
Wider economic effects related to minerals	Chapter 19 Ground Conditions	See Section 31.6.1.9 of the assessment.	Potential sterilisation of mineral resources has potential to impact on the economic benefits associated with the mineral extraction industry. This is assessed in full within the Section 31.6.1.9.
Volume and value of tourism	Chapter 32 Tourism and Recreation	See Section 31.6.1.10 of the assessment.	The effects on tourism receptors assessed in the tourism and recreation assessment have potential to influence the volume and value of tourism. This is assessed within Section 31.6.1.10.

Topic and description	Related chapter (Volume I)	Where addressed in this chapter	Rationale
Operation			
Direct economic benefit (supply chain) onshore	n/a	n/a	No additional inter-related effects on direct economic benefit (supply chain) during the operational phase have been identified that would change the standalone assessment from minor beneficial.
Direct economic benefit (supply chain) offshore			
Employment onshore			No additional inter-related effects on employment during the operational phase have been identified that would change the standalone assessment from minor beneficial.
Employment offshore			
Pressure on local onshore infrastructure and services (housing and health)	n/a	n/a	No additional inter-related effects on local onshore infrastructure and services (housing and health) during the operational phase have been identified that would change the standalone assessment from minor adverse for health and moderate adverse for housing.
Disturbance (noise, air, visual, and traffic) to onshore social and community infrastructure facilities	Chapter 20 Air Quality	See Section 31.6.2.7 of the assessment.	Potential impacts during the operational phase related to noise, air quality and traffic have potential to impact on the area's community infrastructure. This is assessed in full within the Section 31.6.1.6.
	Chapter 26 Noise and Vibration		
	Chapter 27 Traffic and Transport		
	Chapter 30 Landscape Visual Impact Assessment		
Wider economic effects from disruption to shipping	Chapter 15 Shipping and Navigation	See Section 31.6.2.8 of the assessment.	Potential to disruption to shipping and navigation has the potential to impact on the wider economic benefits of local ports.

Topic and description	Related chapter (Volume I)	Where addressed in this chapter	Rationale
			This is assessed in full within the Section 31.6.2.8.
Wider economic effects from disruption to fishing	Chapter 14 Commercial Fisheries	See Section 31.6.2.9 of the assessment.	Potential to disruption to the fishing industry has potential to impact on the economic benefits associated with the fishing industry. This is assessed in full within Section 31.6.2.9.
Wider economic effects related to minerals	Chapter 19 Ground Conditions	See Section 31.6.2.10 of the assessment.	Potential sterilisation of mineral resources has potential to impact on the economic benefits associated with the mineral extraction industry. This is assessed in full within the Section 31.6.2.10.
Volume and value of tourism	Chapter 32 Tourism and Recreation	See Section 31.6.2.11 of the assessment.	The effects on tourism receptors assessed in the tourism and recreation assessment have potential to influence the volume and value of tourism. This is assessed within Section 31.6.2.11.
Decommissioning			
Potential effects associated with the decommissioning phase are currently unknown. However, they should be of similar nature to but no greater in terms of significance than those identified for the construction phase.			

31.10 Inter-relationships

440. The effects identified and assessed in this chapter have the potential to inter-relate with each other. The areas of potential inter-relationships between effects are presented in Table 31.63.

441. Within Table 31.64 the effects are assessed relative to each development phase (Phase assessment, i.e. construction, the operational phase or decommissioning) to see if (for example) multiple construction impacts affecting the same receptor could increase the level of effect significance upon that receptor. Following this, a lifetime assessment is undertaken which considers the potential to affect receptors across all development phases.

Table 31.63 Inter-relationships socio-economic between impacts - screening

Potential interaction between impacts										
Construction and operational phases										
	Direct economic benefit (supply chain) onshore	Direct economic benefit (supply chain) offshore	Employment onshore	Employment offshore	Pressure on local onshore infrastructure and services (housing and health)	Disturbance (noise, air, visual, and traffic) to onshore social and community infrastructure facilities	Wider economic effects from disruption to shipping and navigation	Wider economic effects from disruption to fishing	Wider economic effects related to minerals	Value and volume of tourism
Direct economic benefit (supply chain) onshore		Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes
Direct economic benefit (supply chain) offshore	Yes		Yes	Yes	No	No	Yes	Yes	Yes	Yes
Employment onshore	Yes	Yes		Yes	Yes	Yes	No	No	No	Yes
Employment offshore	Yes	Yes	Yes		Yes	No	No	No	No	Yes
Pressure on local onshore infrastructure and services (housing and health)	No	No	Yes	Yes		No	No	No	No	No
Disturbance (noise, air, visual, and	No	No	Yes	No	No		No	No	No	No

Potential interaction between impacts										
traffic) to onshore social and community infrastructure facilities										
Wider economic effects from disruption to shipping and navigation	Yes	Yes	No	No	No	No		No	No	No
Wider economic effects from disruption to fishing	Yes	Yes	No	No	No	No	No		No	No
Wider economic effects related to minerals	Yes	Yes	No	No	No	No	No	No		No
Volume and value of tourism	Yes	Yes	Yes	Yes	No	No	No	No	No	
Decommissioning										
It is anticipated that the impacts associated with decommissioning of North Falls will be similar in nature, but lower than, those identified for the construction phase of North Falls.										

Table 31.64 Inter-relationship between impacts – phase and lifetime assessment

Receptor	Highest significance level			Phase Assessment	Lifetime Assessment
	Construction	Operational phase	Decommissioning		
Direct economic benefit (supply chain) onshore	Negligible	Negligible	Negligible	No greater than individually assessed impact Investment will generate economic benefits at all local and national levels.	No greater than individual assessed impact. It is estimated that the construction, the operational phase and decommissioning of North Falls will generate: • Direct economic benefit (supply chain) onshore: £19-£48 million GVA at the Essex level, and to £179-£201 million GVA nationally. • Direct economic benefit (supply chain) offshore: £278-£299 million GVA at the Suffolk and Essex level, and to £601-£925 million GVA nationally. • Employment onshore: 220-540 jobs at the Essex level, and to 2,050-2,250 jobs nationally. • Employment offshore: 2,680-2,830 at the Essex and Suffolk level, and to 3,790-9,000 jobs nationally. Although benefits created at each stage, different groups will be employed at different stages. The bulk of the onshore GVA and jobs created will be during the construction phase.
Direct economic benefit (supply chain) offshore	Negligible	Negligible	Negligible		
Employment onshore	Negligible	Negligible	Negligible		
Employment offshore	Negligible	Negligible	Negligible		
Pressure on local onshore infrastructure and services (housing and health)	Negligible	Negligible	Negligible	No greater than individual assessed impact.	No greater than individual assessed impact.

Receptor	Highest significance level			Phase Assessment	Lifetime Assessment
	Construction	Operational phase	Decommissioning		
Disturbance (noise, air, visual, and traffic) to onshore social and community infrastructure facilities	Negligible	Negligible	Negligible	No greater than individual assessed impact.	No greater than individual assessed impact.
Wider economic effects from disruption to shipping and navigation	Negligible	Negligible	Negligible	No greater than individual assessed impact.	No greater than individual assessed impact.
Wider economic effects from disruption to fishing	Negligible	Negligible	Negligible	No greater than individual assessed impact.	No greater than individual assessed impact.
Wider economic effects related to minerals	Negligible	Negligible	Negligible	No greater than individual assessed impact.	No greater than individual assessed impact.
Volume and value of tourism	Negligible	Negligible	Negligible	No greater than individual assessed impact.	No greater than individual assessed impact.

31.11 Summary

442. This chapter has provided a characterisation of the existing environment for socio-economics based on existing data, which has established that there will be a range of residual impacts on socio-economics during construction, operational and decommissioning phases of North Falls.

443. Potential impacts for North Falls are summarised in Table 31.65.

444. This shows that Suffolk, Essex and the UK has the potential for minor beneficial effects through increased employment opportunities and direct economic benefit. It should be noted that an Outline Skills and Employment Plan will be submitted as part of the North Falls DCO application and secured through a DCO Requirement. This has not been included in the PEIR socio-economics chapter.

445. It is predicted that an increase in the local population due to change in demographics will occur as result of the development of North Falls. It is predicted that a number of related minor adverse impacts will occur as a result of the increase in non-local workers temporarily moving into the area and workers moving into the area permanently during the operational phase. In addition, minor adverse effects are predicted on the tourism economy. These minor adverse effects are not considered to be significant.

Table 31.65 Summary of likely significant effects on socio-economics

Potential impact	Receptor	Sensitivity	Magnitude of impact	Pre-mitigation effect	Additional mitigation measures	Residual effect
Construction						
Direct economic benefit (supply chain) onshore	Economy	High	Negligible (UK and local)	Minor beneficial	N/A	Minor beneficial
Direct economic benefit (supply chain) offshore	Economy	High	Negligible (UK and local)	Minor beneficial	N/A	Minor beneficial
Employment onshore	Economy	Medium (local) High (UK)	Negligible (UK and local)	Minor beneficial	N/A	Minor beneficial
Employment offshore	Economy	Medium (local) High (UK)	Negligible (UK and local)	Minor beneficial	N/A	Minor beneficial
Pressure on local onshore infrastructure and services (health)	Health infrastructure	Health - High	Health infrastructure – Negligible	Health infrastructure – Minor adverse	N/A	Health infrastructure – Minor adverse
Disturbance (noise, air, visual, and traffic) to onshore social and community infrastructure facilities	Social and community infrastructure	Medium	Negligible (LOCAI) note this assessment assumes additional mitigation measures identified in other topic chapters are implemented.	N/A	Mitigation related to noise, traffic, visuals and air quality is identified in the relevant topic chapters.	Minor adverse (LOCAI)

Potential impact	Receptor	Sensitivity	Magnitude of impact	Pre-mitigation effect	Additional mitigation measures	Residual effect
					Including use of best practice mitigation measures for relevant topics such as submission of a Construction Environmental Management Plan and reducing peak LV and HGV.	
Wider economic effects from disruption to shipping and navigation	Imports and exports	Medium	Low	Minor adverse	N/A	Minor adverse
Wider economic effects from disruption to fishing	Volume and value of fishing catch	High	Negligible	Minor adverse	Mitigation detailed within Chapter 14 Commercial Fisheries (Volume I) is considered in the assessment	Minor adverse
Wider economic effects related to minerals	Mineral resources	Medium	Negligible	Minor adverse	Use of best practice mitigation	Minor adverse

Potential impact	Receptor	Sensitivity	Magnitude of impact	Pre-mitigation effect	Additional mitigation measures	Residual effect
					measures for relevant topics.	
Volume and Value of tourism	Tourism economy	High	Negligible	Minor adverse	N/A	Minor adverse
Operation						
Direct economic benefit (supply chain) onshore	Economy	High	Negligible (UK and local)	Minor beneficial	N/A	Minor beneficial
Direct economic benefit (supply chain) offshore	Economy	High	Negligible (UK and local)	Minor beneficial	N/A	Minor beneficial
Employment onshore	Economy	Medium (local) High (UK)	Negligible (UK and local)	Minor beneficial	N/A	Minor beneficial
Employment offshore	Economy	Medium (local) High (UK)	Negligible (UK and local)	Minor beneficial	N/A	Minor beneficial
Pressure on local onshore infrastructure and services (accommodation and health)	Health infrastructure and accommodation	Health - high Private rented housing – medium Owner occupied housing - medium	Health infrastructure – Negligible Accommodation – negligible	Health infrastructure - minor adverse Private rented housing – minor adverse Owner occupied housing – minor adverse	N/A	Health infrastructure - minor adverse Private rented housing – minor adverse Owner occupied housing – minor adverse

Potential impact	Receptor	Sensitivity	Magnitude of impact	Pre-mitigation effect	Additional mitigation measures	Residual effect
Disturbance (noise, air, visual, and traffic) to onshore social and community infrastructure facilities	Social, community and health infrastructure	Medium	Negligible	Minor adverse	Use of best practice mitigation measures for relevant topics.	Minor adverse
Wider economic effects from disruption to shipping and navigation	Imports and exports	High	Negligible	Minor adverse	N/A	Minor adverse
Wider economic effects from disruption to fishing	Volume and value of fishing catch	High	Negligible	Minor adverse	Mitigation detailed within Chapter 14 Commercial Fisheries (Volume I) is considered in the assessment	Minor adverse
Wider economic effects related to minerals	Mineral resources	Medium	Negligible	Minor adverse	Use of best practice mitigation measures for relevant topics.	Minor adverse
Volume and Value of tourism	Tourism economy	High	Negligible	Minor adverse	N/A	Minor adverse
Decommissioning						

Potential impact	Receptor	Sensitivity	Magnitude of impact	Pre-mitigation effect	Additional mitigation measures	Residual effect
Given the uncertainty associated with the approach to decommissioning and the position of the sector nationally and locally, a detailed assessment of this phase has not been undertaken. Based on the scale of economic benefits predicted decommissioning impacts of North Falls are anticipated to be no worse/ better than the impacts identified during the operational and construction phases.						

31.12 References

BBC (2022). Port of Felixstowe [Online]. Available from: https://www.bbc.co.uk/news/uk-england-suffolk-62582931
BEIS (2020) Offshore wind Sector Deal – one year on [Online]. Available from: https://www.gov.uk/government/publications/offshore-wind-sector-deal/offshore-wind-sector-deal-one-year-on
BEIS (2021a). Net Zero Strategy: Build Back Greener
BEIS (2021b). The Draft National Policy Statement for Energy
BEIS (2021c). The Draft National Policy Statement for Renewable Energy Infrastructure
BEIS (2021d). The Draft National Policy Statement for Electricity Networks Infrastructure
BEIS (2022a). Energy Trends: UK renewables. Renewable electricity capacity and generation (ET 6.1 – quarterly, Annual 2021 Figure) [Online]. Available from: https://www.gov.uk/government/statistics/energy-trends-section-6-renewables
Biggar Economics (2020). East Anglia ONE North and East Anglia TWO Offshore Windfarms Applicants' Responses to Examining Authority's Written Questions Appendix 13 Tourism Impact Review. Online] Available from: biggareconomics.co.uk/offshore-wind-farm-construction-and-tourism#:~:text=This%20study%20found%20that%20the%20construction%20of%20an,farm%20does%20not%20impact%20the%20local%20tourism%20economy.
East of England forecasting model, Cambridgeshire Insights (2019). [Online] Available from: https://cambridgeshireinsight.org.uk/EEFM/
Coast to Capital LEP, SELEP, Enterprise M3 (2019). South2East Local Energy Strategy [Online] Available from: https://www.coast2capital.org.uk/storage/downloads/energy_south2east_-_energy_strategy-1554122644.pdf
Crown Estates (2019) Guide to an offshore wind farm.
DECC (2011a). National Policy Statement for Electricity Networks Infrastructure (EN-5).
DECC (2011b). National Policy Statement for Renewable Energy Infrastructure (EN-3).
DECC (2011c). Overarching National Policy Statement for Energy (EN-1).
Department for Education (2020a). Employer skills survey. [Online] Available from: https://www.gov.uk/government/collections/employer-skills-survey-2019
Department for Education (2021). Data on school inspections [Online]. Available from: https://www.gov.uk/government/news/school-inspection-results-show-positive-picture-despite-pressures-of-pandemic
Department for Education (2022). Participation in education, training and NEET age 16-17 by local authority [Online]. Available from: https://explore-education-

statistics.service.gov.uk/find-statistics/participation-in-education-training-and-neet-age-16-to-17-by-local-authority/2021-22
Department of Health & Social Care (2022). The Handbook to the NHS Constitution for England [Online]. Available from: https://www.gov.uk/government/publications/supplements-to-the-nhs-constitution-for-england/the-handbook-to-the-nhs-constitution-for-england
East Suffolk Council (Suffolk Coastal) (2018). Suffolk Coastal Spatial Strategy [Online]. Available from: https://www.eastsuffolk.gov.uk/assets/Planning/Planning-Policy-and-Local-Plans/Suffolk-Coastal-Local-Plan/Adopted-Suffolk-Coastal-Local-Plan/East-Suffolk-Council-Suffolk-Coastal-Local-Plan.pdf
East Suffolk Council (Waveney) (2019a). Waveney Local Plan [Online]. Available from:https://www.eastsuffolk.gov.uk/assets/Planning/Waveney-Local-Plan/Adopted-Waveney-Local-Plan-including-Erratum.pdf
East Suffolk Council (2019b). Climate Commitment [Online]. Available from: https://www.eastsuffolk.gov.uk/assets/Environment/Environment-Guidance/Environmental-Guidance-Note.pdf
East Suffolk Council (2020a). East Suffolk Council Environmental Guidance Note [Online]. https://www.eastsuffolk.gov.uk/assets/Environment/Environment-Guidance/Environmental-Guidance-Note.pdf
East Suffolk Council (2020b). East Suffolk Strategic Plan
Essex Climate Action Commission (2021). Net Zero: Making Essex Carbon Neutral Commission Report [Online] Available from: https://www.essexclimate.org.uk/sites/default/files/DS21_7178%20ECAC_Commission_Report-Final.pdf
Essex County Council (2020a). Essex Green Infrastructure Strategy [Online] Available from: https://downloads.ctfassets.net/knkzaf64jx5x/35jhjEoQZAc4f7bwGyLa38/fc90fbc551987449004793 0aae371036/Essex_Green_Infrastructure_strategy.pdf
Essex County Council (2020b). Essex construction skills report.
Essex County Council (2021a). Everyone's Essex [Online]. Available from: https://beta.essex.gov.uk/plans-and-strategies/everyones-essex
Essex County Council (2021b). Levelling Up Essex Strategy[Online]. Available from:https://beta.essex.gov.uk/plans-and-strategies/levelling-up-essex-strategy
Essex County Council (2021c). Sector Development Strategy [Online]. Available from: https://beta.essex.gov.uk/plans-and-strategies/sector-development-strategy
Essex County Council (2021d). Climate Action [Online]. Available from: https://beta.essex.gov.uk/plans-and-strategies/climate-action
Essex County Council (2021e). Tendring Primary School Consultation [Online]. Available from: https://consultations.essex.gov.uk/school-organisation/tendring-expansion/#:~:text=Working%20in%20partnership%20with%20the%20senior%20leadership%20team,its%20Reception%20Year%20going%20forward%20from%20that%20date.

Essex County Council (2021f). Cambridge Econometrics Projections for Essex. [Online]. Available from: https://data.essex.gov.uk/dataset/23p73/cambridge-econometrics-projections-for-essex
Essex County Council (2022a). The Annual Plan [Online]. Available from: https://beta.essex.gov.uk/plans-and-strategies/annual-plan-2022-to-2023
Essex County Council (2022b). Essex Green Infrastructure Review [Online]. Available from: https://beta.essex.gov.uk/plans-and-strategies/essex-green-skills-infrastructure-review
Essex County Council (2022c). Essex Skills Plan 2022-2023 [Online]. Available from: https://www.essex.gov.uk/plans-and-strategies/essex-skills-plan#:~:text=Essex%20Skills%20Plan%20Our%20Essex%20Skills%20Plan%20%28PDF%2C,enable%20us%20and%20our%20partners%20to%20achieve%20this.
Freeport East (2021). Our vision for Freeport East [Online]. Available from: https://www.freeporteast.com/
Google Maps (2022) [Online]. Available from: https://www.google.com/maps/d/u/0/edit?mid=1HpI7ve5HdfySBC4LQwYvT873_1frsyY&ll=51.82463244171537%2C1.23035230302182&z=16
Glasgow Caledonian University (2008) The Economic Impact of Wind Farms on Scottish Tourism: A report for the Scottish Government.
Harwich Haven Authority (2022). Harwich Haven [Online]. Available from: https://hha.co.uk/
Health and Safety Executive (2022). Health and safety statistics. Available from: https://www.hse.gov.uk/statistics/index.htm
HM Government (2011). UK Marine Policy Statement.
HM Government (2017a). The Clean Growth Strategy
HM Government (2017b). UK Industrial Strategy
HM Government (2018) Offshore Wind Sector Deal
HM Government (2020a). Energy white paper: Powering our net zero future.
HM Government (2020b). Ten Point Plan for Green Industrial Revolution
HM Government (2021a). Build Back Better: Our Plan for Growth
HM Government (2021b). Net Zero Review
HM Government (2021c). National Planning Policy Framework
HM Government (2021d). Skills for Jobs: Lifelong learning for Opportunity and Growth
HM Government (2022a). Levelling Up the United Kingdom: Executive Summary
HM Government (2022b). British Energy Security Strategy
Hutchinson Ports Harwich International (2023). www.harwich.co.uk

Ipsos MORI (2014) Public Attitudes to Science Report by Ipsos MORI for the Department for Business, Innovation and Skills and the Economic Social Research Council.
Land Registry (2022). Price Paid Data [Online]. Available from: https://landregistry.data.gov.uk/
London Healthy Urban Development Unit (2019). Patient per GP recommendation.
Ministry of Housing, Communities & Local Government (2019). Index of Multiple Deprivation.
NALEP (2014). New Anglia Strategic Economic Plan
NALEP (2018). Energy sector skills plan
NALEP (2020). Covid-19 Economic Recovery Restart Plan.
NALEP (2021). The Energy Sector Recovery and Resilience Plan
NALEP (2022a). Skills Advisory Panel Report.
NALEP (2022b). Norfolk & Suffolk Economic Strategy.
NALEP (2022c). 2022/23 LEP Business plan. [Online]. Available from: https://newanglia.co.uk/wp-content/uploads/2022/03/New-Anglia-LEP-Business-Plan-2022-REV-070322.pdf
NHS Digital (2022). General practice workforce data. [Online]. Available from: https://digital.nhs.uk/data-and-information/publications/statistical/general-and-personal-medical-services
NHS England (2022a). November 2022 A&E patient waiting times [Online]. Available from: https://www.england.nhs.uk/statistics/statistical-work-areas/ae-waiting-times-and-activity/
NHS England (2022b). November 2022 Ambulance service quality indicators [Online]. Available from: https://www.england.nhs.uk/statistics/statistical-work-areas/ambulance-quality-indicators/
NHS Suffolk and North-East integrated care board area (2022). [Online]. Available from: https://suffolkandnortheastessex.icb.nhs.uk/your-health-and-services/primary-care-gps/primary-care-networks/
Norfolk and Suffolk Unlimited (2020). Local Industrial Strategy [Online]. Available from: https://newanglia.co.uk/wp-content/uploads/2020/03/New-Anglia_NSU_Local-Industrial-Strategy-Exec-Summary-FINAL-1.pdf.

North Essex Economic Board (2019). The North Essex Economic Strategy. [Online]. Available from: https://www.colchester.gov.uk/info/cbc-article/?catid=latest-news&id=KA-02927
North Falls (2022). Design Vision.
NPPF (2021). National Planning Policy Framework.
OBR (2022). Overview of the November 2022 Economic and fiscal outlook.
Observatory of economic complexity (OEC) (2022). Felixstowe. [Online]. Available from: https://oec.world/en/profile/subnational_gbr/felixstowe?redirect=true
ONS (2019), Index of Multiple Deprivation
ONS (2020). 2018-based Subnational Population Projections.
ONS (2021). Annual mid-year population estimates, estimated components of population change for the United Kingdom, by local authority prior to April 2021.
ONS (2022a). 2021 Census, TS007 - Age by single year.
ONS (2022b). Mid-Year Population Estimates.
ONS (2022c). Business Register and Employment Survey.
ONS (2022d), Regional gross value added (balanced) per head and income components
ONS (2022d). Regional gross value added (GVA) (balanced) by industry: all International Territorial Level (ITL) regions
ONS (2022e), APS.
ONS (2022f), Claimant Count
ONS (2022g), Annual survey of hours and earnings
ONS (2022h). School and College performance data in England
ONS (2022i). Council tax: Stock of properties [Online] Available from: https://www.gov.uk/government/statistics/council-tax-stock-of-properties-2022
ONS (2022j). Census 2021: Number of Households [Online] Available from: https://www.ons.gov.uk/releases/housingcensus2021inenglandandwales

Oxford Economics (2013). Study on the economic contribution of the UK ports industry [Online]. Available from: https://www.britishports.org.uk/content/uploads/2015/06/ports_the_economic_impact_of_the_uk_maritime_services_sector.pdf
Port of Felixstowe (2022).
Royal HaskoningDHV (2019a). East Anglia TWO Offshore Windfarm Chapter 30 Tourism, Recreation and SocioEconomics. [Online]. Available from: EN010078-001103-6.1.30 EA2 Environmental Statement Chapter 30 Tourism, Recreation and Socio-Economics.pdf (planninginspectorate.gov.uk)
Royal HaskoningDHV (2019b). East Anglia ONE North Offshore Windfarm Chapter 30 Tourism, Recreation and SocioEconomics. [Online]. Available from: EN010077-001535-6.1.30 EA1N Environmental Statement Chapter 30 Tourism, Recreation and Socio-Economics.pdf (planninginspectorate.gov.uk)
RWE (2023). [Online]. Available from: Consultation – Five Estuaries
Seafish. (2021). Performance of the UK fishing fleet. [Online] Available from: https://www.seafish.org/insight-and-research/fishing-data-and-insight/
Scottish Power Renewables (2020) East Anglia ONE North and East Anglia TWO Offshore Windfarms, Appendix 13 Tourism Impact Review.
Scottish Power Renewable (2023a). [Online]. Available from: East Anglia ONE North - ScottishPower Renewables
Scottish Power Renewable (2023b). [Online]. Available from: East Anglia TWO - ScottishPower Renewables
SELEP (2018). Skills Strategy.
SELEP (2021a). Economic Recovery and Renewal Strategy
SELEP (2021b). Skills Report.
Success Essex Board (2020). The Essex Prosperity and Productivity Plan [Online]. Available from: https://www.successessex.co.uk/files/f0914-Prosperity%20and%20Productivity%20Plan%20v.5.pdf

Suffolk County Council (2019). The Climate Emergency Declaration [Online]. Available from: https://www.suffolk.gov.uk/assets/planning-waste-and-environment/Pledge-to-climate-emergency-declaration/Suffolk-Climate-Emergency-Plan.pdf
Suffolk County Council (2021a). The Climate Emergency Plan.
Suffolk County Council (2021b). Energy Infrastructure Policy.
Suffolk County Council (2022a). Corporate Strategy
Suffolk County Council (2022b). The Annual action plan.
Suffolk Growth (2020). Suffolk's Inclusive Growth Framework
Suffolk Growth (2022). Technical Skills Legacy Report.
Tendring District Council (2017). Tendring Local Plan
Tendring District Council (2020a). Corporate Plan.
Tendring District Council (2020b). Tendring Economic Development Strategy
Tendring District Council (2020c). Tendring Climate emergency action plan
Tendring Technology College (2022). Capacity Data [Online]. Available from: https://www.getthedata.com/school/tendring-technology-college-137188#:~:text=Tendring%20Technology%20College%20%28Frinton-on-Sea%29%20data%20Tendring%20Technology%20College,and%20the%20type%20of%20establishment%20is%20academy%20converter.
Tendring District Council. (2021). Tourism Strategy for Tendring 2021-2026. [Online]. Available at: https://tdcdemocracy.tendringdc.gov.uk/documents/s33219/A8%20Appendix%20Draft%20Tourism%20Strategy%202021%202026.pdf.
UK Property Data (2022) [Online]. Available from: https://propertydata.co.uk/local-data
University of the West of England (2004) Fullabrook Wind Farm Proposal Evidence of the impact of wind farms on tourism numbers and tourist experience for North Devon Wind Power.

Visit Britain. (2016). Accommodation Stock Audit. [Online]. Available at: https://www.visitbritain.org/accommodation-stock.

Visit Essex. (Various from 2018 to 2020). Economic Impact of Tourism. [Online]. Available at: https://www.visitessex.com/dbimgs/Economic%20Impact%20of%20Tourism%20-%20%20Essex%20Report%202018.pdf. (2018 version)