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20. Socio-economics and Tourism

20.1 Introduction

- 20.1.1 This chapter of the Environmental Statement (ES) addresses the potential effects of the Proposed Development on employment, local businesses and the local population during both the construction, operation and decommissioning phases.

20.2 Legislation and Planning Policy Context

Policy Context

National Energy Policy

National Policy Statements for energy infrastructure (2011)

- 20.2.1 The National Policy Statement (NPS) for energy infrastructure set out the Government's policy for delivery of major energy infrastructure.
- 20.2.2 The National Policy Statement for Energy (NPS EN-1) identifies that 'information on the likely significant social and economic effects of the development' should be set out alongside 'how any likely significant negative effects would be avoided or mitigated'. Impacts should be assessed at local or regional levels and cumulative effects should also be considered. The National Policy Statement for Renewable Energy (NPS EN-3) identifies that corridors should be identified for cables and on-shore electricity substations, with the Environmental Impact Assessment (EIA) to capture the impacts of this infrastructure within that corridor.

National Planning Policy

National Planning Policy Framework (2019)

- 20.2.3 The National Planning Policy Framework (NPPF) (Ministry of Housing, Communities and Local Government, 2019) requires local authorities to set out a clear economic vision and strategy for their area which encourages sustainable economic growth. It states that planning policies should help create the conditions in which businesses can invest, expand and adapt.
- 20.2.4 Paragraph 8 of the NPPF states that to achieve sustainable development and support a competitive economy, the following economic objective should be delivered: *"ensuring that sufficient land of the right types is available in the right places and at the right time to support growth, innovation and improved productivity; and by identifying and coordinating the provision of infrastructure."*
- 20.2.5 Paragraph 82 of the NPPF states that planning policies should "recognise and address the specific locational requirements of different sectors. This includes making provision for clusters or networks of knowledge and data-driven, creative or high technology industries; and for storage and distribution operations at a variety of scales and in suitably accessible locations."

- 20.2.6 Paragraph 148 of the NPPF states that “the planning system should support the transition to a low carbon future in a changing climate... and support renewable and low carbon energy and associated infrastructure.”

The UK’s Draft Integrated National Energy and Climate Plan (2019)

- 20.2.7 In 2019, the UK Government set out the dimensions of the country’s ‘Energy Union’, establishing direction of energy policy for the country. The five dimensions of the National Energy and Climate Plan are:

- decarbonisation;
- energy efficiency;
- energy security;
- internal energy market; and
- research, innovation and competitiveness.

Regional Planning Policy

Tees Valley Combined Authority Strategic Economic Plan 2016 – 2026 (2016)

- 20.2.8 The Tees Valley Strategic Economic Plan sets out the priorities for economic growth in the Tees Valley area. By 2026, the Combined Authority aim to create 26,000 additional jobs and grow the Tees Valley economy by £2.8 billion. The process, chemicals and energy sector is one of seven priority sectors identified as having the potential for further growth in the Tees Valley. The Strategic Economic Plan is focussed around six themes which reflect the main priorities over the ten-year plan period. This includes ‘*research, development, innovation and energy*’ where the aim is to ‘*introduce new processes and practices which reduce carbon emissions, increase productivity and the availability of high value jobs.*’ This includes carbon capture and storage.

Local Planning Policy

- 20.2.9 In the Proposed Development Study Area (defined in Section 20.3: Assessment Methodology and Significance Criteria, planning policy regarding socio-economics are made by Redcar and Cleveland Borough Council (RCBC) and Stockton-on-Tees Borough Council (STBC). Relevant planning policies by the councils have been considered in the following section.

Redcar and Cleveland Local Plan (2018a)

- 20.2.10 A key issue identified in the Local Plan is the fragility of the economic landscape and a need for jobs to be generated in the private sector. The Local Plan indicates future growth is likely to be driven by low carbon technologies and manufacturing, energy and food security and an efficient use of natural resources.

- 20.2.11 The Local Plan indicates that creating local employment opportunities is key to delivering economic growth. The decline of the traditional steel and chemical industries has impacted on many communities in Redcar and Cleveland leading to areas of deprivation and a declining population.

- 20.2.12 The Local Plan allocates land for specialist employment uses. The South Tees area including the Wilton International site (ED6.1) focusses on heavy processing industries and port logistics with support for development proposals falling within Use Classes B1, B2, B8 and suitable employment related *sui generis* uses.
- 20.2.13 The Local Plan places focus on the role of the South Tees Development Corporation (STDC). The Local Plan states that “*this substantial area of economic opportunity*” will “*drive economic growth and regeneration*” in the area.
- South Tees Area Supplementary Planning Document (2018)*
- 20.2.14 The South Tees Area Supplementary Planning Document (SPD; Redcar & Cleveland Borough Council, 2018b) supports the economic and physical regeneration of the South Tees Area. The SPD indicates that developments of this scale in the South Tees Area presents a significant opportunity to grow the economy of the Tees Valley and enhance its profile as a centre for industrial excellence. The SPD aims to create up to 20,000 new jobs in the South Tees Area with a focus on higher skilled sectors and occupations.
- 20.2.15 Objectives of the SPD include the priority of uses aligned with a low carbon, circular economy and uses connected with manufacturing and advanced and new technologies. The Site is identified in the SPD as being suitable for manufacturing and energy uses.
- Stockton-on-Tees Local Plan (2019)*
- 20.2.16 A Strategic Priority set out in the Stockton-on-Tees Local Plan is to ‘encourage economic growth, job creation and a more entrepreneurial culture within the Borough, as a means of diversifying the economic base and strengthening existing economic strengths, clusters and sectors’. The Plan also indicates that sufficient employment sites to ensure economic growth including in particular, the use of previously developed or under-used land.
- Marine and Coastal Access Act (2009)*
- 20.2.17 The Marine and Coastal Access Act (MCAA) is the basis upon which the Marine Management Organisation (MMO) determine marine licensing determinations. As the Proposed Development will require works within the UK Marine Area (Section 42, MCAA), a Marine Licence will be sought from the MMO. Whether this is ‘Deemed’ part of the Development Consent Order (DCO) (the preferred option) or ‘standalone’, in reaching a determination, the MMO must consider several factors associated with marine works, including their potential to interfere with legitimate uses of the sea (Section 69, MCAA).
- 20.2.18 The MCAA sets out the legislative framework for the application of Marine Plans to relevant planning decisions in the UK Marine Area. Specifically, decisions affected by marine policy documents include ‘*the determination of any application [...] for authorisation of the doing of any act which affects or might affect the whole or any part of the UK marine area*’ (Section 58, MCAA).
- 20.2.19 As the Proposed Development includes works within part of the UK marine area, marine policy documents are relevant to the determination process for the project. In this instance, as prescribed by the MCAA, the published draft

North East Inshore and Offshore draft marine plans are the appropriate marine policy documents.

North East Inshore and Offshore (Draft) Plans (2020)

- 20.2.20 The north-east inshore marine plan area covers an area of approximately 6,000 square kilometres of sea from the Scottish border to Flamborough Head, in Yorkshire; as the relevant marine planning authority, the MMO has prepared the draft marine plan (Section 51, MCAA).
- 20.2.21 The draft North East Marine Plan (NEMP) introduces a strategic approach to planning and provides an evidence-based approach to inform decision making by marine users and regulators. As well as recognising the potential for carbon capture, storage and utilisation infrastructure within the Teesside area (Section 1.3, NEMP), the plan includes topic-specific policies which support the development of low carbon projects. Specifically, policy 'NE-CCUS-2' sets out that *'Carbon Capture Usage and Storage proposals incorporating the re-use of existing oil and gas infrastructure will be supported'*.
- 20.2.22 The MMO concluded the latest round of consultation on the NEMP in April 2020 recently. This was the final stage of statutory public consultation before the NEMP is submitted to the Secretary of State for Environment, Food and Rural Affairs for adoption.

Other Guidance

- 20.2.23 The socio-economic assessment presented in this chapter is based upon a range of relevant guidance. This includes:
- Department for Business, Innovation & Skills (now BEIS) - *Research to Improve the Assessment of Additionality* (2009);
 - The Green Book: *Central Government Guidance on Appraisal and Evaluation* (HM Treasury, 2018);
 - The Magenta Book: *Guidance for Evaluation* (HM Treasury, 2011); and
 - Homes and Communities Agency (HCA, now Homes England) - *Additionality Guide (Fourth Edition)* (2014).

20.3 Assessment Methodology and Significance Criteria

- 20.3.1 This assessment considers the role of the Proposed Development in the generation of direct and indirect employment opportunities at the local and regional level.

Use of The Rochdale Envelope

- 20.3.2 In order to ensure a robust assessment of the likely significance of the environmental effects of the Proposed Development, the EIA is being undertaken adopting the principles of the 'Rochdale Envelope' approach where appropriate in line with The Planning Inspectorate's Advice Note 9 (The Planning Inspectorate, 2018). This involves assessing the maximum (or where relevant, minimum) i.e. worst-case parameters for the elements where

flexibility needs to be retained (building dimensions or operational modes for example).

Impact Assessment and Significance Criteria

- 20.3.3 Where possible, socio-economic impacts have been appraised against relevant national standards, such as those provided by HM Treasury, the Department for Business, Energy and Industrial Strategy, and Homes England. Where relevant standards do not exist, professional experience and expert judgement have been applied.
- 20.3.4 The socio-economic assessment determines the:
- sensitivity of receptors;
 - magnitude of impacts; and
 - the consequent significance of effects.
- 20.3.5 The sensitivity of socio-economic receptors is assessed as high, medium, low or very low. The socio-economic receptors include those who will potentially benefit from employment generation (either directly, indirectly or induced (secondary impacts, for example due to construction workers spending money at local businesses)). The sensitivity of these receptors is considered to be high due to the availability of labour and skills in the local area required for the Proposed Development.
- 20.3.6 Section 20.4: Baseline Conditions, summarises the receptors that will be affected during construction and operation of the Proposed Development.
- 20.3.7 The magnitude of the impacts of the Proposed Development is assessed as being high, medium, low, or very low. This is determined by:
- extent of change – the absolute number of people affected and the size of area in which effects will be experienced (i.e. the level of change to baseline conditions including the proportion of the existing workforce); and
 - scale of the impact – more weight is given to long-term, permanent changes than to short-term, temporary ones, where temporary and short-term impacts are considered to be those associated with the construction works (up to four years), and medium to long-term impacts are those associated with the operation of the Proposed Development (25 years or more) and aspects of the development that could extend beyond this (including the CO₂ Gathering Network, High Pressure (HP) Compressor Station and CO₂ Export Pipeline).
- 20.3.8 The effects of the Proposed Development are defined as either:
- beneficial – an advantageous or beneficial effect on an impact area;
 - negligible – an imperceptible effect on an impact area; or
 - adverse – a disadvantageous or negative effect on an impact area.
- 20.3.9 Where an effect is assessed as being beneficial or adverse, the effect has been classified as minor, moderate, major or negligible. The assessment of significance is informed by the sensitivity of the receptor and the magnitude of impact as set out in Table 20-1. For the purposes of this

assessment, ‘significant’ effects are those identified as being moderate or major (adverse or beneficial). Effects identified as being negligible or minor are ‘not significant.’

Table 20-1: Classification of Effects on Socio-Economics

Magnitude of Impact	Sensitivity/importance of receptor			
	High	Medium	Low	Very Low
High	Major	Major	Moderate	Minor
Medium	Major	Moderate	Minor	Negligible
Low	Moderate	Minor	Negligible	Negligible
Very Low	Minor	Negligible	Negligible	Negligible

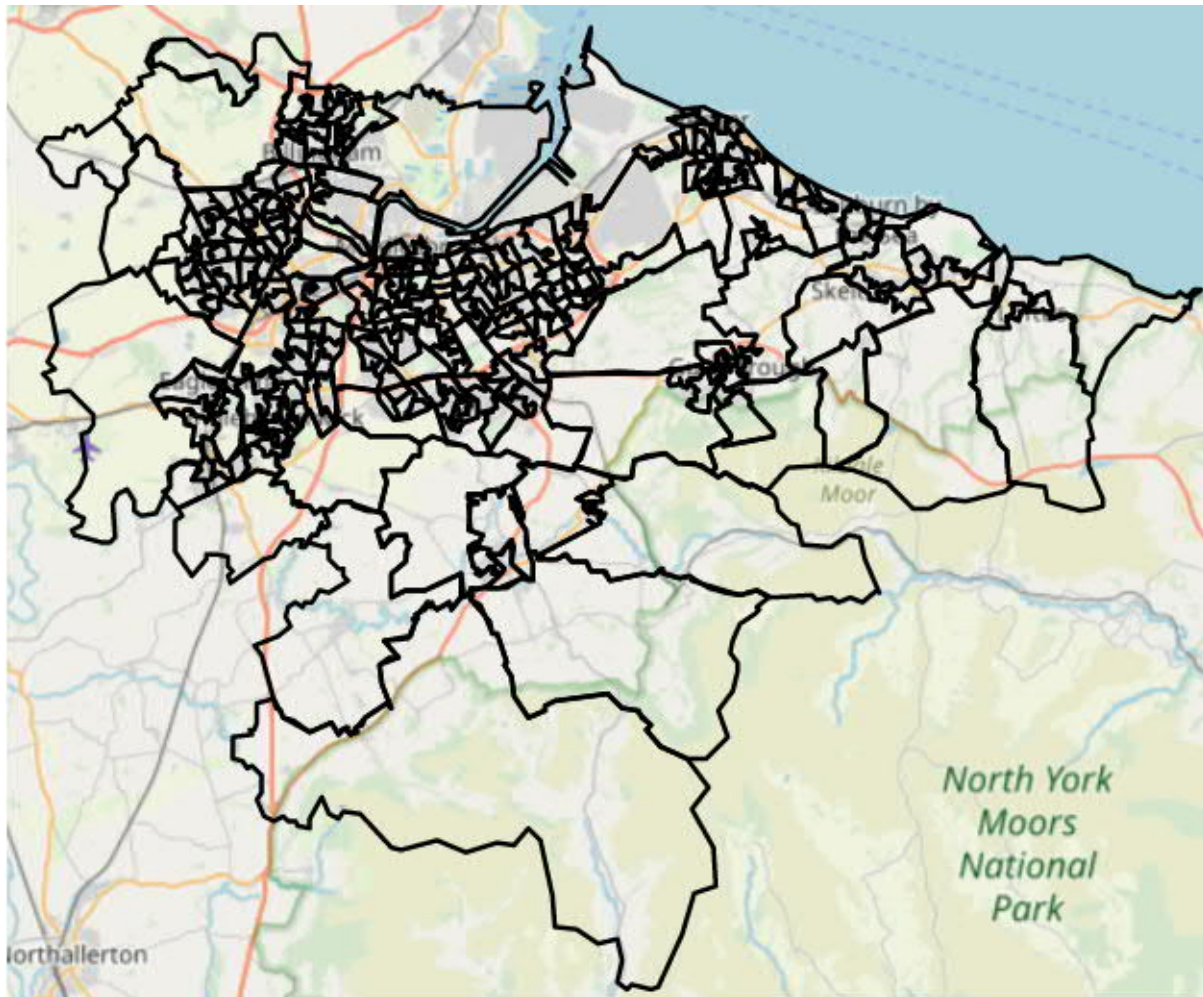
Study Area

- 20.3.10 Office for National Statistics (ONS) statistical geographies have been used to define the Study Area for the socio-economic assessment as described below. The Direct Impact Area has been taken to be Local Super Output Areas (LSOAs) that the Site boundary falls into. The Wider Impact Area has been taken to be the Travel to Work Area (TTWA) that the Site boundary falls into.
- 20.3.11 There are 34,753 LSOAs across England and Wales with a minimum population of 1,000 and a maximum population of 3,000. The Site falls within the Redcar and Cleveland, and Stockton-on-Tees Local Authority areas. The LSOAs that the Site lies within are of Redcar and Cleveland 003D, 003F, and Stockton-on-Tees 003B and 004B.
- 20.3.12 Connections to the National Gas Grid and the CO₂ Gathering Network will cross the River Tees to land within the administrative boundary of STBC and the LSOAs of Stockton-on-Tees 003B and 004B.
- 20.3.13 The four combined LSOAs of Redcar and Cleveland (003D and 003F) and Stockton-on-Tees (003B and 004B) have been taken to be the Direct Impact Area of the Proposed Development.

Diagram 20-1: Map of Direct Impact Area (Redcar and Cleveland LSOAs 003D, 003F, and Stockton-on-Tees 003B and 004B)



- 20.3.14 As well as understanding the socio-economic conditions surrounding the Site (as per the LSOA analysis), the socio-economic assessment also takes into account the principal labour market catchment area, or the TTWA. TTWAs contain at least 75% of the area's workforce that both live and work in the area. TTWAs have populations of at least 3,500 people. The Site falls within the Middlesbrough and Stockton TTWA which has been used as the Wider Impact Area for the Proposed Development.
- 20.3.15 As the Proposed Development includes provision for marine works, the assessment also considers the key marine users that could be impacted by the project. For the purposes of the socio-economic assessment, there is no established guidance for defining a suitable marine Study Area or for undertaking a marine socio-economic assessment. For this reason, a holistic approach has been taken which considers a range of marine receptors within the surrounding North Sea informed by engagement with the MMO and other relevant marine stakeholders.

Diagram 20-2: Map of Wider Impact Area (Middlesbrough and Stockton TTWA)

20.3.16 This assessment outlines the socio-economic context of the TTWA and makes comparisons to the whole of England. Key indicators include population and labour force; skills and unemployment; industry and the economy.

Consultation

20.3.17 Consultation for the Proposed Development has been ongoing and commenced at the EIA Scoping Stage with the preparation of the EIA Scoping Opinion Report which was submitted in February 2019 and Scoping Opinion was received from the Planning Inspectorate in April 2019. (Appendix 1A (ES Volume III, Document Ref. 6.4). The Applicants also undertook a formal Section 42 and Section 47 consultation, which commenced at the same time as the publication of the Preliminary Environmental Information (PEI) Report in early July 2020 and ended in September 2020. The issues that have been raised through consultation, and how these have been considered and addressed within the design evolution of the Proposed Development and the EIA is set out where relevant within each of the topic chapters in the ES and where relevant in Chapter 6: Alternatives and Design Evolution (ES Volume I, Document Ref. 6.2).

20.3.18 Table 20-2 provides a summary of how comments raised by stakeholders to date in relation to socio economics have been considered and actioned where appropriate.

Table 20-2. Response to Comments Raised during consultation in relation to Socio- Economics.

Consultee	Date	Comments raised	Response provided
Secretary of State (Scoping Opinion)	April 2019	4.10.1 - Tourism The ES should assess impacts on the areas of public/private amenity which are noted in Chapter 2 - Description of the Existing Environment, of the Scoping Report.	Tourism, including tourist use of the local amenities, has been considered within Section 20.6: Likely Impacts and Effects, of this chapter.
Secretary of State (Scoping Opinion)	April 2019	4.10.2 - Areas of public / private amenity The ES should assess impacts on the areas of public/private amenity which are noted in Chapter 2 - Description of the Existing Environment of the Scoping Report.	The public/private amenities mentioned in Chapter 2 of the Scoping Opinion have been assessed in Section 20.6: Likely Impacts and Effects, of this chapter.
Secretary of State (Scoping Opinion)	April 2019	4.10.3 - Scope of the assessment The Scoping Report gives a very broad description of the data that will be gathered to inform the ES. The ES should explain the methodology applied to the assessment, including the data sources used, consultation undertaken, the methodology applied to determining significance of effects, and any limitations encountered. Specific methodologies should be adopted for each matter assessed as part of this aspect chapter (i.e. different criteria are likely to be required to determine the significance of effects on employment, recreational users and Public Right of Way (PRoW) users).	Assessment methodologies are set out in Section 20.3: Assessment Methodology and Significance Criteria, of this chapter.
Secretary of State (Scoping Opinion)	April 2019	4.10.4 - Scope of the assessment The Inspectorate notes that professional experience and judgement will be applied where no standards exist. Any use of professional judgement should be clearly explained within the ES.	Professional judgement has been used in the chapter, as outlined in Section 20.3: Assessment Methodology and Significance Criteria, and has been clearly explained when used.
Secretary of State (Scoping Opinion)	April 2019	4.10.5 - Employment The ES should include a breakdown of likely jobs and roles created by the Proposed Development and any mitigation measures such as skills and training programmes that would promote local employment. This should include consideration of the potential to create apprenticeship opportunities during construction and operation.	Assessed in Section 20.6: Likely Impacts and Effects, of the chapter.

Consultee	Date	Comments raised	Response provided
Secretary of State (Scoping Opinion)	April 2019	4.10.6 - Employment Employment could result in an increase of migration to the local area, which may increase demand on community facilities such as GPs as a result. This matter should be assessed within this aspect of the ES.	Assessed in Chapter 20.6: Likely Impacts and Effects, of the chapter.
Secretary of State (Scoping Opinion)	April 2019	4.10.7 - PRow The Scoping Report notes that PRow may be temporarily disrupted during construction. The ES should state whether any temporary diversions are proposed, their duration and how such mitigation would be secured. Appropriate cross reference should be made to the Traffic and Transportation chapter within the ES.	Impacts on PRow has been considered in this chapter and cross-referenced with Chapter 16 – Traffic and Transport.
Secretary of State (Scoping Opinion)	April 2019	4.10.8 - Health and Safety The Scoping Report identifies the potential for health and safety impacts to arise but does not provide further detail regarding the proposed assessment of these impacts. The ES should set out the proposed methodological approach for assessing these matters.	Health and Safety impacts and the methodologies utilised are summarised in Chapter 23: Population and Human Health (ES Volume I, Document Ref.6.2). This is also assessed in Chapter 22: Major Accidents and Natural Disasters.
Secretary of State (Scoping Opinion)	April 2019	4.10.9 - Businesses The Scoping Report states that the impact of the Proposed Development on businesses will be assessed. The ES should clearly state the methodology for the assessment of this matter, identify the businesses that will be considered as sensitive receptors and seek to agree this with the relevant local authorities.	Businesses that fall within the proposed Study Area have been assessed.
Secretary of State (Scoping Opinion)	April 2019	4.10.10 - Recreational activities and land use The ES should clearly state the 'other land use' impacts that have been assessed or considered.	Other land use impacts assessed include PRow.
Secretary of State (Scoping Opinion)	April 2019	4.10.11 - Recreational activities and land use The ES should confirm whether beach closures would be required for construction of the water connection and/or the CO ₂ transport connection. Impacts to beach users should be assessed within the ES.	Potential beach closures have been considered in the chapter, Section 20.6: Likely Impacts and Effects.

Consultee	Date	Comments raised	Response provided
Marine Maritime Organisation (MMO) Section 42 Response	August 2020	8.1.1 – Marine Licences Paragraph 20.4.33 references active marine licences held on the Marine Management Organisations ‘Marine Case Management System’ (MCMS). Whilst licences within the vicinity of the works have been correctly identified, L/2019/00220/1 is an active dredge and disposal licence just outside the proposed footprint within the River Tees, which appears not to have been identified and considered within the ES.	All marine licences have been reviewed and updated within the ES.
Marine Maritime Organisation (MMO) Section 42 Response	September 2020	8.1.2 – Recreation Paragraph 20.4.34 correctly identify the proposed works taking place 1km from South Gare Marine Sail Club. If not already considered, the MMO recommend the applicant liaise directly with the Royal Yachting Association (RYA), as well as the local MMO office, Inshore Fisheries Conservation Authorities (IFCA) and the Marine Conservation Team (MCT) to ensure impacts to recreational users are fully considered. The MCT email address has been provided below for any queries: conservation@marinemanagement.org.uk	RYA, MMO, IFCA and MCT have been consulted.
Maritime and Coastguard Agency S42 Response	September 2020	Comments provided in relation to the Navigational Risk Assessment (NRA) and its location with the ES.	The NRA is presented as Appendix 20B (ES Volume III, Document Ref. 6.4).
Public Health England (PHE) Section 42 Response	September 2020	Indices of Multiple Deprivation Chapter 20 of the PEIR (socio-economics and tourism) has identified the Lower Super Output Areas (LSOAs) within which the proposed development is sited, for which we are grateful. The final ES should also include an analysis and discussion of the IMD decile for each LSOA to support your assessment of how the development may influence health inequalities.	Section 20.4: Baseline Conditions has been updated to include this data.
Hartlepool Borough Council (HBC)	September 2020	The Economic Growth Team welcome the forecasted direct job creation and potential draw of visitors from contractors to the area that will include Hartlepool will be of benefit to the residents and businesses.	No response required.
Redcar and Cleveland Borough Council (RCBC)	September 2020	RCBC have provided comments on the socio-economic benefits of the Proposed Development and confirm that <i>“The application site lies within an area identified for employment related development and the project is generally consistent with land use policy in the adopted RCBC Local Plan May 2018”</i> .	No response required.

Consultee	Date	Comments raised	Response provided
Durham County Council (DCC)	September 2020	Spatial Policy The DCC Spatial Policy Team “ <i>have no specific policy comments to make apart from generally supportive of the project subject to the necessary environmental assessments. The project appears to provide major environmental and economic benefits which may be transformative both economically and environmentally and should help make a substantive contribute to decarbonising the North East Economy and help the UK to transition to a lower carbon economy in accordance with national targets and national policy aspirations</i> ”.	No response Required.

20.3.19 Additional marine-specific engagement was undertaken with the following stakeholders:

- MMO (September 2019, February and December 2020);
- Maritime and Coastguard Agency (February 2020);
- PD Teesport (December 2019);
- Trinity House (February 2019);
- Teesside Offshore Windfarm T/O EDF Energy Renewables (December 2019);
- Royal Yachting Association (February 2020); and
- North Eastern Inshore Fisheries Conservation Authority (September 2019).

Sources of Information

20.3.20 The following ONS datasets have been reviewed to inform the assessment: Census of Population (2011); and Jobseeker’s Allowance by Occupation (2018).

20.3.21 The following marine datasets have also been reviewed to inform the assessment: Marine Licences and Applications (2021); KIS-ORCA Offshore Renewable & Cables Awareness (2020); MMO Offshore Wind Resource Areas (2020); MMO Marine Vessel Density Grid (2015); RYA Yachting Activity (2019); UK Marine Landings Data (2018); UK Sea Fisheries Statistics (2017); and UK Coastal Atlas of Recreational Boating (2018).

20.3.22 This report draws on the Net Zero Teesside, Economics Benefits Report (Vivid Economics, 2020 – see Appendix 20A, ES Volume III, Document Ref. 6.4).

20.4 Baseline Conditions

20.4.1 This section outlines the socio-economic baseline conditions in the Direct Impact Area, Wider Impact Area and England. As set out in Section 20.3, the Direct Impact Area comprises of the LSOAs that the Proposed Development

fall into. The Wider Impact Area is comprised of the TTWA the Proposed Development is located in (Middlesbrough and Stockton TTWA).

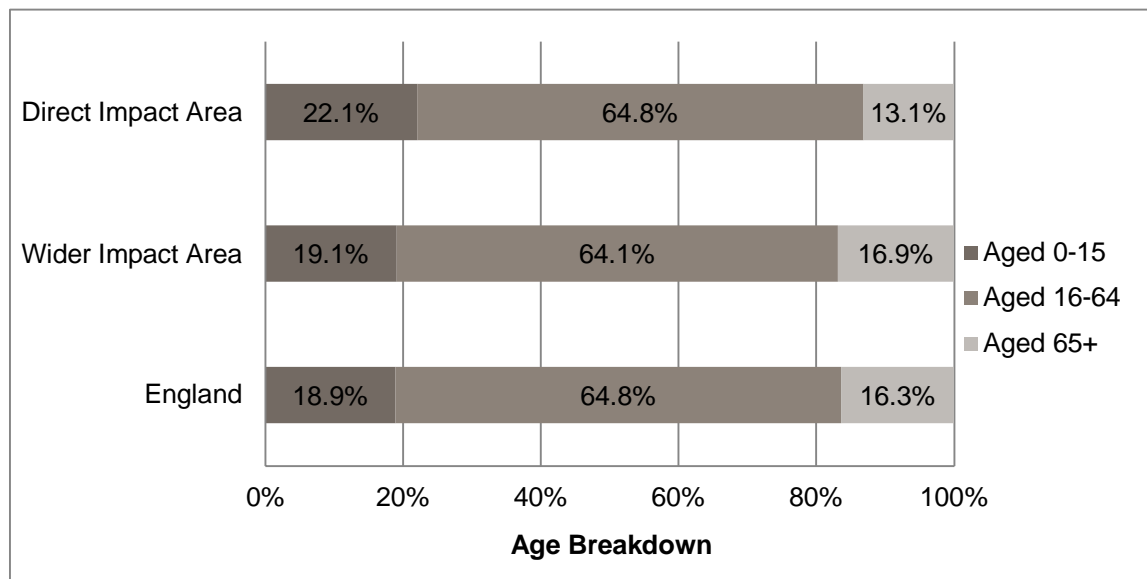
- 20.4.2 The local labour market in the Wider Impact Area is the main receptor in the assessment for employment effects. The baseline conditions help to determine the impact of employment generated by the Proposed Development, and the impact of the Proposed Development on tourism and other local businesses. The impact is mostly influenced by the size of the labour market and whether it has the relevant skills, occupations and sector strengths to access employment opportunities.

Existing Baseline

Demographic Profile

- 20.4.3 The 2011 Census data shows that the Direct Impact Area had a population of 6,193, while the wider impact area had a population of 481,619 (ONS, 2011). Diagram 20-3 shows that the Direct Impact Area has a larger proportion of young people (aged 0 to 15) than the Wider Impact Area and England. The Direct Impact Area has a comparable proportion of working age population (aged 16 to 64) as England, and slightly larger than the Wider Impact Area. The Direct Impact Area has a lower proportion of older residents (aged 65+) than both the Wider Impact Area and England.

Diagram 20-3: Age Breakdown of Population



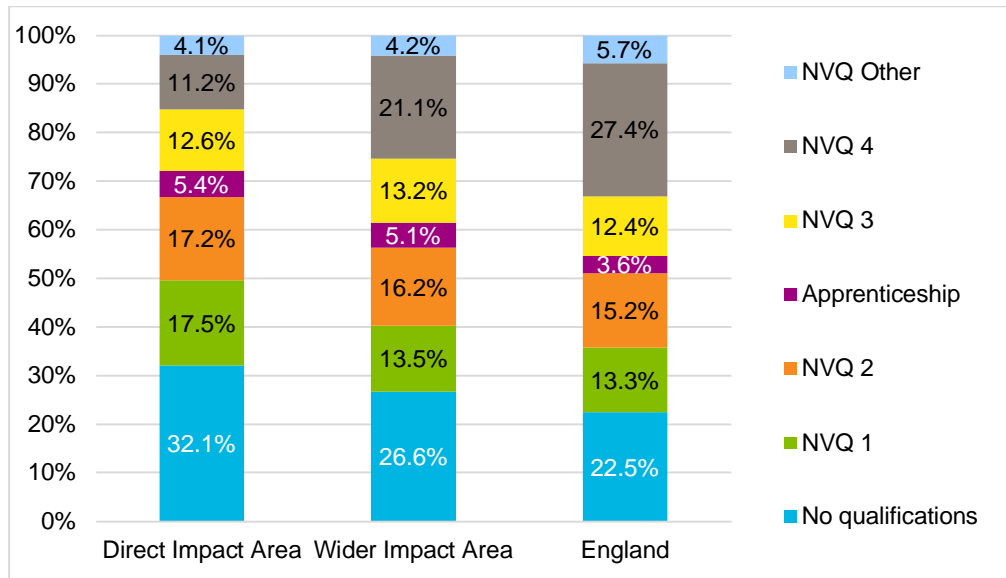
Source: Census 2011 (KS102EW – Age Structure), ONS

Skills

- 20.4.4 Qualifications levels differ noticeably between each of the geographies (see Diagram 20-4). In the Direct Impact Area, 16.5% were qualified to NVQ 1, this is higher than both the Wider Impact Area (13.5%) and England (13.3%).
- 20.4.5 Just under a third (32.1%) of the Direct Impact Area had no qualifications. This is noticeably higher than both England (22.5%) and the Wider Impact Area (26.6%). Similarly, there is a slightly higher level of those qualified to NVQ 2 in the Direct Impact Area (17.2%) compared to the Wider Impact Area (16.2%) and England (15.2%). There is a smaller proportion of higher

qualified residents within the Direct Impact Area. The proportion with NVQ 4 qualifications drops from 27.4% in England to 21.1% in the Wider Impact Area and drops further, to 11.2% in the Direct Impact Area.

Diagram 20-4: Qualification levels



Source: Census 2011 (KS501EW – Qualifications and Students), ONS

Deprivation

- 20.4.6 The Index of Multiple Deprivation (IMD) measures relative deprivation in small areas in England. The IMD takes into account various measures of deprivation, including income, employment, education, health, and crime. These measures are combined to understand how deprived an area is compared to others in the county.
- 20.4.7 Of the four LSOAs which overlap with the Proposed Development, Redcar and Cleveland 003F (at the east of the Proposed Development), is the most deprived area which is within the top 6% most deprived areas in England. These include Redcar and Cleveland 001A, 005A, 009B, 009F, 022D and 022G, and Middlesbrough 001G.
- 20.4.8 Focusing on health, Redcar and Cleveland 003D, 003F, and Stockton-on-Tees 003B all perform poorly. All these LSOAs fall within the top 10% of most deprived areas based on the health deprivation measure in England. This is similar for the surrounding LSOAs outside of the development area, notably Redcar and Cleveland 001A, 001B, 009B, 011B, and Middlesbrough 001G which are also some of the most health deprived areas in England. These are areas that could be sensitive to health impacts as a result of the Proposed Development. Health impacts are assessed in Chapter 23: Population and Human Health (ES Volume I, Document Ref. 6.2).

Table 20 2. Index of Multiple Deprivation measures for the Direct Impact Area

Lower Super Output Area (LSOA)	IMD ranking (out of 32,844, 1 is most deprived)	Percentile (the lower the more relative deprivation)	Health Deprivation ranking	Percentile
Redcar and Cleveland 003D	2,934	9%	1,433	5%
Redcar and Cleveland 003F	1,935	6%	2,718	9%
Stockton-on-Tees 003B	2,363	8%	3,186	10%
Stockton-on-Tees 004B	17,922	55%	8,837	27%

Source: Index of Multiple Deprivation (2019)

Employment

20.4.9 Employment in the Direct Impact Area is distributed differently to employment in the Wider Impact Area and England. ‘Wholesale and retail trade’, is the largest sector by employment for all three of the geographical areas, but it is slightly higher in the Direct Impact Area (18.6%) than the Wider Impact Area (16.2%). Manufacturing is the next largest sector in the Direct Impact Area (11.5%), larger than in the Wider Impact Area (9.5%) and England (8.8%).

20.4.10 There are fewer people employed in serviced-based sectors in the Direct Impact Area than England. This is shown in the ‘Information and communication’ sector that employs 1.4% of people in the Direct Impact Area compared to 4.1% in England. This is also evident in the ‘Financial and insurance activities’ sector which employs 1.9% of people in the Direct Impact Area compared to 2.6% of the Wider Impact Area and 4.4% in England. ‘Education’ is a slightly lower employment sector in the Direct Impact Area (8.0%) than in the Wider Impact Area (10.0%) and England (9.9%).

Table 20-3: Employment by Sector

Sectors	Direct Impact Area	Wider Impact Area	England
Agriculture, forestry and fishing	0.2%	0.5%	0.8%
Mining and quarrying	0.4%	1.1%	0.2%
Manufacturing	11.5%	9.5%	8.8%
Electricity, gas, steam and air conditioning supply	1.0%	1.1%	0.6%
Water supply; sewerage, waste management and remediation activities	1.2%	0.7%	0.7%
Construction	8.7%	8.4%	7.7%
Wholesale and retail trade; repair of motor vehicles and motorcycles	18.6%	16.2%	15.9%
Transport and storage	6.0%	4.8%	5.0%
Accommodation and food service activities	7.4%	5.6%	5.6%
Information and communication	1.4%	2.2%	4.1%
Financial and insurance activities	1.9%	2.6%	4.4%
Real estate activities	1.0%	1.4%	1.5%

Sectors	Direct Impact Area	Wider Impact Area	England
Professional, scientific and technical activities	3.3%	5.1%	6.7%
Administrative and support service activities	6.3%	4.5%	4.9%
Public administration and defence; compulsory social security	4.8%	6.4%	5.9%
Education	8.0%	10.0%	9.9%
Human health and social work activities	13.6%	15.5%	12.4%
Other	4.6%	4.3%	5.0%

Source: Census 2011, ONS

20.4.11 The economic activity rate is lower in the Direct Impact Area (65.9%) than both the Wider Impact Area (65.6%) and England (69.9%). There are 2,921 people in the Direct Impact Area that are economically active. There is a lower proportion of the Direct Impact Area (33.8%) that are in full-time employment than in the Wider Impact Area (34.5%) and England (38.6%). This is not the case for part-time employment where the proportion in the Direct Impact Area (16.2%) which is higher in the Wider Impact Area (15.4%) and England (13.7%).

20.4.12 The level of unemployment in the Direct Impact Area (8.3%) is higher than both the Wider Impact Area (6.4%) and England (4.4%). In the Direct Impact Area, 4.7% are self-employed, this is lower than the Wider Impact Area and England whose proportion of those self-employed is 6.1% and 9.8% respectively. Table 20-4 breaks down the economic activity for each of the areas.

Economic Activity

Table 20-4: Economic Activity

Economic Activity	Direct Impact Area		Wider Impact Area		England	
	Number	%	Number	%	Number	%
In employment	2,426	54.7%	197,305	56.0%	24,143,464	62.1%
<i>Employee: Part-time</i>	718	16.2%	54,211	15.4%	5,333,268	13.7%
<i>Employee: Full-time</i>	1,499	33.8%	121,478	34.5%	15,016,564	38.6%
<i>Self-employed</i>	209	4.7%	21,616	6.1%	3,793,632	9.8%
Economically active: Unemployed	370	8.3%	22,561	6.4%	1,702,847	4.4%
Economically active: Full-time student	125	2.8%	11,354	3.2%	1,336,823	3.4%
Total	2,921	65.9%	231,220	65.6%	27,183,134	69.9%

Source: Census 2011 (KS601EW – Economic activity by sex), ONS

20.4.13 Table 20-5 shows the economic inactivity rates for all of the three chosen geographies. There is a higher proportion of those in the Direct Impact Area (34.1%) that are economically inactive than the Wider Impact Area (34.4%)

and England (30.1%). Retirees make up the largest proportion of those economically inactive in all three areas. In the Direct Impact Area, 13.0% are retired, this is a lower proportion than the 16.1% in the Wider Impact Area but is comparable to 13.7% of those in England.

Table 20-5: Economic Inactivity

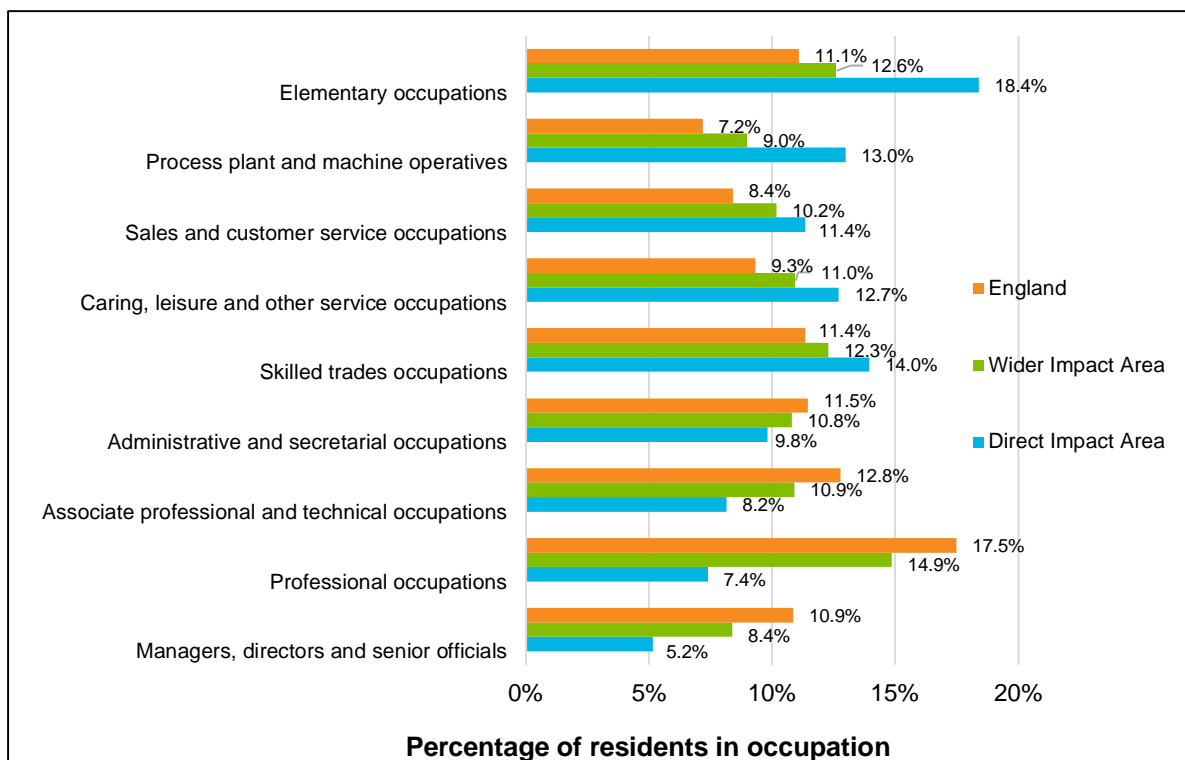
Economic Inactivity	Direct Impact Area		Wider Impact Area		England	
	Number	%	Number	%	Number	%
Retired	578	13.0%	56,746	16.1%	5,320,691	13.7%
Student (including full-time students)	214	4.8%	19,364	5.5%	2,255,831	5.8%
Looking after home or family	267	6.0%	16,258	4.6%	1,695,134	4.4%
Long-term sick or disabled	334	7.5%	19,839	5.6%	1,574,134	4.0%
Other	120	2.7%	8,983	2.5%	852,450	2.2%
Total	1,513	34.1%	121,190	34.4%	11,698,240	30.1%

Source: Census 2011 (KS601EW – Economic activity by sex), ONS

20.4.14 There are some noticeable differences in the workforce occupation profile between the different geographical areas. The largest proportion of the population in the Direct Impact Area is employed in ‘Elementary occupations’ (18.4%). This is much larger than the Wider Impact Area (12.6%) and England (11.1%). The second largest occupation is ‘Skilled trades occupations’ which makes up 14.0% of the Direct Impact Area. This again is higher than both the Wider Impact Area (11%) and England (9.3%).

20.4.15 There are significantly fewer residents occupied in ‘Professional occupations’ in the Direct Impact Area with only 7.4% compared to 14.9% and 17.5% for the Wider Impact Area and England respectively. There are also fewer ‘Managers, directors and senior officials’ in the Direct Impact Area (5.2%) compared to the Wider Impact Area (8.4%) and England (10.9%). Figure 20-5 displays the breakdown of the categories.

Diagram 20-5: Workforce Occupations



Source: Census 2011, ONS

Community Facilities

- 20.4.16 There are no settlements that fall within the Site boundary. The only settlement within 500 m of the Site boundary is Dormanstown. The largest residential area close to the Site is the city of Middlesbrough which is just over 1 km away.
- 20.4.17 Within the residential areas listed above there are no educational facilities within 500 m of the Site. The closest educational facilities is the Dormanstown Primary Academy (600 m from the Site boundary).
- 20.4.18 Sir William Turner’s Hospital in Kirkleatham is nearest hospital to the Site but there are several other medical facilities such as Woodford Dental Services, Kirkleatham; Belasis Dental Practice and Billingham.

Local Businesses

- 20.4.19 Business parks in close proximity to the Site include Teesport Estate (directly adjacent to the Site boundary), Seal Sands Terminal (directly adjacent to the Site boundary), Belasis Hall Technology Park and Haverton Hill (both adjacent to the CO₂ Gathering Network). Additionally, Warrenby Industrial Estate is approximately 200m east of the Site boundary.
- 20.4.20 The businesses located in these areas are mainly involved in manufacturing; most notably, chemical, oil and metal processing and production. These include British Steel; Biffa Polymers and Tarmac. Other businesses within the Site boundary within the Teesport Estate include the Asda import centre, chemical manufacturer Kemira. Northumbrian Water is also located just outside the Site boundary.

Public Rights of Way

- 20.4.21 There are multiple PRow close to Site, with some falling in the Site boundary. These are illustrated in Figure 17-2 (ES Volume II, Document Ref. 6.3).
- 20.4.22 Within 500 m of the Proposed Development are the England Coast Path and Teesdale Way and various footpaths to the south of Teesport (116/31, 102/2, 102/2A and 116/9) and north of Warrenby, around the Cleveland Golf Links (116/36, 116/32 and 116/33).

Tourism and Amenity

- 20.4.23 Recreational fishing takes place at South Gare breakwater. The local Fishing club, South Gare Fisherman's Association, operates on South Gare breakwater. Access to the breakwater is from a private road off Tod Point Road, Warrenby.
- 20.4.24 There are local walking amenities used by recreational walkers. The Tees Bay, Coatham Sands and the South Gare are all popular walking destinations within the direct vicinity of the Site.
- 20.4.25 A popular tourism destination in the area is Redcar Beach Caravan Park. This is over 1 km from the PCC Site. Cleveland Golf Links, a local golf course, is also located directly to the east of the Site boundary.

Marine Baseline

- 20.4.26 This chapter is accompanied by a Navigational Risk Assessment (Appendix 20B, ES Volume III, Document Ref. 6.4) which presents a qualitative assessment of navigational risk associated with the Proposed Development. A detailed baseline understanding of local marine activity has been established informed by engagement with relevant marine stakeholders. Baseline information relevant to the Socio-Economic Assessment is summarised below.

Vessel Density

- 20.4.27 Automatic Identification System (AIS) data can be used to provide an insight into the average vessel density in the area surrounding the Site. AIS is a maritime safety communications system adopted by the International Maritime Organisation (IMO) in order to provide vessel information, primarily for maritime safety purposes; AIS also provides a source of information to spatially represent vessel movements to help inform planning. AIS signals can be broadly categorised as Class A and Class B; Class A ('AIS-A') is carried by large, international ships with a gross tonnage (GT) of 300 tonnes or more and all passenger vessels. Class B ('AIS-B') is carried by smaller vessels and is typically found on small commercial vessels, some fishing vessels and recreational vessel users. Whilst useful to characterise high-level shipping trends, AIS does have limitations; most notably, AIS provides a characterisation of commercial shipping but omits commercial vessels <300GT, recreational vessels, fishing vessels as well as military and governmental vessels whilst on deployment.
- 20.4.28 Based on 2015 MMO data, the Site boundary spans ten density grids which are summarised below against weekly average vessel density:

- Grid cell ID 200,808: 7.33;

- Grid cell ID 200,809: 14.50;
- Grid cell ID 200,810: 57.25;
- Grid cell ID 200,811: 102.42;
- Grid cell ID 201,340: 199.42;
- Grid cell ID 201,869: 182.67;
- Grid cell ID 201,870: 29.25;
- Grid cell ID 201,871: 0.17;
- Grid cell ID 202,400: 19.58; and
- Grid cell ID 202,399: 157.42.

20.4.29 The density grids above overlap with several aspects of the Proposed Development which are within the UK Marine Area. This includes: the CO₂ Export Pipeline; the CO₂ Gathering Network; the Natural Gas Connection Corridor; and Water Connection Corridors.

20.4.30 AIS data can be represented visually as density grids – ‘or heat maps’ – and via vessel transects. For the purposes of this assessment, Figure 20B-1: Vessel Density Grid illustrates the density grids detailed above and Figure 20B-2 illustrates anonymised vessel transects (see Appendix 20B in ES Volume III, Document Ref. 6.4).

20.4.31 As is expected given the presence of Teesport, the higher density grids are those found within the navigational channel directly into the Estuary (i.e. 202,399, 201,869) and within the ‘inner’ area of Teesport itself (200,808, 200,809, 200,810, 200,811, 201,340).

20.4.32 Grids to the north-east are also higher in density, representing the primary routes of commercial vessels leaving Teesport (i.e. 202,929, 202,399).

20.4.33 The density grid directly to the east of the Estuary mouth (201,871) is much lower in density which is primarily due to this being a predominantly non-navigable area featuring sandbanks, shallows and the foreshore itself. To the north and east of this density grid, there may be some areas of navigable water.

Port Activity

20.4.34 The Site boundary is partly within the jurisdiction of Teesport, a major UK Port which is owned and operated by PD Ports as the statutory harbour authority. Teesport handles approximately 28 million tonnes per of shipping per year with dry-bulk and project cargoes (including metals, steel, agri bulk and forest products) being primary offerings. Teesport is also a major port supporting the oil and gas, chemical and petrochemical industries. Whilst in close proximity to the Teesside Offshore Wind Farm (OWF), the majority of vessel activity related to the OWF originates from other operation and maintenance bases at Hartlepool. Whilst appreciating the limitations of AIS data referenced above, the vessel density grids provide a useful estimate for Teesport traffic given the majority of vessel types accessing the facility are required to utilise AIS-A or have opted to utilise AIS-B. Full information on port activity as well as VTS data is presented in Appendix

Marine Works

20.4.35 Data published by the MMO via the Marine Case Management System and the Marine Information System indicates the presence of several 'active' Marine Licences within the vicinity of the Site these are listed below and presented on Figure 20B-4 (see Appendix 20B in ES Volume III, Document Ref. 6.4).

- 35097/110302/2 (Dredging Licence – PD Teesport Limited);
- MLA/2015/00334/4 (Dredging Licence – Able UK Limited);
- MLA/2016/00250/4 (Hartlepool Power Station Routine Drumscreen and Forebay / Intake Area Maintenance – EDF Energy Limited);
- 32421/040319/13 (Export Cable Area Construction Licence – Teesside Windfarm Limited);
- MLA/2017/00409 (Teesside Offshore Windfarm Operation and Maintenance Licence – Teesside Windfarms Limited);
- MLA/2019/00151 (Proposed Topside Works – Inter Terminals Seal Sands Limited);
- MLA/2019/00151 (Proposed Dredge Footprint, Tees/Hartlepool - Inter Terminals Seal Sands Limited); and
- MLA/2014/00580 (Other Removals Licence – Teesside Windfarm Limited).

Recreational Sailing

20.4.36 The RYA UK Coastal Atlas of Recreational Boating provides a Geographical Information System (GIS) dataset of recreational boating activity around the UK. The dataset provides spatial data which indicates intensity of recreational use, general boating areas, racing areas and cruising areas. It also provides the location of RYA clubhouses, training centres and marinas.

20.4.37 The Site is within a 'General Boating Area' but is not within any racing or cruising areas.

20.4.38 The Site is within the vicinity of South Gare Marine Club (Sail Section), and related marina on South Gare; at the closest point, the Water Connection corridors for the Site is 1 km from the club.

Recreational Walkers

20.4.39 The Tees Bay, Coatham Sands and the South Gare are all popular walking destinations within the direct vicinity of the Site. Whilst of relevance to the marine baseline, this activity is already captured within the terrestrial aspects of the socio-economics assessment and is included here for confirmation only.

Other Recreational Activity

20.4.40 The British Sub Aqua Club (BSAC) maintain a scuba diving club, 'BSAC Teesside 43,' at the South Gare Breakwater. At the closest point, the water connection corridor for the Site is 1 km from the diving club.

20.4.41 There are no published datasets available for surf or kitesurfing activity, however the Tees Bay and 'The Gare' is reported locally as a popular location for these activities.

Commercial Fishing

20.4.42 The International Council for the Exploration of the Sea (ICES) standardise the division of sea areas to underpin statistical analysis around the UK; this is achieved through 'ICES Rectangles.' Each ICES rectangle is approximately 30 nautical miles by 30 nautical miles and has a unique identification reference. The Site is within ICES rectangle '38E8'. Commercial fishing activity within this area is primarily characterised by lobsters, (Nephrops), whiting and crabs caught primarily with 10 m and under vessels.

20.4.43 There are inherent challenges in characterising commercial fishing activity, primarily due to omissions in catch data gathered as part of the official statistics process. Chapter 14: Marine Ecology and Nature Conservation (ES Volume I, Document Ref. 6.2) and supporting appendices explore the current baseline for commercial fishing activity in the vicinity of the Site in detail.

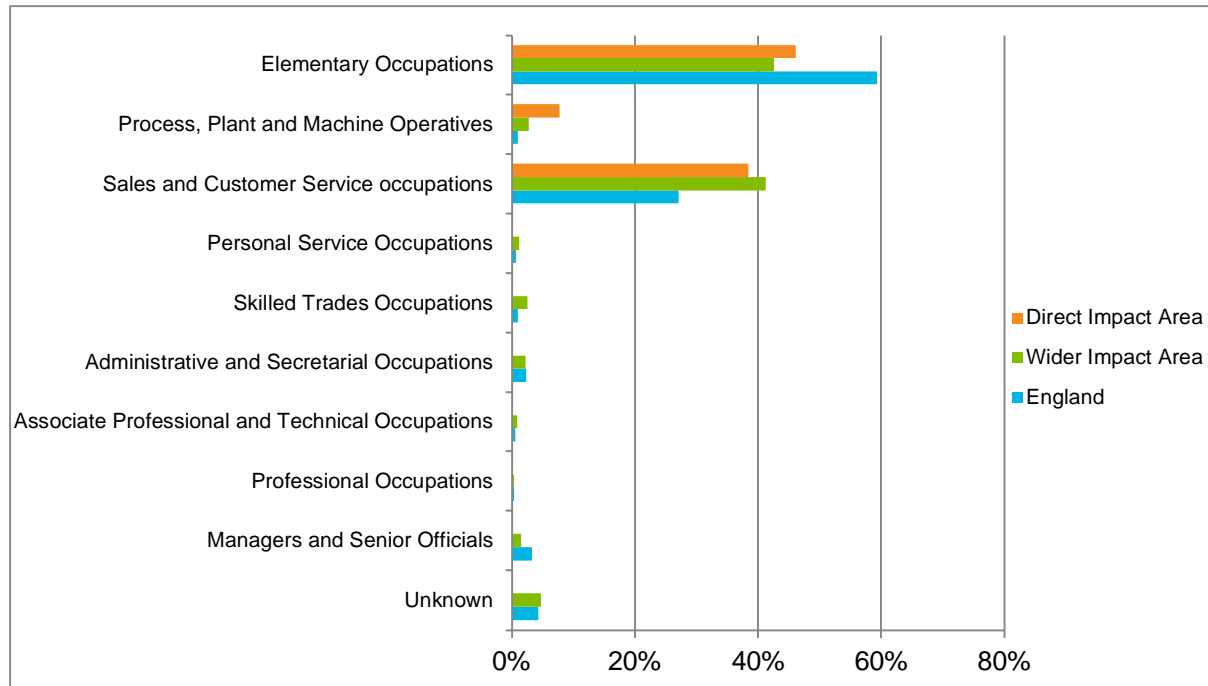
20.4.44 The closest of these features is the Teesside OWF export cable which overlaps with the marine segment of the CO₂ Export Pipeline (i.e. the portion of the corridor between Mean High Water Springs (MHWS) and Mean Low Water Springs (MLWS)).

Future Baseline

20.4.45 This section outlines the future socio-economic baseline conditions in the Direct Impact Area, Wider Impact Area and England. The future baseline conditions help to identify any changes anticipated in the baseline conditions in the absence of the Proposed Development.

20.4.46 Demand for employment in different sectors can be considered with jobseeker data, included most sought-after occupations. The most sought-after occupation by jobseekers in the Direct Impact Area are 'Elementary occupations' (46% in January 2021), followed by 'Sales and Customer Services occupations' (38% of jobseekers). 'Elementary occupations' is also the most sought-after category for the Wider Impact Area (43% of jobseekers) and England (59% of all jobseekers) followed by 'Sales and Customer services occupations' (41% of jobseekers in the Wider Impact Area and 59% in England). This is shown in Diagram 20-6.

Diagram 20-6: Sought After Occupations



Source: Jobseeker's Allowance by Occupation (ONS, 2021) – data for January 2021

20.5 Development Design and Impact Avoidance

- 20.5.1 For the terrestrial aspects of the Proposed Development, development design or impact avoidance measures relevant to socio-economics have been included. This includes consideration of the Site boundary to limit the number of PRoW which cross the Site.
- 20.5.2 For the marine aspects of the Proposed Development – i.e. the water connection corridors and the CO₂ Export Pipeline, the design of the development and impact control measures are of relevance.

Infrastructure Re-Use

- 20.5.3 As described in Chapter 4: Proposed Development and Chapter 5: Construction Programme and Management (ES Volume I, Document Ref. 6.2), the Proposed Development will seek to re-use existing infrastructure within the water connection corridors. It is anticipated that only minimal works will be required within the marine environment (i.e. basic refurbishment works, as noted in Chapter 4: Proposed Development, ES Volume I, Document Ref. 6.2).

Discharge Pipeline and CO₂ Export Pipeline (Foreshore Crossing)

- 20.5.4 In the event that the replacement of infrastructure is required, the approach for the replacement of the discharge pipeline may use trenchless technologies for a large portion of the foreshore crossing if UXO risk can be mitigated. A similar approach will be followed for the marine segment of the CO₂ Export Pipeline if possible. For both crossings, this will ensure that disruption to users of the foreshore and surrounding area is reduced as far as reasonably practicable.

Marine Licence Conditions

- 20.5.5 Should replacement of infrastructure be required, various works will be required within the marine environment; this is described in detail within Chapter 4: Proposed Development and Chapter 5: Construction Programme and Management (ES Volume I, Document Ref. 6.2), but in summary, is likely to include some or all of the following:
- preparatory dredging;
 - piling (drilled 'pin piles') for the outfall head;
 - pipeline assembly works (fabrication, jointing, connections and ancillary commissioning works);
 - trenchless technology jacking rig; and
 - supporting vessel activities (jack-up barge(s), dredger(s), work boat(s) and North Sea barge(s) to support works)
- 20.5.6 The majority of these activities would be subject to the requirement of a Marine Licence from the MMO; whether standalone or 'deemed' within the draft DCO, the preferred option. The licence is likely to include several conditions to help mitigate against any interruption to other '*legitimate uses of the sea*' (Section 69, MCAA). These may include but are not limited to:
- Construction methodology - this is typically required ahead of commencement of works such that the MMO can ensure works are compliant with the legislative requirements of the MCAA, including ensuring minimal disruption to legitimate uses of the sea;
 - Notice(s) to mariners - this is a published notice typically issued by a local harbour authority informing other marine users of marine works, their nature and duration;
 - Navigational Risk Assessment (see Appendix 20B, ES Volume III, Document Ref. 6.4);
 - Fisheries Liaison Officer - this is an appointed single point of contact to liaise between the Marine Licence applicant and local commercial fishers); and
 - Construction Environmental Management Plan (CEMP) - whilst typically focused on managing and mitigating against ecological effects from plant equipment and construction operations, the plan may also have relevance to minimising disruption to other marine users.
- 20.5.7 In the refurbishment scenario, only very minor works are likely to be required within the marine environment, but it is likely that they would be subject to some of the conditions noted above for the replacement scenario.

20.6 Likely Impacts and Effects

Effects During the Construction Phase

- 20.6.1 The following section estimates gross construction employment arising from the Proposed Development and then takes into account leakage, displacement and multiplier effects (to assess indirect and induced employment) in order to assess net impacts on the sub-regional and national economies.

Employment

- 20.6.2 Construction of the Proposed Development is anticipated to take up to four years to complete, between late 2022 and 2026. During this time employment opportunities will be created as a result of the construction work. Although these jobs are temporary, they represent a positive economic impact that can be estimated as a function of the scale and type of construction. The direct expenditure involved in the construction phase will lead to increased output generated in the Middlesbrough and Stockton TTWA economy (the Wider Impact Area).

- 20.6.3 The average number of gross construction workers over the peak years have been conservatively estimated at 1,760 for construction of the Proposed Development (Vivid Economics, 2020 - see Appendix 20A in ES Volume III, Document Ref. 6.4) during the peak of construction (identified by Vivid as 2023 to 2025).

Leakage

- 20.6.4 Leakage effects refer to the proportion of jobs within an Impact Area that are filled by residents living outside the Impact Area (i.e. outside the Wider Impact Area, defined as the Middlesbrough and Stockton TTWA).

- 20.6.5 Using a 13% leakage figure, in line with the proportion of jobs taken by non-residents of the Middlesbrough and Stockton TTWA, was considered but this was seen as too low to account for the high skilled construction employment positions expected to be required on the construction of the Proposed Development. This is acknowledged in Vivid Economics' Economic Benefits Report, where a potential skills gap is noted, being especially wide during the construction phase (see Appendix 20A in ES Volume III, Document Ref. 6.4).

- 20.6.6 A high leakage figure has therefore been considered appropriate to account for the construction phase. HM Treasury Additionality Guidance suggests a high rate of leakage of 50%. Therefore 50% discount is therefore applied to the 1,760 gross jobs created per year and as such it is conservatively estimated that 880 people from outside the Middlesbrough and Stockton TTWA and 880 from within will benefit from working at the Proposed Development each year during the construction period.

Displacement

- 20.6.7 Displacement measures are the extent to which the benefits of a project are offset by reductions of output or employment elsewhere. Any additional demand for labour cannot be treated as a net benefit, as it removes workers from other posts, such as other construction project, and the net benefit is reduced to the extent that this occurs.

20.6.8 Overall, it is assumed that due to the flexibility of a typical construction workforce (i.e. it is possible for workers to move from project to project) displacement effects are considered to be low. The HCA Additionality Guide suggests using 25% as a ‘ready reckoner’ for low levels of displacement, for example when there are expected to be some displacement effects, although only to a limited extent. Applying this low level of displacement to total gross direct employment results in net direct employment of 1,320 jobs per year.

Multiplier Effect

20.6.9 In addition to the direct construction employment generated by the Proposed Development itself there will be an increase in local employment arising from indirect and induced effects of the construction activity. Employment growth will arise locally through manufacturing services and suppliers to the construction process (indirect or supply linkage multipliers). Additionally, part of the income of the construction workers and suppliers will be spent in the Middlesbrough and Stockton TTWA, generating further employment (induced or income multipliers).

20.6.10 Construction employment is assessed with a multiplier of 1.85¹. Applying this multiplier of 1.85 generates an additional 1,120 indirect and induced jobs in the Middlesbrough TTWA arising from the Proposed Development during the construction period.

Net Construction Employment

20.6.11 Based on the gross construction worker requirements for construction of the Proposed Development and the additionality factors outlined above, 2,440 net construction jobs would be generated, of which 1,220 are expected to be from the Middlesbrough and Stockton TTWA. Table 20-6 presents the short-term employment created by the Proposed Development taking leakage, displacement and multiplier effects into account.

Table 20-6: Net Construction Employment in Middlesbrough and Stockton TTWA (average no. of workers onsite per year of construction)

Employment	Middlesbrough and Stockton TTWA	Outside of Middlesbrough and Stockton TTWA	Total
Gross Direct Employment	880	880	1,760
Displacement	220	220	440
Net Direct Employment	660	660	1,320
Net Indirect/Induced Employment	560	560	1,120
Total Net Employment	1,220	1,220	2,440

Source: AECOM calculation (2021)

¹ Input-Output Tables 1998-2014 - Leontief Type 2 Table, Scottish Government. Type II employment multiplier for the construction industry (2014). Standard practice for multipliers for specific industries.

- 20.6.12 The sensitivity of receptors is considered as medium. Taking into account the size of the labour pool of construction workers in the Middlesbrough and Stockton TTWA (11,000 (ONS, 2018), the magnitude of impacts is considered to be high. For example, the gross direct employment (in the Wider Impact Area) required during the construction phase of the Proposed Development would account for around 11% of the existing construction workforce in the Middlesbrough and Stockton TTWA, and likely to require high skilled construction workers from outside the area. Therefore, the direct, indirect and induced employment created by the construction phase of the Proposed Development is likely to have a major beneficial short-term (significant) effect on the Middlesbrough and Stockton TTWA's economy.
- 20.6.13 Construction phase effects are assessed on the basis of ten years of construction worker jobs being equal to one Full Time Equivalent (FTE job), as per HM Treasury Guidance. The anticipated construction manpower generated by the Proposed Development is therefore calculated as the equivalent of approximately 240 FTE permanent jobs during the construction period.

Wider Impacts and Effects During the Construction Phase

Temporary Workers Accommodation

- 20.6.14 The construction of the Proposed Development will see increased local demand for accommodation during the construction period comprising temporary bed and breakfast or hotel, or short-term rentals. This is expected to have positive impacts on the local economy through the additional demand for accommodation and the subsequent expenditure in the area from this activity.
- 20.6.15 It should be acknowledged that whilst the additional demand for accommodation and economic boost to the economy as a result of workers relocating to work on the Proposed Development, there may also be an element of adverse effect. There is an impact of increased rent costs (and accommodation) which can impact the local population who rely on the local rental market. It has therefore been assessed as having low sensitivity
- 20.6.16 The magnitude of the impact has been assessed as medium because of the high amount of leakage anticipated from construction work at the Proposed Development. The sensitivity has been assessed as low because the area's pool of temporary accommodation has capacity, as seen with the north-east England's 76% bed space usage in November 2019, which is less than the England rate of 79%². Though there is likely to be a reasonable in-flow of construction workers to the project. This pool of accommodation will likely benefit from the medium-term increase in usage. However, there are negative impacts on the increased cost of temporary and rental accommodation on the existing local population is also acknowledged and could outweigh the positive benefit. Considering the positives and negatives, it is anticipated that this will result in an overall minor adverse (non-significant) effect.

² England Occupancy Survey - Visit Britain, November 2020

Demographic Effects and Community Disruption

- 20.6.17 It is acknowledged a development of this scale may attract construction workers from across the UK in addition to the existing local construction workforce. While in-migration to the local and wider areas of influence for employment opportunities is expected, principally for the highly skilled or niche construction or supervisory roles, the scale of this is not anticipated to significantly affect the demographic characteristics of the local or wider areas. The sensitivity of this has been assessed as medium due to the ability of the local population and community to generally having a moderate capacity to experience these impacts without incurring a change on their economic well-being.
- 20.6.18 No significant difference from baseline conditions is expected in relation to demand for local services, such as schools or health services, during the construction phase, and therefore no additional provision of local services or infrastructure is required. Therefore, the magnitude of impact has been assessed as low. A minor adverse (non-significant) adverse effect is anticipated on the demographic characteristics of the Local and Wider Impact Areas.

Business Impacts

- 20.6.19 The PCC Site will not directly impact any businesses due to being currently unoccupied. The Site boundary takes into account the connections to and from the PCC Site and does interact with some existing businesses.

Electrical Connection

- 20.6.20 The corridor for the Electrical Connection is located between the PCC Site and Tod Point sub-station. There are no businesses in this corridor to be affected.

CO₂ Gathering Network

- 20.6.21 There are multiple businesses located within the corridor for the CO₂ Gathering Network. The extent of the corridor on the Stockton-on-Tees side of the River Tees passes through mainly disused industrial space. There are no proposals to undertake wholesale demolition in the connection corridors. These have been chosen to avoid this eventuality and should not require demolition of existing structures, limiting any effect on businesses within the Site boundary.

CO₂ Export Pipeline

- 20.6.22 The CO₂ Export Pipeline is located to the north-east of the PCC Site. There are no businesses located within the proposed corridor, therefore, this will not have any direct effects during the construction phase.

Water Supply and Discharge Connections

- 20.6.23 The corridors for the Water Supply and Discharge Connections are located to the north-east and north-west of the PCC Site. This does not directly interact with any operational businesses, being based on the former Redcar steelworks site and across the South Gare and Coatham Dunes. This is not anticipated to directly impact any businesses. The corridor does cross a

private access road to access businesses on South Gare breakwater, but this is considered as part of the 'Tourism impacts' section below.

Natural Gas Connection

- 20.6.24 The corridor for the Natural Gas Connection pipeline is located to the south-east of the PCC Site. This does not directly interact with any operational businesses being based on the former Redcar steelworks site. The construction of the Natural Gas Connection will not have any direct effects on businesses.
- 20.6.25 To summarise the assessment of business impacts, it is determined that as the Site will be provided in a cleared state before the development proceeds the Proposed Development. A medium sensitivity has been assessed due to the local businesses' anticipated resilience to a large scale development, which is located in an existing industrialised area. There is also expected to be a low magnitude impact from the development on local businesses. It is estimated there is a medium sensitivity with the businesses in the area being able to continue operating as usual during the construction process. This will result in a minor adverse (non-significant) effect due to the medium sensitivity and low impact magnitude.

Tourism Impacts (Including Local Amenities)

- 20.6.26 The construction of the Proposed Development could lead to an impact on local tourism amenities, and wider locally-used amenities.
- 20.6.27 A popular tourism destination in the area is Redcar Beach Caravan Park. This is over 1 km from the PCC Site. Due to this distance there are no impacts anticipated for this receptor. Cleveland Golf Links, a local golf course directly adjacent to the Site boundary is not anticipated to be impacted by the Proposed Development as it is not within the Site boundary. Any noise impact on receptors are covered in Chapter 11: Noise and Vibration (ES Volume I, Document Ref. 6.2).
- 20.6.28 The sensitivity of the receptor is anticipated to be low due to the comparable proportion of employment in tourism related industries (food and accommodation) in the direct impact area compared to the England level. There are no tourism-related businesses within the Site boundary. The magnitude of the impact is anticipated to be low due to the limited anticipated restrictions to access the resources. This results in a negligible (non-significant) adverse impact on tourism and wider amenities during the construction phase of the Proposed Development.

Marine Users

- 20.6.29 There are multiple marine-related receptors in proximity to the Site that could be impacted during the construction phase. The primary cause of any impacts is the Water Supply and Discharge Connections that extend into the North Sea. This has the potential to affect marine users that would usually operate in this area, and temporarily restrict areas to the South Gare breakwater.
- 20.6.30 Commercial fishing effort within the Tees Bay and surrounding area could be temporarily disrupted due to construction works and supporting vessels. Local fishing effort is primarily focused on lobsters (Nephrops), whiting and

crabs caught mostly by under 10m vessels with pots/traps and demersal trawl/seine nets. Chapter 14: Marine Ecology and Nature Conservation (ES Volume I, Document Ref. 6.2) considers this in further detail.

- 20.6.31 Whilst there is some potential for disruption, works would be short in duration and spatially limited to small areas within the water connection corridors. In addition, the wider areas around the ICES rectangle and elsewhere provide extensive alternative fishing grounds, were any displacement to occur. To help mitigate against any remaining residual risk, the Marine Licence required for works would likely include a range of conditions to help minimise any disruption.
- 20.6.32 EDF Energy Renewables own and operate the Teesside Offshore Windfarm; the generation assets for the site (i.e. the turbines themselves) are 130 m from the edge of the corridors for the Water Supply and Discharge Connections for the Site. The transmission assets (i.e. the High Voltage export cable) directly overlaps with the marine segment of the CO₂ Export Pipeline. The windfarm is in the operation and maintenance phase and the primary traffic in and around the windfarm boundary are small access and maintenance craft associated with operation and maintenance. There is a risk that operation and maintenance access vessels would experience some disruption during the completion of construction works within the water connection corridors and specifically, the discharge route. This is most likely to occur during the potential use of a jack-up barge toward the northernmost tip of the water connection corridor for the emplacement of a replacement discharge head (if needed). There is also the risk of damage to cable assets through construction works taking place alongside existing high voltage assets.
- 20.6.33 Whilst there is a potential risk of disruption, works would be short in duration and located outside of the windfarm boundary itself. Works would also be undertaken outside of the main vessel access route for the windfarm (from the EDF operational base in Hartlepool, operation and maintenance vessels typically reach the windfarm from the north-west as opposed to the south-west or south-east) In terms of risk to transmission assets, engagement with EDF is ongoing to define the exact positions of cables so that they can be appropriately avoided. As noted above, Marine Licence conditions would also help to mitigate against any remaining risk. As a result, a minor adverse (non-significant) effect is anticipated.
- 20.6.34 PD Ports own and operate Teesport and act as the statutory harbour authority. There is a potential risk of disruption to vessels using the harbour facility resulting from construction works and associated vessel activity. In addition, works would be short in duration and subject to the Marine Licence conditions referenced above to help ensure that other marine users are aware of them. On this basis, a minor adverse (non-significant) effect is anticipated.
- 20.6.35 As noted in paragraph 20.4.27, the highest areas of vessel density are within the River Tees, the Estuary mouth or the approaches directly to the north/north-east. On this basis, it is highly unlikely for there to be any disruption at the water discharge location and a minor adverse (non-significant) effect is anticipated.

- 20.6.36 The recreational fishing that takes place at South Gare could be temporarily impacted during the construction phase of the Proposed Development. The local Fishing club, South Gare Fisherman's Association, operates on South Gare breakwater. Access to the breakwater is from a private road off Tod Point Road, in Warrenby. There may be temporary diversions or realignment of the road during construction, specifically for the CO₂ Export Pipeline. This may restrict some access to the breakwater and mean that fishing cannot take place temporarily there. Any restriction to the access road and breakwater would be anticipated to only be for a short period of time.
- 20.6.37 Local dive club "Redscar³ Divers" may be temporarily impacted by the construction of the Proposed Development. The diving group operates around the north-east coast of England from their Redcar base. The area of the North Sea and north-east coast that may be affected by the Water Supply and Discharge Connections is small. Only a limited amount of the corridor for the Water Supply and Discharge Connection covers the North Sea, so any temporary diving restrictions are anticipated to be negligible.
- 20.6.38 South Gare Marine Club, an affiliated club of the RYA, is located on the South Gare breakwater. Users of this resource may experience some limited impacts from the construction of the Proposed Development. The extent of this is anticipated to be temporary disruption to users' yachting routes through the corridor of the Water Supply Connection. Likely road access will be affected as a result of temporary closures and/or traffic control measures during construction/commissioning works.
- 20.6.39 Paddy's Hole Harbour is located to the north of the PCC Site. Though there is the potential for temporary diversion on the access road to the harbour, usage of the harbour is not anticipated to be affected.
- 20.6.40 The sensitivity of the marine users (receptors) is anticipated to be low due to the ability to conduct marine-focused activity away from those areas disrupted during construction. The impact magnitude is anticipated to be medium due to the limited disruption marine resource users are anticipated to experience, but there are marine resources in close proximity to the Site. As a result, a minor adverse (non-significant) effect is anticipated.
- 20.6.41 Engagement with the MMO, EDF Energy Renewables and PD Ports is ongoing to ensure that marine navigational effects are appropriately considered. Engagement with other navigational stakeholders, Maritime and Coastguard Agency and Trinity House, took place at the start of 2020.

Public Rights of Way Users

- 20.6.42 There are multiple PRow in proximity to the Site, with some falling in the proposed Site boundary. These are illustrated in Figure 17-2, Public Rights of Way (ES Volume II, Document Ref. 6.3). Some of these PRow may require temporary diversions during the construction phase.
- 20.6.43 The England Coast Path, Teesdale Way and PRow 116/31 may be temporarily disrupted during construction. There are no PRow crossing or adjacent to the PCC Site, therefore development of the generating station and capture plant (and other on-site infrastructure) will have no impact on

³ The diving club is known as Redscar Divers, rather than being a misspelling of 'Redcar'.

PRoW. However, the PRoW located within the connection corridors may be temporarily affected if any temporary diversion or closures are put in place. Walkers accessing PRoW close to the Site, could experience some disruption during the period when works are being undertaken under the PRoW to install the pipelines, but any disruption is anticipated to be temporary.

- 20.6.44 Sensitivity has been assessed as low due to the anticipation that diversions will be able to be implemented, allowing users to use similar paths during the temporary closures. Magnitude is anticipated to be low due to the expected limited and temporary closure of PRoW routes. This results in a negligible adverse (non-significant) effect on the users of these PRoW.

Skills and Employment

- 20.6.45 Due to the size of the Proposed Development, and the minimum number of approximately 1,760 construction jobs created per annum, it is anticipated that there could be skills and employment programmes provided by the developer. This could include employment support programmes to help local residents and unemployed workers into roles at the development. This could lead on to training for roles at the Proposed Development.
- 20.6.46 The sensitivity of the skills and employment receptor is anticipated to be medium, because the local population's qualification levels are lower than the national average. The magnitude of impact is anticipated to be low because the nature and extent of such a skills development programme is unclear. The Proposed Development is therefore anticipated to have a minor beneficial (non-significant) effect on the skills and employability of local residents during the construction phase.

Effects During Operation Phase

Employment

- 20.6.47 The Proposed Development will generate long-term jobs once operational. The following analysis estimates gross operational employment arising from the Proposed Development and then takes into account deadweight (existing employment on site), leakage, displacement and multiplier effects (to assess indirect and induced employment) in order to assess net impacts in the Wider Impact Area (Middlesbrough and Stockton TTWA) and beyond.
- 20.6.48 During the operation of the power and capture elements of the Proposed Development (expected to be 25 years, with the potential for an operational life of up to 40 years for the CO₂ Gathering Network, HP Compressor Station and CO₂ Export Pipeline), employment would be generated in operative, management and maintenance roles at the Proposed Development. Figures provided by Vivid Economics suggest there will be up to 100⁴ (FTE) gross direct jobs per annum during the operation and maintenance phase (see Appendix 20A in ES Volume III, Document Ref. 6.4).
- 20.6.49 The PCC Site is currently unoccupied and as such there is no existing employment and therefore no deadweight is applied.

20.6.50 Leakage has been assumed to be low, as suggested by Vivid Economics' Economic Benefit Report (Appendix 20A, ES Volume III, Document Ref. 6.4), which states that the local skills gap could be lower "given the existing slack in the chemical and process labour market and the announced and potential closures of power and industrial facilities in the region". Therefore a leakage figure of 13% has been used for operation state (the leakage of jobs in Middlesbrough and Stockton-on-Tees TTWA to outside residents), displacement of 25% (the 'low' ready reckoner by the HCA) and a composite multiplier of 1.5, it is estimated that the total net employment for the Proposed Development is up to 130 employees. Of these, 110 are anticipated to be from the Middlesbrough and Stockton TTWA, and 20 outside the TTWA, as presented in Table 20-7.

Table 20-7: Net employment of the Proposed Development in Operation⁵

Net Employment	Middlesbrough and Stockton TTWA	Outside of Middlesbrough and Stockton TTWA	Total
Gross direct employment	90	10	100
Displacement	20	0	20
Net direct employment	70	10	80
Net indirect/induced employment	40	10	50
Total net employment	110	20	130

Source: AECOM calculations based on development information and assumptions (2021)

20.6.51 The magnitude of impact is considered to be medium during the operation and maintenance of the Proposed Development, due to the beneficial impact of this job creation for the local area. The sensitivity of receptors is assessed as medium based on the local workforce's anticipated capacity to be able to respond to this employment created, with relatively low employment leakage expected. Therefore, the direct, indirect and induced employment created by the operational phase of the Proposed Development is likely to have a moderate beneficial long-term (non-significant) effect.

Wider Effects During the Operation Phase

Community Disruption and Demographic Change

20.6.52 Some in-migration for employment opportunities (estimated as 13% leakage of jobs from the Middlesbrough and Stockton TTWA) is expected for the operation of the PCC Site, mainly for the highly skilled and/or niche operational roles or supervisory roles. However, the scale of operational employment is not anticipated to be sufficient to affect the demographic characteristics of the Local or Wider Areas of Influence, due to the anticipated low amount of in-migration for operational roles.

20.6.53 No perceptible difference from baseline conditions is therefore expected in relation to demand for housing, accommodation, local services, amenity or community disruption. No additional provision of local services or

⁵ Order of magnitude of 1 has been used to round the employment figures.

infrastructure is therefore required. This is assessed as a negligible (non-significant) effect.

Effects During Decommissioning

- 20.6.54 As set out in Chapter 4: Proposed Development (ES Volume 1, Document Ref. 6.2), the power generation and carbon capture elements of the Proposed Development are expected to operate for 25 years. At the end of its operating life, the most likely scenario is that the Proposed Development would be shut down and all above ground structures removed from the Site.
- 20.6.55 There is limited information available at this stage regarding decommissioning methods and timescales. As a worst case scenario, this would result in similar impacts as the construction phase.
- 20.6.56 At the end of its design life it is expected that these elements of the Proposed Development may have some residual life remaining and the operational life may be extended. The design life of the CO₂ Gathering Network, the HP Compressor Station and the CO₂ Export Pipeline is anticipated to be longer as they could operate independently of the power generating elements of the Proposed Development. This may result in less employment opportunities than the construction phase, and has therefore been assessed as medium magnitude. Sensitivity has been assessed as medium.
- 20.6.57 The people employed to decommission the Proposed Development would have an effect on the economy by spending their wages in the same way that those employed in the other stages. Overall, the decommissioning phase of the Proposed Development will have a minor (non-significant) beneficial effect on employment in the Wider Impact area.

20.7 Mitigation and Enhancement Measures

- 20.7.1 No significant adverse effects are predicted during the construction, maintenance, operation and decommissioning of the Proposed Development, and as such no specific mitigation is required.
- 20.7.2 No other additional mitigation measures, over and above that stated in the other technical chapters of the ES, are required to avoid or minimise the socio-economic effects identified in this chapter.
- 20.7.3 Due to the size and nature of the Proposed Development, it is anticipated that skills and education programmes and events will be provided by the Contractors as mitigation.
- 20.7.4 Other possible mitigation could be considered to benefit local residents. A mechanism for managing stakeholders' questions, concerns, and grievances and provide appropriate conflict resolution processes could be considered to ensure any issues are heard by the developer.

20.8 Limitations or Difficulties

- 20.8.1 The socio-economic assessment is based on the available data at the time of writing and has been based on a desk-based study with no site visits undertaken.

20.9 Cumulative Effects

- 20.9.1 There is the potential for cumulative effects on socio-economics and tourism resulting from the Proposed Development and other developments in the region, these other developments are listed in Chapter 24: Cumulative and Combined Effects (ES Volume I, Document Ref. 6.2). It is assumed that all the developments cumulatively will generate additional employment opportunities and associated socio-economic benefits to add to the benefits of the Proposed Development during construction.
- 20.9.2 In addition, it has been assumed that all of the other developments considered in the cumulative assessment constitute development that is broadly in line with the Local Plan employment designations.
- 20.9.3 There is a short-term risk of temporary labour shortage or local accommodation shortage should multiple projects in the region progress simultaneously. These could include the Anglo-American conveyor and port development. The cumulative socio-economic effects of the other developments together with the Proposed Development, are considered to be significantly beneficial overall.
- 20.9.4 Detailed assessments of impacts on landscape and visual amenity, noise, and construction dusts during construction of the Proposed Development have been undertaken as part of the EIA process and are reported in the relevant chapters (Chapter 8: Air Quality, Chapter 11: Noise and Vibration; and Chapter 17: Landscape and Visual Amenity, ES Volume I, Document Ref. 6.2). The combined effect of these impacts is reported in Chapter 24: Cumulative and Combined Effects (ES Volume I, Document Ref. 6.2).

20.10 Residual Effects and Conclusions

- 20.10.1 It is considered that the Proposed Development will have an overall positive economic effect on the Wider Impact Area, the Middlesbrough and Stockton TTWA economy, through the provision of employment and through associated multiplier effects.
- 20.10.2 The residual effects associated with the Proposed Development during the construction and operational stages are summarised in Table 20-8.

Table 20-8: Socio-economic Predicted Residual Effects

Construction Phase

Effect	Classification	Explanation
Net construction employment	Major beneficial effect (significant)	Medium sensitivity, high magnitude
Temporary worker accommodation	Minor adverse effect (non-significant)	Low sensitivity, medium magnitude
Demographic effects and community disruption	Minor adverse effect (non-significant)	Medium sensitivity, low magnitude
Business impacts	Minor adverse effect (non-significant)	Medium sensitivity, low magnitude

Effect	Classification	Explanation
Tourism impact (including local amenity)	Negligible effect (non-significant)	Low sensitivity, low magnitude
Marine users	Minor adverse effect (non-significant)	Low sensitivity, medium magnitude
PRoW users	Negligible adverse effect (non-significant)	Low sensitivity, low magnitude
Skills and employment	Minor beneficial effect (non-significant)	Medium sensitivity, low magnitude

Operation Phase

Effect	Classification	Explanation
Operation employment	Moderate beneficial effect (significant)	Medium sensitivity, medium magnitude
Community disruption and demographic change	Negligible adverse effect (non-significant)	Limited migration to the area for operational roles is expected.

Decommissioning Phase

Effect	Classification	Explanation
Decommissioning employment	Minor beneficial effect (not significant)	Low sensitivity, medium magnitude

- 20.10.3 The Proposed Development will result in the creation of jobs during the construction phase. This will result in a major beneficial effect on employment both within and outside the Wider Impact Area (Middlesbrough and Stockton TTWA).
- 20.10.4 The Proposed Development will result in the creation of jobs during the operation and maintenance phase, resulting in a moderate beneficial effect on employment both within and outside the Wider Impact Area (Middlesbrough and Stockton TTWA).
- 20.10.5 The cumulative socio-economic effects of the other developments together with the Proposed Development, are considered to be significantly beneficial overall.

20.11 References

Planning Inspectorate (2018). *Advice Note 9: Rochdale Envelope. Version 2*, republished April 2012. Birmingham: The Planning Inspectorate.

Department for Business, Innovation & Skills (now BEIS) (2009). *Research to Improve the Assessment of Additionality* [Online]. Available at: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/191512/Research to improve the assessment of additionality.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/191512/Research_to_improve_the_assessment_of_additionality.pdf)

Ministry of Housing, Communities and Local Government (2019). *National Planning Policy Framework* [Online]. Available at: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/810197/NPPF Feb 2019 revised.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/810197/NPPF_Feb_2019_revised.pdf);

HM Treasury (2011). *The Magenta Book: Guidance for evaluation*. London: HM Treasury.

HM Treasury (2018). *The Green Book: Central Government Guidance on Appraisal and Evaluation*. London: HM Treasury.

Homes and Communities Agency (2014). *Additionality Guide (4th Edition)*. London: HCA.

Office for National Statistics (2018). *Business Register and Employment Survey*;

Office for National Statistics (via NOMIS, accessed September 2019).

Redcar & Cleveland Borough Council (2018a). *Redcar & Cleveland Borough Council Local Plan. Adopted May 2018* [Online]. Available at: <https://www.redcar-cleveland.gov.uk/resident/planning-and-building/strategic%20planning/Documents/Local%20Plan%20Adopted%20May%202018.pdf>

Redcar & Cleveland Borough Council (2018b) *South Tees Area – Supplementary Planning Document* [Online]. Available at: <https://www.southteesdc.com/wp-content/uploads/2019/04/South-Tees-Area-SPD-Adopted-May-2018.pdf>

Stockton on Tees Borough Council (2019). *Stockton on Tees Borough Council Local Plan. Adopted 30 January 2019* [Online]. Available from: <https://www.stockton.gov.uk/media/1585775/localplanmainreportcontents.pdf>

Tees Valley Combined Authority (2016). *Tees Valley Strategic Economic Plan 2016 – 2026* [Online]. Available at: <https://teesvalley-ca.gov.uk/wp-content/uploads/2016/12/TVCA207-SEP-Documents-Full-WEB.pdf>

Vivid Economics (2020) *Net Zero Teesside Economic Benefits Report*.