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17. Landscape and Visual Amenity

17.1 Introduction

17.1.1 This chapter of the Environmental Statement (ES) addresses the potential effects of the Proposed Development on landscape character (as a resource in its own right) and visual amenity. This chapter is supported by Figures 17-1 to 17-30 (ES Volume II, Document Ref. 6.3) and Appendices 17A-17C (ES Volume III, Document Ref. 6.4).

17.2 Legislation and Planning Policy Context

Legislative Background

17.2.1 The landscape and visual impact assessment takes account of the legislation relevant to landscape and visual issues, including the aims of the European Landscape Convention (Council of Europe, 2020).

Planning Policy Context

National Planning Policy

17.2.2 The overarching National Policy Statement (NPS) for Energy EN-1 (BEIS, 2011) includes a number of statements pertinent to the potential landscape, including Green Infrastructure (GI) and visual impacts of energy infrastructure in general.

17.2.3 Section 5.9 of EN-1 sets out the requirements for assessing and mitigating landscape and visual impacts of proposed nationally significant energy infrastructure projects. The scope of the assessment should include construction phase effects as well as the effects of the completed facility and its operation on landscape components, landscape character and views and visual amenity. The assessment also considers the potential effects associated with the decommissioning of the Proposed Development.

17.2.4 In terms of mitigation, EN-1 encourages the reduction in scale of the buildings taking into consideration function, appropriate siting, design including colours and materials, and landscaping schemes to mitigate adverse landscape and visual impacts.

17.2.5 Paragraphs 5.9.15 to 5.9.16 to EN-1 state:

> *'The scale of such projects means that they will often be visible within many miles of the site of the proposed infrastructure. The IPC (*Infrastructure Planning Commission) *should judge whether any adverse impact on the landscape would be so damaging that it is not offset by the benefits (including need) of the project.*
>
> *In reaching a judgment, the IPC should consider whether any adverse impact is temporary, such as during construction, and/or whether any adverse impact on the landscape will be capable of being reversed in a timescale that the IPC considers reasonable.'*

17.2.6 Paragraph 5.9.18 of EN-1 states *'All proposed energy infrastructure is likely to have visual effects for many receptors around proposed sites. The IPC will have to judge whether the visual effects on sensitive receptors, such as local residents, and other receptors, such as visitors to the local area, outweigh the benefits of the project'.*

17.2.7 Paragraph 5.9.22 of EN-1 states *'Within a defined site, adverse landscape and visual effects may be minimised through appropriate siting of infrastructure within that site, design including colours and materials, and landscaping schemes, depending on the size and type of the proposed project. Materials and designs of buildings should always be given careful consideration.'*

17.2.8 Section 5.10 of EN-1 establishes the requirements for identifying and mitigating impacts of energy infrastructure projects on open space (including GI).

17.2.9 An energy infrastructure project will have direct effects on the existing use of the proposed site and may have indirect effects on the use, or planned use, of land in the vicinity for other types of development. Given the likely locations of energy infrastructure projects there may be particular effects on open space including GI.

17.2.10 Where GI is affected, the Secretary of State (SoS) should consider imposing requirements to ensure the connectivity of the green infrastructure network is maintained in the vicinity of the development and that any necessary works are undertaken, where possible, to mitigate any adverse impact.

17.2.11 The NPS for Fossil Fuel Electricity Generating Infrastructure, EN-2 provides further detail with respect to the required impacts for large-scale structures associated with fossil fuel generating stations.

17.2.12 Section 2.6.5 of EN-2 states that *'It is not possible to eliminate the visual impacts associated with a fossil fuel generating station. Mitigation is therefore to reduce the visual intrusion of the buildings in the landscape and minimise impact on visual amenity as far as reasonably practicable'*. The design should provide the best fit with the existing local landscape and to minimise the impact through use of appropriate external finishes and colour choice and to enclose low level buildings and structures to reduce impacts from nearby receptors.

17.2.13 The National Planning Policy Framework (Ministry of Housing, Communities and Local Government (MHCLG), 2019) includes policies that ensure developments are '*sympathetic to local character and history, including the surrounding built environment and landscape setting, while not preventing or discouraging appropriate innovation or change'*.

17.2.14 Chapter15: Conserving and enhancing the natural environment recognises that the environment should be enhanced by:

- 'protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);
- recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;

- maintaining the character of the undeveloped coast, while improving public access to it where appropriate;
- minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;
- preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and
- remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate'.

Regional Planning Policy

17.2.15 The Tees Valley Combined Authority does not have any planning policies relevant to the Proposed Development in relation to landscape and visual amenity, therefore the policies of members of the combined local authority have been reviewed further below.

Local Planning Policy

17.2.16 The planning policy documents that are relevant to the Site are:

- Redcar & Cleveland Local Plan (adopted May 2018) (RCBC, 2018);
- Redcar & Cleveland Landscape Character Supplementary Planning Document (adopted March 2010) (RCBC, 2010);
- Stockton-on-Tees Local Plan (adopted January 2019) (Stockton-on-Tees Borough Council, 2019); and
- Hartlepool Local Plan (adopted 2018) (Hartlepool Borough Council, 2018).

17.2.17 These documents contain a number of policies of relevance to the Proposed Development in landscape and visual terms as set out below.

17.2.18 Redcar & Cleveland Local Plan (adopted May 2018) (RCBC, 2018) policies:

- N1 Landscape;
- LS1 Urban Area Spatial Strategy; and
- SD4 General Development Principles.

17.2.19 Policy N1 Landscape aims to protect and enhance Redland & Cleveland Borough Council's (RCBC) landscape. The policy states developments will not be permitted where they would lead to the loss of features important to the character of the landscape, its quality and distinctiveness, unless the benefits of development clearly outweigh landscape considerations.

17.2.20 Policy N1 Landscape discusses Locally Important Landscapes. RCBC's rural landscapes have been split into two categories:

- Sensitive Landscapes, in which much landscape structure is present to give high 'strength of character' which is sensitive to change; and
- Restoration Landscapes, where the land has lost a greater or lesser degree of landscape structure and would benefit from measures to restore that structure and character.

17.2.21 Sensitive Landscapes and Restoration Landscapes are shown on Figure 17-1: Landscape Context (ES Volume II, Document Ref. 6.3).

17.2.22 Policy N1 states that Sensitive Landscape Areas including the historic landscape of Eston Hills will prioritise the retention of elements that make up the landscape character. The policy states that in Restoration Landscape areas opportunities should be taken to repair or reinstate the landscape structure as part of development.

17.2.23 Policy LS1 Urban Area Spatial Strategy aims to protect and enhance the character and special qualities of the Eston Hills.

17.2.24 Policy SD4 General Development Principles assesses the suitability of a site or location. The policy states that when locating new development, important environmental, built and historic assets will be protected.

17.2.25 Stockton-on-Tees Local Plan (adopted January 2019) Policies (Stockton-on-Tees Borough Council, 2019):

- SD5 - Natural, Built and Historic Environment;
- ENV5 - Preserve, Protect and Enhance Ecological Networks, Biodiversity and Geodiversity;
- ENV6 - Green Infrastructure, Open Space, Green Wedges and Agricultural Land; and
- SD8 – Sustainable Design Principles.

17.2.26 Policy SD5 - Natural, Built and Historic Environment aims to ensure the conservation and enhancement of the environment.

17.2.27 Policy ENV5 - Preserve, Protect and Enhance Ecological Networks, Biodiversity and Geodiversity states '*development proposals will be supported where they enhance nature conservation and management, preserve the character of the natural environment and maximise opportunities for biodiversity and geological conservation particularly in or adjacent to Biodiversity Opportunity Areas in the River Tees Corridor, Teesmouth and Central Farmland Landscape Areas'.*

17.2.28 Policy ENV6 - Green Infrastructure, Open Space, Green Wedges and Agricultural Land aims to *'protect and support the enhancement, creation and management of all green infrastructure to improve its quality, value, multi-functionality and accessibility'.*

17.2.29 Policy SD8 – Sustainable Design Principles states *'new development to be designed to the highest possible standard, taking into consideration the context of the surrounding area'.* The policy aims to ensure new development fits in with the surrounding area.

17.2.30 Hartlepool Local Plan (adopted 2018) (Hartlepool Borough Council, 2018):

- RUR1: Development in the Rural Area; and
- NE1: Natural Environment.

17.2.31 Policy RUR1: Development in the Rural Area aims 'to ensure the rural area is protected and enhanced to ensure that its natural habitat, cultural and built heritage and rural landscape character are not lost'.

17.2.32 Policy NE1: Natural Environment states 'the borough council will protect, manage and enhance Hartlepool's natural environment'.

17.3 Assessment Methodology and Significance Criteria

17.3.1 The landscape and visual impact assessment has been based on the following best practice guidance:

- Guidelines for Landscape and Visual Impact Assessment (GLVIA 3), Third Edition (Landscape Institute and Institute of Environmental Management and Assessment, 2013); and
- Technical Guidance Note (TGN) 06/2019: Visual Representation of Development Proposals (Landscape Institute, 2019).

17.3.2 Baseline data has been gathered from a study of Ordnance Survey (OS) maps and aerial photographs, publicly available documents such as landscape character assessment documents from local authorities within the immediate area and national character mapping available from Natural England. A site visit has also been undertaken to provide valuable background knowledge on the existing character and impact of the Proposed Development on receptor groups such as residents and to record views from representative viewpoints.

Impact Assessment and Significance Criteria

17.3.3 A detailed description of the assessment methodology is included in Appendix 17B: Landscape and Visual Impact Assessment Methodology (ES Volume III, Document Ref.6.4) and is summarised below.

17.3.4 For the purposes of comparison and in order to establish a 'control' scenario against which the effects of the Proposed Development may be assessed, the baseline conditions are projected forward to produce a future 'no development' (baseline) scenario. The potential impacts of the Proposed Development upon the baseline landscape and receptor views are then identified and the significance of any resulting effects is then assessed. Potential landscape and visual impacts and the resulting effects (both adverse and beneficial) are considered for the following scenarios:

- Construction (late 2022-2026);
- Opening (start of operation) (2026);
- Operation (15 years post opening) (2041); and
- Decommissioning (2051).

17.3.5 Impacts may be temporary, permanent, short-term or long-term. Landscape and visual impacts may be further categorised as being either direct, i.e.

originating from the development itself; or indirect and secondary, from consequential change resulting from the development.

17.3.6 In order to provide a level of consistency and transparency to the assessment and allow comparisons to be made between the various landscape and visual receptors subject to assessment, the assessment of effects is based on pre-defined criteria as outlined in Table 17B-7 and 17B-16 within Appendix 17B: Landscape and Visual Impact Assessment Methodology (ES Volume III, Document Ref. 6.4). When assessing the degree of individual effects, these may fall across several different categories and professional judgement is therefore used to determine which level best fits the overall effect on a landscape or visual receptor. GLVIA 3 dictates that this is not a prescriptive process and is provided as a guide to how combination of sensitivity and magnitude are typically combined.

Landscape Impact Assessment Methodology

17.3.7 In assessing the predicted effects from any likely impacts to the landscape resulting from the Proposed Development, the following criteria are considered:

- landscape character;
- landscape sensitivity; and
- magnitude of likely impacts that may affect the landscape.

17.3.8 Landscape impacts are considered, including both the direct and indirect impacts of the Proposed Development upon landscape elements and features (or components), as well as the impact upon the general landscape character of the surrounding area.

17.3.9 The susceptibility of the landscape to change is the degree to which a particular Landscape Character Area (LCA) or feature can accommodate changes or new features without unacceptable detrimental effects to its essential characteristics. Susceptibility is combined with value to determine sensitivity.

17.3.10 The magnitude of a predicted landscape impact relates to the size, extent or degree of change likely to be experienced as a result of the Proposed Development. The magnitude takes into account whether there is a direct impact resulting in the loss of landscape components, or a change beyond the land-take of the scheme that might have an effect on the character of the area, and whether the impact is permanent or temporary.

17.3.11 The relationship between sensitivity and magnitude of impact allows an assessment of the significance of predicted landscape effects to be made. Diagram 17-1 presents a diagram to describe the relationship between sensitivity and magnitude of impacts on the landscape to determine the effect.

17.3.12 GLVIA 3 dictates that this is not a prescriptive process and is provided as a guide to how combinations of sensitivity and magnitude are typically combined. For the purposes of this assessment, moderate and major effects will be deemed ‘significant’ in accordance with standard Environmental Impact Assessment (EIA) practice; while minor and negligible effects are considered to be ‘not significant’. Where significant environmental effects are identified,

measures to mitigate these effects are proposed (where feasible) and the remaining residual effects are identified.

17.3.13 A full explanation of the criteria used to assess sensitivity, magnitude of impact and classification of landscape effects is included in Appendix 17B: Landscape and Visual Impact Assessment Methodology (ES Volume III, Document Ref. 6.4).

Visual Impact Assessment Methodology

17.3.14 The assessment of effects likely to result from visual impacts is structured by the susceptibility of receptor groups to change. Receptors are primarily identified through the combination of definition of the zone of theoretical visibility (ZTV), within which views of the Proposed Development are likely to be possible; and professional judgment. The sensitivity of each receptor group is then evaluated as being high, medium, low or very low through combination of the value of view and susceptibility of the receptor.

17.3.15 Views from each identified representative viewpoint are recorded, considering the distance from the Site (as the crow flies), receptor type, and a short description of the view.

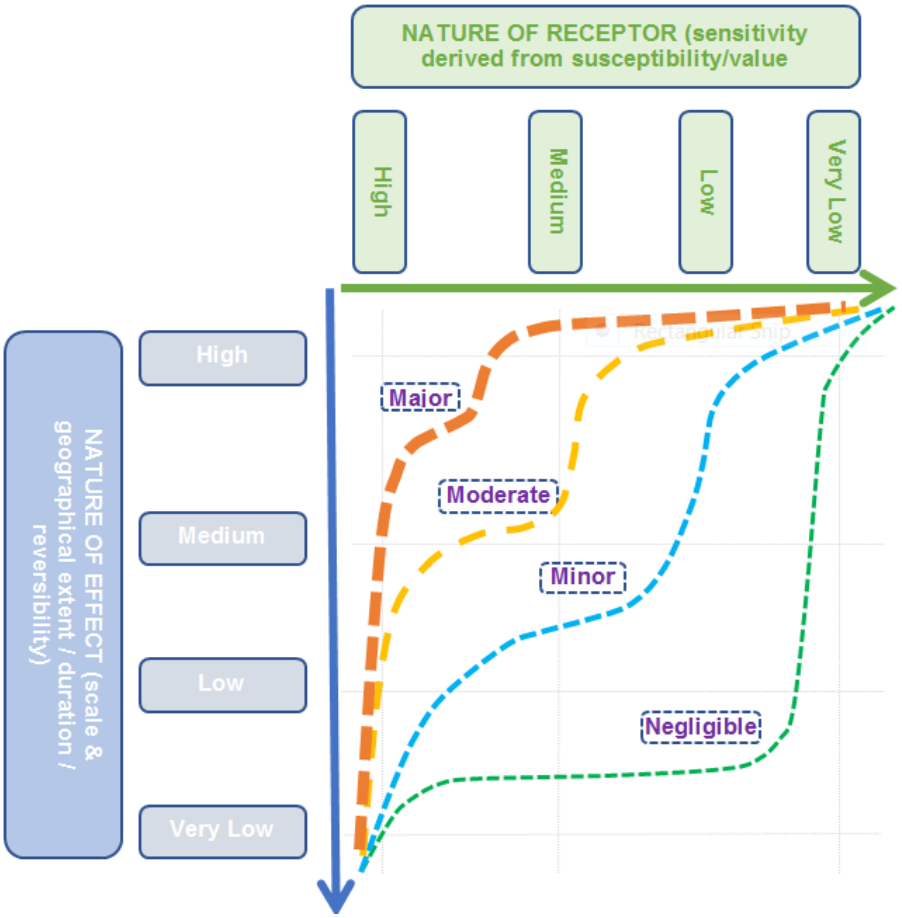
17.3.16 For the purposes of assessment, the sensitivity of a receptor and the magnitude of a likely impact are combined to assess the effects that the Proposed Development are predicted to have on existing baseline visual conditions for that given receptor. As previously described for the landscape impact assessment, specific terminology is used to describe the magnitude of impact (see Appendix 17B: Landscape and Visual Impact Assessment Methodology for details (ES Volume III, Document Ref. 6.4)). Diagram 17-1 sets out the criteria used to assess the relative significance of visual effects.

17.3.17 Although some visual receptors may consider the Proposed Development to be visually appealing or interesting, the assessment follows standard best practice methods, and therefore assumes a ‘worst case’ scenario whereby significant changes to views as a result of new tall/ large structures or buildings in an existing relatively open area are generally considered to be adverse.

17.3.18 Viewpoint photography accompanying this assessment has been undertaken in accordance with best practice in Landscape Institute TGN 06/2019: Visual Representation of Development Proposals; Type 1 (annotated viewpoint photograph) and Type 3 (photowire/ photomontage).

17.3.19 The relationship between the sensitivity of receptors and the magnitude of likely impacts allows the relative significance of predicted effects on the landscape to be defined. Diagram 17-1 below describes the relationship, and so allows a relative level of significance of any predicted visual effects to be categorised. For the purposes of this assessment, moderate and major effects will be deemed ‘significant’ in accordance with standard EIA practice; while minor and negligible effects are considered to be ‘not significant’. Where significant environmental effects are identified, measures to mitigate these effects are proposed (where feasible) and the remaining residual effects are identified.

Diagram 17-1: Classification of Landscape and Visual Effects



Use of the Rochdale Envelope

17.3.20 The landscape and visual impact assessment has been undertaken in accordance with the Planning Inspectorate Guidance Note Nine: Using the Rochdale Envelope (The Planning Inspectorate, 2018). The key measurements for the implementation for the Rochdale Envelope (i.e. the maximum parameters for the Proposed Development and in particular its main buildings and structures) are detailed in Table 4-1: Maximum Design Parameters in Chapter 4: Proposed Development (ES Volume I, Document Ref. 6.2).

17.3.21 The magnitude of visual impacts of the Proposed Development relate to (amongst other criteria) the size and scale of the structures and geographical extent of the area influenced by them. The assessment is based upon the largest possible dimensions for the Proposed Development, and stack heights of up to 128 m Above Ordnance Datum (AOD) for the absorber stack (which equates to 115 m above ground level) and 110 m AOD for the Heat Recovery Steam Generator (HRSG), as these are considered to represent the worst-case scenario. The maximum dimensions are based upon the widest building footprint and tallest potential height as detailed in Table 4-1: Maximum Design Parameters in Chapter 4: Proposed Development (ES Volume I, Document Ref. 6.2), including for the new NZT sub-station adjacent to the existing NGET Tod Point sub-station.

17.3.22 In addition to the Rochdale Envelope parameters, there are also limits of deviation within which the Proposed Development could be constructed. Given the space constraints of the limits of deviation for each part of the Proposed Development (in particular within the Power, Capture and Compressor (PCC) Site, where the largest structures will be located), it is considered that the overall conclusions of the assessment presented in this chapter would not be materially affected by the positioning of the buildings and structures within these limits.

17.3.23 The assessment has assumed that all vegetation within the Electrical Connection Corridor will be removed at the construction stage as a worst-case scenario and reinstated upon completion. The majority of vegetation consists of grassland and scrub.

Study Area

17.3.24 The extent of the Study Area is determined by the potential visibility of the Proposed Development in the surrounding landscape and is proportionate to the size and scale of the Proposed Development and nature of the surrounding landscape. GLVIA3 (Landscape Institute and Institute of Environmental Management and Assessment, 2013) states that the Study Area should include '*the full extent of the wider landscape around it which the proposed development may influence in a significant manner'*.

17.3.25 For the purposes of this Landscape and Visual Impact Assessment (LVIA) the Study Area has been defined by a combination of ZTV analysis and professional judgement. Based upon the tallest element of the Proposed Development being the stack (115 m) it is considered that it is highly unlikely that significant effects will be experienced from further than 10 km from the boundary of the PCC Site. Based upon the nature of the works required within the Connection Corridors and the CO_2 Gathering Network (taking account of all permanent above ground structures including the AGIs and the new NZT substation at Tod Point and extension to the existing NGET substation), it is considered highly unlikely that significant effects will be experienced further than 2 km from the Site boundary. Therefore, a Study Area of 2 km has been applied for the Natural Gas Connection Corridor, the CO_2 Gathering Network and the Electrical Connection Corridor. In most cases both Study Areas overlap, as illustrated on Figure 17-1: Landscape Context (ES Volume II, Document Ref. 6.3).

Sources of Information

17.3.26 Three site visits have been undertaken by a Chartered Landscape Architect (20th November 2019, 23rd January 2020 and 28th September 2020) to better understand the existing landscape character of the area and the potential impact of the Proposed Development on the surrounding community, and to record views from representative viewpoints.

Consultation

17.3.27 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 a Scoping Opinion

was received from the Planning Inspectorate in April 2019. (Appendix 1A in ES Volume III, Document Ref. 6.4).

17.3.28 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 are set out where relevant within each of the topic chapters in the ES and in Chapter 6: Alternatives and Design Evolution (ES Volume I, Document Ref. 6.2).

17.3.29 In addition, consultation was undertaken with local authorities located within the 10 km Study Area to agree the location of representative viewpoints. Table 17-1 provides a summary of how comments raised by stakeholders to date in relation to landscape and visual impacts have been considered and actioned where appropriate.

Table 17-1: Consultation Summary Table

Consultee	Date (method of consultation)	Summary of consultee comments	Summary of response/ how comments have been addressed
Planning Inspectorate	Scoping Request issued February 2019, Scoping Opinion received April 2019	The ES should include a description of any local LCA which could be impacted by the Proposed Development.	Local LCAs and Landscape Character Types have been included in the report within Section 17.4: Baseline Conditions of this chapter.
		The ES should clearly explain any assumptions made in the landscape and visual assessment regarding the number, height, diameter and placement of the stacks.	A description of the Proposed Development is set out in Chapter 4: Proposed Development (ES Volume I, Document Ref. 6.2).
		Night-time impacts (such as from lighting) to landscape and visual receptors should be assessed where significant effects are likely to occur.	The impact of light pollution as required by NPS EN-1 has been reviewed as part of this chapter to determine its effects on landscape character and visual amenity. As a result of the existing high levels of lighting within the Site boundary and surrounding area there will be no significant effects on the identified viewpoints as a result of the introduction of lighting associated with

Consultee	Date (method of consultation)	Summary of consultee comments	Summary of response/ how comments have been addressed
			the Proposed Development. An Indicative Lighting Strategy (Document Ref. No. 5.11) submitted with the Application is discussed in Section 17.5: Likely Impacts and Effects, of this chapter.
		The ES should also assess impacts to other types of recreational receptors including visitors to nature conservation sites and the scheduled monuments at Eston Nab as well as users of the Tees Bay and Estuary where significant effects are likely to occur. The ES should justify the choice of sensitive receptor locations with reference to the extent of the likely impacts and make effort to agree these with the relevant consultation bodies.	The ES assesses the impact on recreational receptors at a number of locations including nature conservation sites, Cleveland Golf Club, Eston Nab, Tees Bay and Estuary. Relevant authorities were consulted regarding agreement of potential viewpoint locations. Justification for the selection of representative viewpoints to be assessed is included in Appendix 17C: Potential Viewpoints (ES Volume III, Document Ref. 6.4)
		The ES should include a clear justification in support of the Study Area and ensure it is depicted on corresponding figures to aid understanding	The justification for the size of Study Area is set out in paragraphs 17.3.24 and 17.3.25 of this chapter and on Figure 17-1: Landscape Context (ES Volume II, Document Ref. 6.3).
		The Applicant should make effort to agree both the number and location of viewpoints and photomontages with relevant consultation bodies and justify the choices in the ES. Appropriate viewpoints should be selected to capture any long views of the Proposed Development, including from the north side of the River Tees and the scheduled monuments at	Potential viewpoint locations and locations of potential photomontages have been sent to all relevant authorities for agreement as part of the Section 42 consultation process. Long views from Hartlepool and Eston Nab have been assessed within this chapter. Winter and summer views have also been included in the ES.

Consultee	Date (method of consultation)	Summary of consultee comments	Summary of response/ how comments have been addressed
		Eston Nab. Both winter and summer views should be included.	
		The ES should clearly describe any proposed planting and how the landscape and visual effects are expected to alter as any such planting matures. If mitigation plans are proposed, drafts of these documents should be provided with the ES.	The Proposed Development anticipates no removal of mature vegetation or planting of tree and shrub planting, therefore there will be no change to the identified landscape and visual effects over time.
		The ES should explain how the siting and design of the proposed structures (and the materials to be used) have been selected with the aim of minimising impacts to landscape and visual receptors.	Detailed in Section 17.5 Design Development and Impact Avoidance of this chapter.
Stockton on Tees Borough Council	Email sent on 16th January 2020.	Requested two additional viewpoints. One along the newly opened 'England Coast Path' a national long-distance footpath which runs parallel to Seaton Carew Road, from the Transporter Bridge to Greatham Creek and on towards the North Gare in Hartlepool. This viewpoint could also consider the users of RSPB Saltholme Reserve, a significant local visitor attraction. The second within Cowpen Bewley Woodland Park, where there is a local viewpoint on a small hill.	Both viewpoints were visited and included in the assessment.
Redcar and Cleveland Borough Council	Email sent on 16th January 2020	No response received.	N/A
Natural England	Section 42 Consultation on 17th September 2020	The proposal does not appear to be either located within, or within the setting of any nationally designated	The Proposed Development is characteristic of the industrial local character and through design

Consultee	Date (method of consultation)	Summary of consultee comments	Summary of response/ how comments have been addressed
		landscape. All proposals however should complement and where possible enhance local distinctiveness and be guided by Redcar and Cleveland Council's landscape character assessment where available, and the policies protecting landscape character in the adopted local plan.	development will complement the existing nature of the Site and surrounding area.
Forestry Commission	Section 42 Consultation	Potential for impacts to existing woodland funded under various Government Schemes. Removal of any woodlands to be clearly presented in the Application documents. Requirements in relation to tree felling and licenses to the sought identified.	There is no requirement for the removal of mature vegetation that would impact on existing woodlands within the Site boundary. All areas of woodland have been avoided and no indirect effects are anticipated. Tree protection measures are included within Appendix 5A: Framework CEMP (ES Volume III, Document Ref. 6.4). The Applicants have considered and included measures for protection and enhancement with the Indicative Landscape and Biodiversity Strategy submitted with the Application (Document Ref. 5.12).
Local Resident	Section 42 Consultation on 13th September 2020	What are the 'significant effects on the England Coast Path and Redcar seafront' going to be? Will this have any impact on the historical Black Path? A project relating to the cultural and industrial heritage of the area has recently been completed there, in cooperation with the Tees Valley Combined Authority. You need to spell out how Redcar seafront will be significantly affected.	The potential impacts on users of the England Coast Path along Redcar seafront have been identified within Table 17-8: Viewpoint Assessment, Viewpoint 8 – Redcar seafront in this chapter.

17.4 Baseline Conditions

Existing Landscape and Seascape Baseline

Landscape and Seascape Characterisation

National Character Areas

17.4.1 At a national scale Natural England provide 159 National Character Area (NCA) profiles. Each profile includes a description of the natural and cultural features that shape the landscape. The Study Area contains three NCA profiles

- NE435: NCA Profile:15: Durham Magnesian Limestone Plateau (Natural England, 2013);
- NE439: NCA Profile: 23 Tees Lowlands (Natural England, 2014); and
- NE352: NCA Profile 25: North York Moors and Cleveland Hills (Natural England, 2015).

17.4.2 The relevant characteristics of these NCA's are described below and in full in Appendix 17A: Landscape Character (ES Volume III, Document Ref. 6.4); NCA are illustrated in Figure 17-3: Landscape Character Plan (ES Volume II, Document Ref. 6.3).

17.4.3 NCA Profile 23: Tees Lowlands covers the Proposed Development and the majority of the Study Area. It is characterised by predominately low lying arable farmland and open plain. The industrial development fringing the tidal reaches of the River Tees contrasts with the surrounding rural landscape. Principal transport corridors, power lines and industrial infrastructure are notable elements in the landscape and the industrial installations around Teesmouth form a prominent skyline, juxtaposed with expansive mudflats, sand dunes and salt marshes.

17.4.4 NCA Profile 25: North York Moors and Cleveland Hills NCA lies in the south-east of the Study Area and is characterised by upland plateaux and hills dissected by a series of dales, some broad and sweeping but others narrow, steep sided and wooded. The variation creates strong contrasts between open moors and enclosed valleys. The valley landscapes are characterised by pastoral farming providing a strong visual contrast with the bracken fringed moorlands above. The extensive areas of heather moorland on plateaux and hills create a strong sense of space, expansiveness and openness and some 85 percent of the area falls within the North York Moors National Park. Large-scale arable landscapes are characteristic within the south and east. The NCA affords panoramic views over moorland plateaux, ridges and dales and out over surrounding lowland landscapes and the North Sea.

17.4.5 NCA Profile 15: Durham Magnesian Limestone Plateau lies in the north-west of the Study Area and is characterised by large-scale, open farmland with widespread urban and industrial development in the north. The dramatic coastline with exposed cliffs, sand dunes and beaches that support large populations of waders and sea birds. There is a strong influence from the

historic mining industry in the form of ex-mining towns and villages and reclaimed colliery sites.

National Seascape Character Assessment

17.4.6 At a national scale the Study Area includes the Marine Character Area (MCA): North East described in the National Seascape Character Assessment for England (MM01134) (Marine Management Organisation, 2018) and illustrated on Figure 17-3: Landscape Character Plan (ES Volume II, Document Ref. 6.3).

17.4.7 The North East MCA is subdivided into nine MCA profiles. MCA 22 Tyne, Tees and Wear Estuaries and Coastal Waters lies within the Study Area. MCA 21 North Yorkshire Coastal Waters lies at the very eastern edge of the Study Area. As a result of the limited extents of MCA 21 North Yorkshire Coastal Waters at the eastern edge of the Study Area it has not been considered further in the assessment. The relevant characteristics of the MCA 22 Tyne, Tees and Wear Estuaries and Coastal Waters are summarised below and in full in Appendix 17A: Landscape Character (ES Volume III, Document Ref. 6.4).

17.4.8 MCA 22 Tyne, Tees and Wear Estuaries and Coastal Waters lies to the north of the Study Area and encompasses Tyne Estuary. It is characterised by shelving coastal waters off the extensively developed coast at Tyne, Tees and Wear lowlands contrasting with areas of undeveloped coastline. The coastline is perceived as well-lit from the sea particularly around Middlesbrough due to the extent of industrial facilities. The general absence of headlands results in a wild seascape when storms sweep in from the North Sea. Expansive views across the north see allow for prominent views of the offshore wind farms located within the MCA. There is good coastal access along much of the coast providing increasing opportunities for recreation and tourism, including fishing and walking along stretches of the England Coast Path.

Regional

17.4.9 The Site and Study Area is not covered by any regional Landscape Character Assessment.

Local

17.4.10 The Study Area is covered by three local landscape character assessments:

- Redcar and Cleveland Landscape Character Assessment (RCBC, 2006);
- Stockton-on-Tees Landscape Character Assessment (Stockton-on-Tees Borough Council, 2011); and
- Hartlepool Landscape Assessment (Hartlepool Borough Council, 2000).

Redcar and Cleveland Landscape Character Assessment

17.4.11 Redcar and Cleveland Landscape Character Assessment (RCBC, 2006) divides the rural areas of the Borough into four broad Landscape Character Tracts (LCTr). These are defined by combinations of physical and land cover characteristics and geographical context that have a recognisable and distinctive local identity setting them apart from neighbouring areas. The assessment divides the area into Landscape Tracts. Four landscape tracts fall

within the Study Area. The relevant characteristics of these landscape tracts are summarised below and in full in Appendix 17A: Landscape Character (ES Volume III, Document Ref. 6.4). The LCTr are illustrated on Figure 17-3: Landscape Character Plan (ES Volume II, Document Ref. 6.3).

17.4.12 The PCC Site is bordered by the Redcar Flats LCTr which is characterised by arable farmland within the inland part of the tract and a coastal zone, which is classified as Sensitive Landscape. Any development within this coastal zone would be very widely visible across the LCTr. Few landscape features are present to interrupt the open, gently sloping landscape. The industrial and urban skyline features have a strong local influence on landscape character, including the industry at Wilton Works. Other Sensitive Landscapes include the parkland at Kirkleatham and the wooded valley at Hazel Grove. The remainder of the tract is classified as Restoration Landscape. Existing landscape features are sparse and the retention of existing features is important as a setting for new development, as the basis for additional planting or for the creation of new planting.

17.4.13 The Eston Hills LCTr borders the Study Area to the south and is characterised by prominent steep-sided hills including Eston Hills, higher land at Upleatham and between Skelton and Slapewath which are linked by low saddles. Open moorland, wooded hillsides and escarpments contribute to the distinctive character of this area. Extensive views are available from many locations. The landscapes on higher land within this LCTr are classified as Sensitive Landscapes with the remainder classified as Restoration Landscapes.

17.4.14 The Guisborough Lowland LCTr lies on the southern edge of the Study Area is characterised by a gently undulating arable farmland with a distinctively lightly wooded character. The parkland at Guisborough Hall is classified as Sensitive Landscape with the remainder of the LCTr classified as Restoration Landscape.

17.4.15 A small section of the East Cleveland Plateau LCTr lies to the east of the Study Area and is characterised by open, elevated, rural coastal plateau. The plateau is dissected by deeply-incised wooded valleys. The North Yorkshire and Cleveland Heritage Coast stretches from Saltburn southwards. The area of the LCTr that is located within the Study Area is classed as a Sensitive Landscape.

Stockton-on-Tees Landscape Character Assessment

17.4.16 The Study Area includes the East Billingham to Teesmouth LCA and the Thorpe and Billingham Beck Valley LCA as defined by Stockton on Tees Landscape Character Assessment 2011. The relevant characteristics of these LCA are summarised below and in full in Appendix 17A: Landscape Character (ES Volume III, Document Ref. 6.4). The LCAs are illustrated on Figure 17-3: Landscape Character Plan (ES Volume II, Document Ref. 6.3).

17.4.17 The East Billingham to Teesmouth LCA lies to the west of the Study Area within the Site boundary and is characterised by industrial landscapes to the east and west and large areas of open space including wetlands and reclaimed semi improved pasture. Large storage tanks and stacks dominate views towards the east of the LCA. The open spaces contain significant wildlife value with a number of ecological designations including the Site of Special

Scientific Interest (SSSI)'s at Seal Sands, Cowpen Marsh, and Teesmouth and Cleveland Coast Special Protection Area (SPA) site and Ramsar site. Ridge and furrow is present within the arable land around Cowpen Bewley. Cowpen Bewley Woodland Park provides the only wooded element within this LCA.

17.4.18 The Thorpe and Billingham Beck Valley LCA lies at the western edge of the Study Area and is characterised by a wide beck valley. The LCA contains semi-improved and improved pasture influenced by "A" roads and the Stockton to Darlington railway line.

Hartlepool Landscape Assessment

17.4.19 The Hartlepool Landscape Assessment, 2000 defines seven Landscape Character Types (LCT). The Study Area includes four LCT as defined by Hartlepool Landscape Assessment: Coastal Fringe, Estuarine, Rural Fringe and Undulating Farmlands. The characteristics are summarised below and in full in Appendix 17A: Landscape Character (ES Volume III, Document Ref. 6.4). The LCTs are illustrated on Figure 17-3: Landscape Character Plan (ES Volume II, Document Ref. 6.3).

17.4.20 The Coastal Fringe LCT lies in the north of the Study Area. The LCT encompasses the beach and adjoining areas of land which have a maritime influence. The LCT is characterised by exposed tidal beaches, exposed rock and sea cliff areas, man-made features such as coastal defences, harbour or sea wall installations. Coastal dunes, coastal grassland and salt marshes are evident within the LCT.

17.4.21 The Estuarine LCT, located north of Teesmouth estuary, is defined by flat, featureless plains. The area includes semi-natural open water, associated salt marsh, reed beds, sand and mud flats. These areas also typically include low lying agricultural land, low tree and shrub cover and some coastal grassland. The flat low-lying nature of the LCT results in widespread views of the Teesside industrial complex which has a strong visual influence over the LCT. Rural Fringe Landscape LCT lies in the north-west of the Study Area and relates to those areas which lie in close proximity and are influenced by the adjacent urban development areas.

17.4.22 The Undulating Farmland LCT is located in the north-west of the Study Area and largely defines the rural area of Hartlepool. The LCT is characterised by varied field pattern often bound by hedgerows and tree belts. Although, where the removal of hedgerows and field enlargement has taken place this disrupts the enclosed sense of scale and introduces a barren, industrial element into the landscape.

17.4.23 The Rural Fringe LCT is located in the north-west of the Study Area includes areas adjacent or in close proximity to the urban environment which typically have either lost or had the rural character influenced by adjacent urban development. The LCT extends along the built edge of Hartlepool and surrounds the built edge of the outlying village settlement. Areas are often unmanaged, poorly maintained or enclosed within degraded boundaries.

Vegetation Cover

17.4.24 Tree and shrub cover within the north-east of the Study Area is generally sparse reflecting the estuarine character of the area. Tree cover is largely

located along main arterial routes including the A1085 and the A1042. A small number of wooded landscape areas are present in the south-east of the Study Area at Dormanstown within Foxrush Farm, Kirkleatham within the former estate, the grounds of Wilton Castle, Wilton Wood, Dave's Wood and Lazenby Bank Nature Reserve.

17.4.25 Hedgerows, where present, tend to be sparse and gappy which reduce the sense of enclosure within the farmland areas. Important wetland is located at Cowpen Bewley.

17.4.26 Vegetation within the PCC Site is very limited and comprises areas of sparse grassland reflecting the former usage of the site.

Topography and Drainage

17.4.27 The topography of the Study Area in the north is relatively flat, generally lying approximately between 1 m and 25 m Above Ordnance Datum (AOD). Land gradually rises in the south with an area of high ground located to the south of the Study Area around Eston Moor where the ground rises to 239 m AOD at Eston Beacon as illustrated on Figure 17-5: Topography (ES Volume II, Document Ref. 6.3).

17.4.28 The River Tees flows south to north through the centre of the Study Area broadening out into the Tees Mouth estuary. The North Sea is located within the northern part of the Study Area. The wetland at Cowpen Bewley is linked by a number of streams and is part of a former clay pit.

Settlements

17.4.29 The Study Area is characterised by large to medium sized settlements. Settlements in close proximity to the Site boundary include the city of Middlesbrough and its suburbs, which encompass a large area in the south-west of the Study Area. Hartlepool town and Seaton Carew seaside resort are located in the north and the edge of Billingham town is located in the west. The seaside resorts of Redcar, Marske-by-the-Sea, and Saltburn-by-the-Sea are located in the east of the Study Area. The northern section of Guisborough market town is located in the south-east of the Study Area.

Communications

17.4.30 Settlements are connected by a series of large "A" roads. The A1085 lies to the south-east of the Study Area and runs south-west to meet the A66 and the A172 further west. The A1042 runs southwards from the A1085 to meet the A174 leading to the southern edge of Middlesbrough. The A178 lies to the north of Study Area connecting the A1046 at Port Clarence to Hartlepool. The A689 lies to the north of the Study Area and runs south west connecting Hartlepool to the A19 which lies immediately outside the Study Area.

17.4.31 A number of Public Rights of Way (PRoW) are located within the Study Area. Bridleways Redcar and Cleveland 116 32/1, 33/1 and 36/1 lie near the coast, west of Redcar east of the PCC. Further bridleways, Redcar and Cleveland 116 9/1 and 9/2 lie near to the north of Wilton Chemical Works connecting to footpaths Redcar and Cleveland 102 2/5, 31/2, and 31/3 running south-west to Middlesbrough as illustrated on Figure 17-2: Public Rights of Way within 2 km (ES Volume II, Document Ref. 6.3).

17.4.32 The long-distance route 'England Coast Path: North East' follows the north-east coastline within the Study Area, before it turns south-west, inland to follow a route along a disused railway line at the edge of the industrial area which borders the River Tees. The route then follows closer to the edge of the Tees, before it crosses the water at the Newport Bridge, following the route of the A1032 to the north, then east. It then turns north and follows the A178, deviating to the east towards North Gare Sands before it then follows the A178 along the coast.

17.4.33 The long-distance path Teesdale Way starts at South Gare lighthouse to the north where it runs south before linking with the England Coast Path route along the south of the River Tees. It crosses the Newport Bridge and then turns south, following the northern bank of the River Tees.

The Site and Its Immediate Setting

17.4.34 The full extent of the Site is defined by the Site boundary, shown on Figure 1-1: Site Location Plan (ES Volume II, Document Ref. 6.3). The development areas are shown on Figures 3-2A to E (ES Volume II) and detailed in Chapter 4: Proposed Development (ES Volume I, Document Ref. 6.2).

17.4.35 The Site and surrounding area are heavily influenced by large industrial structures and complexes and residential settlements. The industrial complexes within the Teesside industrial areas are heavily lit, which increases the areas visibility during the hours of darkness. The surrounding landscape contains localised tranquil areas including along the coast, River Tees and inland nature reserves, although the large-scale structures are ever present within views.

17.4.36 To the west of the PCC Site, within the wider Site boundary, lies large industrial plant and equipment from the former Redcar Steelworks, which is now closed. The South Gare breakwater lies further to the north-west.

17.4.37 Coatham Sands and the North Sea coast lie within the Site boundary to the north. To the north-east lie the coastal settlements of Warrenby and Coatham.

17.4.38 To the south of the Site lie the Northumbrian Water Bran Sands sewage treatment plant, operational land of PD Ports Teesport and the Wilton International industrial complex. Similar industrial complexes are present at Seal Sands and Billingham on the north bank of the River Tees, west of the PCC Site. Areas of rough grassland remain between these industrial areas.

17.4.39 The Redcar Bulk Terminal is located immediately east of the PCC Site within the Site boundary, on the south bank of the River Tees. To the immediate west of the PCC Site are former coke ovens and the former Redcar Steelworks Blast Furnace, which is approximately 111 m high and a local non-designated heritage asset.

17.4.40 The Site boundary lies within the Teesside industrial areas. Located to the south are the residential areas of Lazenby, Wilton and Grangetown. Cowden Marsh and Seal Sands are located to the north-west of the Site, on the northern side of the River Tees.

17.4.41 The PCC Site lies between approximately 4 to 8 m AOD and currently comprises redundant large-scale plant and buildings associated with the former Redcar Steelworks including a raw materials handling facility, sinter

plant, conveyor system and large open land areas that were previously utilised for raw materials storage and processing. Within the PCC Site there are no natural features of noteworthy landscape value.

Value of the Landscape Receptor

17.4.42 The Study Area encompasses 24 Conservation Areas illustrated on Figure 17-1: Landscape Context (ES Volume II, Document Ref. 6.3). The closest to the Site boundary is the Coatham Conservation Area which lies approximately 1.75 km to the east

17.4.43 There is one Registered Park and Garden within the Study Area. Albert Park, Grade II listed, is located in the south-west of the Study Area within Middlesbrough.

17.4.44 Table 17-2 describes the factors relating to the value of the landscape at the PCC Site and Study Area scale.

Table 17-2: Non-designated Landscape Areas/ Features

Factor	Study Area	The Site
Landscape quality (condition)	The landscape of the Study Area is predominantly open, low lying land around the coast, influenced by industry, pylons and transport routes. Land rises to the south at Eston Hills and is influenced by wooded areas and farmland. Landscape quality is poor where industry and power stations are present. High quality land is present around Eston Nab, parts of the coast and the north east of the Study Area.	The PCC Site is industrial and is typical of the immediate area and the wider Study Area. The Gas and Electrical Connection Corridors and CO_2 Gathering Network land-use relates to industrial development and transport corridors. It also includes sections of the Tees Estuary and beachfront and are typical of the immediate area and the wider Study Area.
Scenic quality	The coastal landscape to the north-east and south-east of the Study Area provides some scenic quality where there is limited influence of industrial complexes, expansive sea views and historic built form. Teesside industrial complex has a strong visual influence on the generally flat, low-lying surrounding landscape.	The PCC Site has very low scenic quality due to its current use. The Connection Corridors (Gas, Electricity and Water) have some scenic quality in the north due to the coastal landscape, however it is heavily influenced by the former Redcar Steelworks.
Rarity	The landscape of the Study Area contains regionally important built heritage examples including a First World War early warning acoustic mirror. The hillfort on Eston Nab is the only surviving Iron Age hillfort in the region. The former steelworks contain the Redcar Blast Furnace, which is a relatively rare, well preserved example of its type that is a non-designated heritage asset.	The PCC Site and Connection Corridors contain no rare elements or features.
Representativeness	The industrial nature of the landscape within the Study Area is	The PCC Site is representative of the surrounding industrial area.

Factor	Study Area	The Site
	not representative of the wider landscape. The coastal and rural nature of the Study Area is typical of the wider landscape context regionally.	The Connection Corridors are representative of the surrounding industrial area.
Conservation interests	The Study Area contains 24 conservation areas, 531 listed buildings, Locally Important Landscapes including the historic landscape of the Eston Hills, the relatively rare non-designated Redcar Blast Furnace within the former steelworks site, SSSI, SPA, Sites of Nature Conservation Importance (SNCI), Sensitive Landscape Areas (SLA), Local Nature Reserves (LNR), designated moorland, Ramsar Site and Teesmouth National Nature Reserve.	The PCC Site contains no conservation interest. The Connection Corridors contain areas designated for their ecological value including SSSI, SPA and Ramsar Site.
Recreation value	Taken as a whole, the landscape of the Study Area has high levels of recreational value, which includes the use of long distance routes, PRoW, seafront, beaches, parks and gardens and golf courses.	The PCC Site has no public access. The Connection Corridors encompasses areas of recreational value including Coatham Sands which is part of the England Coast Path Coastal Margin and Cleveland Golf Club. The Connection Corridors also includes long distance routes and PRoWs.
Perceptual aspects	The Study Area contains a relatively high number of areas which can be regarded as tranquil and remote.	No specific, relevant perceptual aspects which define landscape character have been identified. Connection Corridors contain areas regarded as tranquil in the north within Coatham Sands, however heavily influenced by the industrial developments located immediately adjacent.
Overall landscape value	Medium The Study Area includes a number of areas designated locally for their landscape character and/or perceptual qualities/tranquillity, whilst being heavily influenced by industrial developments, residential areas and transport corridors.	Very low The PCC Site is an area of industrial land with no important landscape features. Low The Connection Corridors are heavily influenced by existing industrial developments and transport corridors.

Existing Visual Baseline

ZTV Analysis

17.4.45 In order to identify locations with potential to have views of the Proposed Development, a ZTV has been produced as described below. This identifies

those areas which have potential for views of the Proposed Development and to what extent it is likely to be visible. The ZTV is illustrated in Figure 17-4: Zone of Theoretical Visibility and Potential Viewpoint Locations (ES Volume II, Document Ref. 6.3).

17.4.46 A ZTV has been prepared for the Proposed Development based upon the tallest structures, i.e. the Absorber stack, at 115 m above ground level (up to approximately 128 m AOD as a worst-case, assuming a maximum post-development platform construction site elevation of 13 m AOD), providing the theoretical visibility of the Proposed Development.

17.4.47 The ZTV has been generated by analysis of a 3D digital terrain model (DTM) of the surrounding terrain and the Proposed Development. The ZTV has been generated using Ordnance Survey Terrain 5 digital terrain data which does not take into account the screening effects of vegetation, buildings or other structures. The ZTV is based upon a grid of points at 50 m apart within the Site boundary at a worst-case height of 128 m AOD for the PCC Site with an observer eye height of 1.6 m.

17.4.48 Visibility within the Study Area is varied. Due to the low-lying land along the coast and lack of intervening vegetation there are widespread open views in the north-west and east. Visibility in the south and south-west is restricted due to the extent of built form and topography.

Dynamic Views

17.4.49 Users of the main transport routes and long-distance trails may gain dynamic views towards the PCC Site to varying degrees dependant on intervening structures, screening vegetation, elevation and direction of travel.

17.4.50 Users of the TransPennine Express and Northern train lines within the Study Area will gain transient, dynamic views within the Study Area and of the PCC Site. Views will include a landscape containing industrial developments, overhead power lines, highway infrastructure and wind turbines.

Visual Receptors and Viewpoints

17.4.51 Through consultation with the relevant stakeholders, listed in Table 17-1, a total of 15 viewpoints were chosen to represent the typical range of views of the Proposed Development from within the Study Area. As a result of design development and changes to the Site boundary since the PEI Report, receptors at three viewpoints will no longer experience any change to their view as a result of the Proposed Development. Therefore, viewpoints 13, 14 and 15 have been removed from the visual assessment within the ES. The final selected viewpoints to be assessed are listed in Table 17-3 and illustrated on Figure 17-6: Zone of Theoretical Visibility and Representative Viewpoint Locations (ES Volume II, Document Ref. 6.3).

17.4.52 The list of all potential viewpoints originally considered can be found in Appendix 17C: Potential Viewpoints (ES Volume III, Document Ref. 6.4) and illustrated on Figure 17-4: Zone of Theoretical Visibility and Potential Viewpoint Locations Plan (ES Volume II, Document Ref. 6.3).

Table 17-3: Representative Viewpoints

Viewpoint ID	Name & Location	Receptor Type	Elevation m (AOD)	Grid Reference	View
1	Albion Terrace, Hartlepool	Residential and PRoW users	11	452933, 533502	Long distance panoramic view across the North Sea taken from the long-distance England Coast Path along Albion Terrace. Industrial buildings including flares, plumes, stacks and high levels of lighting at night-time associated with the industrial area of Teesside are visible as background elements across the majority of the view. The turbines associated with Teesside off-shore windfarm are visible on the skyline along with high ground, including Eston Moor. Representative of long range views from the north-west. **Value of view:** View likely to be locally valued with medium visitor numbers and medium level of detractors in the distance, therefore the overall value is Medium.
2	The Cliff, Seaton Carew	Residential and PRoW users	10	452473, 530118	Wide, open, view taken from the junction of The Cliff A178 and The Green within Seaton Carew Conservation Area along the long-distance England Cost Path. The foreground of the view is dominated by the A178 carriageway and promenade. The foreshore of Seaton Sands and the North Sea are visible in the midground and the background is dominated by industrial complexes including flares and stacks associated with Teesside. High levels of lighting are visible in the view during night-time. Turbines associated with Teesside off-shore wind farm are visible in the wider view. High ground, including Eston Moor, forms the backdrop of the view. Representative of views from the north-west. **Value of view:** Locally valued view from historic asset, with medium visitor numbers and medium level of detractors in the, therefore the overall value is Medium.
3	Teesmouth National Nature Reserve, England Coast Path	Recreational	4	452488, 527854	Open view across undulating pasture taken from the England Coast Path, off Tees Road. Pasture associated with the Teesside Nature Reserve is visible in the foreground. Overhead lines and a telecommunications mast are visible in the mid ground. Industrial structures including those on the former steelworks site and off-shore wind turbines are visible in the background of the view, against the skyline. High levels of lighting are visible in the view during night-time. Sand dunes associated with Teesmouth Nature Reserve partially restrict longer distance views. Representative of medium range views from the west. **Value of view:** Locally valued view with medium visitor numbers and medium level of detractors in the distance, therefore the overall value is Medium.

Viewpoint ID	Name & Location	Receptor Type	Elevation m (AOD)	Grid Reference	View
4	North Gare Sands	Recreational	0	453752, 527277	Open view across North Gare Sands across the Tees Mouth towards the former steelworks site. Infrastructure associated with the former steelworks site, including the Redcar Blast Furnace and cranes associated with Redcar bulk terminal are clearly visible. High levels of lighting are visible in the view during night-time. The off-shore wind turbines are visible in the wider view. High ground including Eston Moor forms the backdrop of the view. Representative of short range views for recreational users of the beach and Tees Mouth from the west. **Value of view:** Locally valued view with medium visitor numbers and a high level of detractors in the distance, therefore the overall value is Medium.
5	South Gare Breakwater	Recreational	0	455638, 527828	Expansive open, view across the estuary and North Sea from the South Gare Breakwater. Mudflats and access road are visible in the midground. Infrastructure associated with the former Redcar Steelworks site including the Redcar Blast Furnace is visible against the sky in the background of the view. High levels of lighting are visible in the view during night-time. Representative of short range views from the north. **Value of view:** Locally valued view with medium visitor numbers and a high level of detractors in the distance, therefore the overall value is Medium.
6	Cowpen Bewley Country Park	Recreational	20	448591, 525700	Long distance, elevated, open view from viewpoint within Cowpen Bewley Country Park. Grassland and tree planting belts form the foreground of the view. Mudflats, areas of standing water and localised areas of tree planting form the mid ground. The River Tees is visible towards the background of the view. The background is dominated by industrial structures associated with Teesside, including the former steelworks site which are visible against the skyline. High levels of lighting are visible in the view during night-time. High ground including Eston Moor is visible as is the backdrop of the view to the right. Representative of long distance views from the west. **Value of view:** Locally valued view with medium visitor numbers and a high level of detractors in the distance, therefore the overall value is Medium.
7	England Coast Path, Warrenby	Recreational	3	458610, 525421	Open view from the England Coast Path adjacent to the edge of Redcar Beach Caravan Park. The foreground and mid ground consist of the Cleveland Golf Links and sand dunes, which frame the view preventing views towards the North Sea. Industrial units including Redcar Auto and Performance Centre are visible in the

Viewpoint ID	Name & Location	Receptor Type	Elevation m (AOD)	Grid Reference	View
					mid ground. The steel works including Redcar Blast Furnace is a prominent feature in the background in the right of the view. High levels of lighting are visible in the view during night-time. Representative of short distance views from the east. **Value of view:** Local, commonplace view and medium level of detractors in the distance, therefore the overall value is Medium.
8	Redcar seafront	Recreational and residential	11	459886, 525465	Open, partially elevated view along the waterfront at Redcar, adjacent to the bandstand on Newcomen Terrace. The foreground is dominated by the promenade, Coatham Sands beach, and the flood alleviation wall. Coatham boating lake and built structures are visible in the mid ground. Residential areas of Coatham are visible in the middle and background to the left of the view. Industrial structures at Teesside, including the former steelworks site are visible in the background, breaking the skyline. The whole of the view contains high levels of lighting during night-time. Turbines associated with the off-shore wind farm are visible to the right of the view. Representative of midrange views from the east. **Value of view:** Locally valued view with medium visitor numbers and high level of detractors in the background, therefore the overall value is Medium.
9	Coatham Marsh Nature Reserve	Recreational	4	459168, 524686	Low level, partially channelled, view from within Coatham Marsh, off Kirkleatham Lane. Water bodies, grassland and scrub within the nature reserve forms the foreground and middle ground of the view. Residential housing at Coatham forms the backdrop of the view to the right. Industrial structures associated with the former steelworks site and visible on the horizon, viewed against the skyline. High levels of lighting are visible on the horizon during night-time. Representative of short range views from the east. **Value of view:** Local view with no recognised quality containing a small number of detractors, therefore the overall value is Low.
10	Eston Nab	Recreational	238	456899, 518348	Elevated, expansive, view from Eston Nab across Teesside. The foreground contains grassland associated with the Nab. The mid ground is dominated by industrial complexes and structures including stacks, chimneys and plumes. The North Sea and off-shore wind turbines are visible in the background of the view to the right. The shoreline of Hartlepool is just visible in the background to the left of the view. High levels of lighting are visible across the whole panorama during night-time. Representative of long range, elevated views from the south.

Viewpoint ID	Name & Location	Receptor Type	Elevation m (AOD)	Grid Reference	View
					Value of view: Locally valued view with medium visitor numbers. The view relates to the experience of the Eston Nab heritage asset, therefore the overall value is High.
11	Longbeck Lane	Residential, road users	48	461856, 521012	Elevated, open, long distance view from Longbeck Lane. Arable farmland dominates the fore and mid ground. Industrial structures including stacks and chimneys are visible forming the background of the left side of the view. High levels of lighting are visible in the view on the horizon during night-time. The North Sea and off-shore wind turbines, breaking the skyline, are visible to the right of the view. Representative of long distance views from the south-east. **Value of view:** Well composed view with a high number of detractors in the background, therefore the overall value is Low.
12	Carpark off A1085 Coast Road, Marske by the Sea	Recreational	13	463156, 523188	Wide, open, partially elevated view from the carpark off A1085 Coast Road. The foreground and mid ground is dominated by dunes, grassland, Marske Sands beach and the North Sea. Residential properties at the edge of Redcar are visible in the distance. Tall industrial structures, including those on the former steelworks site are visible against the skyline. High levels of lighting are visible in the background of the view during night-time. Off-shore wind turbines are perceptible to the right of the view in the distance. Representation of long range views from the east. **Value of view:** Locally valued view with medium visitor numbers and medium level of detractors in the distance, therefore the overall value is Medium.

Summary of Visual Baseline

17.4.53 The Study Area is characterised by industry, including the existing Teesside, Seal Sands and Hartlepool Power Stations, petrochemical and steelworks. These large-scale developments are key characteristics influencing the landscape character. Due to the low topography around Middlesbrough and the Tees Valley, views of the existing structures during daytime and the lighting associated with the structures at night-time are commonplace and highly visible. The elevated land to the south of the Study Area allows for wide ranging views, but this landform along with extensive tree cover restricts views of the industrial structures from further afield.

17.4.54 The extent of views available to receptors range from close proximity to long distance. A number of receptors are located at the edge of coastal towns, along roads and along PRoWs where the landform is low lying. The rising landform in the south-east and localised areas of high land in the west allow for elevated long-distance views towards the Proposed Development.

Future Baseline

17.4.55 As part of the future baseline it is predicted that the existing structures on the former steelworks site will be demolished (see Chapter 5: Construction and Programme Management, ES Volume I, Document Ref. 6.2). This will include the Redcar Blast Furnace and associated conveyor which will be demolished by the South Tees Development Corporation (STDC) as part of a separate development associated with the wider redevelopment of the Teesworks industrial zone. The timescales for demolition are to be determined, but at least partial demolition will be undertaken prior to the anticipated construction period of the Proposed Development of 2022.

17.4.56 The future baseline conditions against which the construction (2022-2026), opening (2026), operation (2041-15 Years post opening) and decommissioning (2051) scenarios for the landscape and visual impact assessment are assessed and comprises a ‘modified’ baseline where the structures on land adjacent to the PCC are no longer present. A number of low level structures will remain on site (until approximately 2066) associated with the CO_2 Gathering Network and HP Compressor Station. A number of large-scale structures are assumed to still be present within close proximity of the Site.

17.4.57 The wider Study Area would continue to be influenced by a number of large-scale industrial buildings complexes and infrastructure corridors in the future baseline scenario.

17.4.58 In the absence of the Proposed Development (i.e. if it was not to exist in the future baseline) it is considered that the former steelworks site may be used for other large-scale industrial developments, but the nature of these is undetermined.

17.5 Development Design and Impact Avoidance

17.5.1 The following impact avoidance measures will either be incorporated into the design or are standard construction or operational requirements. These

measures have therefore been taken into account during the impact assessment process described in this chapter:

- suitable materials will be used, where possible, in the construction of structures to reduce reflections and to assist with breaking up the massing of the buildings and structures;
- the selection of finishes for the buildings and other infrastructure will be informed by the finishes of the adjacent developments in order to reduce the visual impact of the Proposed Development; and
- lighting required during the construction and operation stages of the Proposed Development will be designed to reduce unnecessary light spill outside of the Site boundary-see below for summary.

17.5.2 The effects of lighting have been reviewed as part of the landscape and visual assessment, to determine its effects on the landscape character of the Site and the surrounding area. The visual impact of lighting as proposed in the Indicative Lighting Strategy (Document Ref. 5.11) has also been considered on the relevant viewpoints around the Proposed Development that may be affected. The following assumptions have been made with regards to the extent of lighting within the Proposed Development:

- adopting a lighting control strategy that turns lights off or dims as necessary for site safety and security;
- using photocells as a primary means of control to prevent light from being used when sufficient daylight is available;
- where possible, adopting LED luminaires to control obtrusive light due to their high directionality and accordingly the achievable ratio of useful light to spill light;
- careful consideration of placement of lighting column and luminaire positioning;
- adopting luminaires with minimal upward lighting ratio and full cut-off, where possible;
- not tilting luminaires to have uplift above the horizontal, if this is not possible add shielding, hoods baffles, louvres as necessary to ensure potential upward light is controlled;
- optimising column heights to allow for sufficient light coverage and minimal tilt of luminaires;
- minimising building mounted luminaire heights;
- adopting lamps with similar correlated colour temperatures;
- using lamps with a limited UV spectrum in locations which might affect ecological receptors;
- using shields and baffles to luminaires;
- lighting the site boundaries with low power periphery lighting with an asymmetric forward optic having good back-light cut-off characteristics; and

- directing luminaires away from ecologically sensitive receptors.

17.6 Likely Impacts and Effects

17.6.1 This section identifies the potential impacts resulting from the Proposed Development. The magnitude of each impact is defined with reference to the relevant baseline conditions (existing or future, as appropriate), and effects are determined in accordance with the identified methodology presented within Appendix 17B: Landscape and Visual Impact Assessment Methodology (ES Volume III, Document Ref. 6.4).

Landscape

17.6.2 The potential landscape impacts of the Proposed Development primarily relate to the visibility of proposed structures (temporary and permanent), including how this affects the perceptual qualities and tranquillity of a character area. In the case of the construction of the Proposed Development this will relate to the following:

- movement of plant and heavy goods vehicles, both within the Proposed Development and in the surrounding area;
- temporary stockpiling of storage of materials on site;
- establishment of site compounds resulting in temporary structures to serve the workforce;
- crane activity to assist high level construction works on the PCC Site;
- building construction including new stacks on the PCC Site; and
- external lighting to illuminate site operations after dark on the PCC Site.

17.6.3 In the case of the operational phase of the Proposed Development this will relate to the following:

- introduction of permanent large-scale structures including the buildings within the PCC Site (including stack and the HP Compressor Station);
- introduction of an Above Ground Installation (AGI) for the Natural Gas Connection in Seal Sands; and
- introduction of permanent CO_2 Gathering Network pipelines running along existing pipe racking.

17.6.4 The introduction of smaller scale operational plant and equipment e.g. the substation at the PCC Site adjacent to the Generating Station and the new NZT substation adjacent to the existing NGET substation at Tod Point has been reviewed and considered as part of the assessment of likely impacts and effects. However, when the scale of these elements and their maximum dimensions as outlined in Table 4-1, Chapter 4: Proposed Development (ES Volume I, Document Ref. 6.2) are considered in the context of the larger structures and surrounding industrial installations it is considered that these will not result in any significant landscape effects.

Specific Aesthetic or Perceptual Aspects

17.6.5 Large-scale industry is a well-established land-use within the Study Area and within the landscape immediately adjacent to the Site. Although relatively visible within the more remote areas of the Study Area, it is anticipated that the presence of the Proposed Development will not affect the aesthetic and perceptual qualities of the local landscape.

17.6.6 During construction there would be changes in the aesthetic and perceptual qualities through the movement of plant within close proximity of the Site and the introduction of new large-scale structures at various stages of development within the PCC Site. At operation, the aesthetic and perceptual qualities would remain as present with large-scale static structures characteristic of the wider landscape.

Assessment of Landscape Effects

17.6.7 The proposed PCC Site is situated on the former Redcar steelworks site where land-use in the immediate vicinity includes numerous large-scale industrial buildings and structures. The main feature of change during the construction would be the introduction of tall cranes and by opening there would be new large-scale structures within the PCC Site.

17.6.8 During construction there would be temporary disturbance to South Gare, Cotham Dunes, Coatham Sands, views from the North Sea and Salthome Nature Reserve as a result of works on the proposed Natural Gas Connection Corridor, CO_2 Gathering Network, CO_2 Export Pipeline, Water Abstraction Corridor and Water Discharge Corridor.

17.6.9 The main potential for effects on landscape character relates to the intervisibility between the Proposed Development and the LCAs/LCTs/ LCTrs. Given that the Proposed Development is located within an area characterised by large-scale industrial development, it is considered that it is likely to be congruous with its context and therefore there is a low potential for the landscape character of the surrounding areas to be affected.

17.6.10 Due to the existing industrial character of the Site and the setting of the Proposed Development, it is anticipated that there is low likelihood that the effects will be sufficient to result in an inherent change to the existing landscape character at a local scale and negligible at a regional or national scale. Overall the influence of the Proposed Development will be limited to the localised landscape immediately adjacent to the PCC Site and all Connection Corridors.

17.6.11 It is predicted that the following landscape receptors listed below have no potential to receive significant adverse landscape effects as a result of the Proposed Development and as such they are excluded from further assessment. This is due to the scale of, and in relationship to, the size and nature of the Proposed Development.

- NCA 15: Durham Magnesian Limestone Plateau due to scale and distance to Site;
- NCA 25: North York Moors and Cleveland Hills due to distance and existing influence on the NCA;

- Guisborough Lowland LCTr due to long distance and lack of intervisibility to the Site;
- East Cleveland Plateau LCTr due to very small proportion of the LCTr within the Study Area and long distance to Site;
- Undulating Farmland LCT due to long distance and limited intervisibility to the Site; and
- Thorpe and Billingham Beck LCA due to long distance and limited intervisibility to the Site.

17.6.12 Table 17-4 provides an assessment of the sensitivity of each landscape receptor whilst Tables 17-5 to 17-7 provide an assessment of the anticipated magnitude of landscape impacts and the classification of effects on each landscape receptor at construction, in the opening year (Year 1), during operation (Year 15) and decommissioning stages.

17.6.13 A full description of the criteria used to assess the above can be found in Appendix 17B: Landscape and Visual Impact Assessment Methodology (ES Volume III, Document Ref. 6.4).

Table 17-4: Landscape Sensitivity Assessment

Landscape Receptor	Sensitivity assessment		
	Value	Susceptibility	Sensitivity
Natural England National Character Areas			
NCA 23 Tees Lowland	Medium	The broad open plain is influenced heavily by large areas of conurbation and industrial development around the Tees Estuary, within the east of the NCA. Susceptibility to change arising from the Proposed Development is therefore considered to be Low.	Medium
Marine Character Areas			
MCA 22 Tyne, Tees and Wear Estuaries and Coastal Waters	Medium	The MCA is relatively industrialised in areas with views of an extensively developed lowland coast. Areas of naturalised coastline and present. Susceptibility to change arising from the Proposed Development is therefore considered to be Low.	Medium
Redcar & Cleveland Landscape Character Assessment (2006)			
Eston Hills LCTr	High	The wooded pattern and dominant landform provide a strong strength of character. There are medium levels of tranquillity and rural qualities including large areas of woodland which create intermittent views of large-scale industrial structures. Susceptibility to change arising from the Proposed Development is therefore considered to be Medium.	High
Redcar Flats LCTr	Medium	The low-lying, relatively flat, sparsely vegetated landscape has minimal variation of landscape pattern. The close proximity to industrial development has a strong influence on the landscape character. Parts of the LCTr are designated for their ecological value. Therefore, it is considered the LCTr is robust and susceptibility to change arising from the Proposed Development is Low.	Medium

Landscape Receptor	Sensitivity assessment		
	Value	Susceptibility	Sensitivity
Stockton and Tees Landscape Character Assessment (2011)			
East Billingham to Teesmouth LCA	Medium	The open space within industrial areas contains significant wildlife value with a number of ecological designations. The open low lying, sparsely vegetated landform enables widespread views of Teesside's industrial complex across the LCA. It is considered the LCA is robust and susceptibility to change arising from the Proposed Development is Low.	Medium
Hartlepool Landscape Assessment (2000)			
Coastal Fringe LCT	High	As a result of the high levels of tranquillity, influence of detractors in the wider landscape, susceptibility to change arising from the Proposed Development is considered to be Medium.	High
Estuarine LCT	Medium	The LCT is relatively tranquil although the close proximity of industrial infrastructure as detractors in the landscape has a strong influence. Susceptibility to change arising from the Proposed Development is considered to be Low.	Medium
Rural Fringe LCT	Medium	The close proximity to the urban environment influences the rural character of the LCT. Susceptibility to change arising from the Proposed Development is considered to be Medium.	Medium

Table 17-5: Assessment of Landscape Effects – Construction

Landscape type	Sensitivity of receptor	Description of impact	Magnitude of impact	Classification of effect
NCA 23: Tees Lowland	Medium	Construction activities associated with the Proposed Development will directly impact the NCA. Construction activities will be viewed in context with other large-scale industrial developments. Due to presence of large-scale industrial development which lies within this NCA and the type of construction activities being undertaken, it is considered that the Proposed Development will have very limited potential to affect the landscape character and perception of the NCA in the short term. Impacts will be over a small geographical extent and reversible.	Very low	Negligible adverse (not significant)
MCA 22 Tyne, Tees and Wear Estuaries and Coastal Waters	Medium	The Proposed Development lies within this MCA and will introduce views of construction activity into it. Due to existing views containing large-scale industrial development, it is considered that the Proposed Development will have very limited potential to affect the landscape character, perception and tranquillity of the MCA in the short term. Impacts will be over a small geographical extent and reversible.	Very low	Negligible adverse (not significant)
Eston Hills LCTr	High	The Proposed Development lies outside of this LCTr but will introduce construction activity within views from it. Due to expansive views containing large-scale industrial complexes and transport infrastructure, it is considered that the construction of the Proposed Development will result in limited perceptible change to the landscape character and tranquillity of the LCTr in the short term that will be reversible.	Very low	Minor adverse (not significant)
Redcar Flats LCTr	Medium	Construction activities associated with the Proposed Development will indirectly impact the LCTr. The Proposed Development will result in the introduction of construction activities immediately adjacent to the LCTr that will have very limited potential to affect the landscape character, perception and tranquillity of the LCTr in the short term. The majority of construction activities will be viewed in context with other large-scale industrial developments. Impacts will be over a medium geographical extent and reversible.	Low	Minor adverse (not significant)
East Billingham to Teesmouth LCA	Medium	The CO_2 Gathering Network and Natural Gas Connection Corridor lie within this LCA and views of construction activity will be visible from within it. Due to presence of large-scale industrial development which lies within this LCA, and the type of construction activities being undertaken within the LCA, it is considered that the Proposed Development will have limited potential to affect the landscape character, perception and tranquillity of the LCA in the short term. Impacts will be over a medium geographical extent and reversible.	Low	Minor adverse (not significant)

Landscape type	Sensitivity of receptor	Description of impact	Magnitude of impact	Classification of effect
Coastal Fringe LCT	High	The Proposed Development lies outside of this LCT but will introduce views of construction activity into it as a result of the extensive views available from the LCT. Due to existing views containing large-scale industrial development, it is considered that the Proposed Development will have limited potential to affect the landscape character and perception of the LCT in the short term that will be reversible.	Low	Minor adverse (not significant)
Estuarine LCT	Medium	The Proposed Development lies outside of this LCT but will introduce views of construction activity into it as a result of the extensive views available from the flat, scarcely vegetated LCT. Due to existing views of large-scale industrial development which lie within the adjacent LCA, it is considered that the Proposed Development will have limited potential to affect the landscape character, perception and tranquillity of the LCT in the short term that will be reversible.	Low	Minor adverse (not significant)
Rural Fringe LCT	Medium	The Proposed Development lies outside of this LCT but will introduce very limited views of construction activity into it as a result of the surrounding built form. Due to the general lack of views and existing intermittent views of large-scale industrial development, it is considered that the Proposed Development will have little perceptible change on the landscape character and tranquillity of the LCT in the short term that will be reversible.	Very Low	Negligible adverse (not significant)

Table 17-6: Assessment of Landscape Effects – Opening (Year 1)

Landscape type	Sensitivity of receptor	Description of impact	Magnitude of impact	Classification of effect
NCA 23: Tees Lowland	Medium	The Proposed Development will introduce views of the PCC Site within the NCA. The existing influence of other large-scale industrial developments and road and rail infrastructure within the NCA, will result in a small change to the character without altering the overall characteristics of the landscape. The impacts would be over a small area, long term and reversible.	Very low	Negligible adverse (not significant)
MCA 22 Tyne, Tees and Wear Estuaries and Coastal Waters	Medium	The Proposed Development lies outside of this MCA but will introduce views of the PCC Site due to the open views from the coastal waters and estuary. Due to the influence of large-scale industrial developments on existing views which lie within the adjacent landscape, it is considered that the Proposed Development will have little perceptible change on the landscape character and tranquillity of the MCA. Impacts would be over a small area, long term and reversible.	Very low	Negligible adverse (not significant)
Eston Hills LCTr	High	The Proposed Development lies outside of this LCTr but will introduce views of the PCC Site within views from it. Due to existing, expansive views of large-scale industrial developments and transport infrastructure which lay within the adjacent landscape, it is assessed that the opening of the Proposed Development will result in limited perceptible change to the landscape character tranquillity of the LCTr. Impacts would be over a small area, long term and reversible.	Very low	Minor adverse (not significant)
Redcar Flats LCTr	Medium	The Proposed Development will introduce views of the PCC Site directly adjacent to the LCTr. The existing influence of other large-scale industrial developments and road and rail infrastructure adjacent to the LCTr, will result in a small change to the character without altering the overall characteristics of the landscape. The impacts would be over a small area, long term and reversible.	Low	Minor adverse (not significant)
East Billingham to Teesmouth LCA	Medium	Part of the proposed CO_2 Gathering Network and Natural Gas Connection Corridor lies within this LCA and will introduce widespread views of the PCC Site due to the flat landform and open nature of the LCA. Due to existing views of large-scale industrial development which lie within the LCA and adjacent landscape, it is considered that the Proposed Development will have limited potential to affect the landscape character, perception and tranquillity of the LCA. Impacts would be over a small area, long term and reversible.	Low	Minor adverse (not significant)
Coastal Fringe LCT	High	The Proposed Development lies outside of this LCT but will introduce views of the PCC Site due to available extensive views from the LCT. Due to existing views containing large-scale industrial development, it is considered that the Proposed Development will have little perceptible change on the landscape character and tranquillity of the LCT. Impacts would be long term and reversible.	Very low	Minor adverse (not significant)

Landscape type	Sensitivity of receptor	Description of impact	Magnitude of impact	Classification of effect
Estuarine LCT	Medium	The Proposed Development lies outside of this LCT but will introduce views of the PCC Site due to the open views with limited intervening vegetation. Due to the influence of large-scale industrial developments on existing views which lie within the adjacent landscape, it is considered that the Proposed Development will have little perceptible change on the landscape character and tranquillity of the LCT. Impacts would be long term and reversible.	Very low	Negligible adverse (not significant)
Rural Fringe LCT	Medium	The Proposed Development lies outside of this LCT but will introduce limited views of the PCC Site due the surrounding built form. Due to the general lack of views and existing intermittent views of large-scale industrial developments it is considered that the Proposed Development will have little perceptible change on the landscape character and tranquillity of the LCT. Impacts would be long term and reversible.	Very low	Negligible adverse (not significant)

Table 17-7: Assessment of Landscape Effects – Operation (Year 15)

Landscape type	Sensitivity of receptor	Description of impact	Magnitude of impact	Classification of effect
NCA 23: Tees Lowland	Medium	The impacts during operation are anticipated to be similar to the opening assessment scenario. The operation of the Proposed Development is assessed to result in a small change to the character of the NCA, without altering the overall characteristics of the landscape. The impacts would be over a small area, long term and reversible.	Very low	Negligible adverse (not significant)
MCA 22 Tyne, Tees and Wear Estuaries and Coastal Waters	Medium	The impacts during operation are anticipated to be similar to the opening assessment scenario. The operation of the Proposed Development is assessed to have little perceptible change on the landscape character and tranquillity of the MCA. Impacts would be over a small area, long term and reversible.	Very low	Negligible adverse (not significant)
Eston Hills LCTr	High	The impacts during operation are anticipated to be similar to the opening assessment scenario. The operation of the Proposed Development is assessed to result in limited perceptible change to the landscape character tranquillity of the LCTr. Impacts would be long term and reversible.	Very low	Minor adverse (not significant)
Redcar Flats LCTr	Medium	The impacts during operation are anticipated to be similar to the opening assessment scenario. The operation of the Proposed Development is assessed to result in a small change to the character without altering the overall characteristics of the landscape. The impacts would be over a small area, long term and reversible.	Low	Minor adverse (not significant)
East Billingham to Teesmouth LCA	Medium	The impacts during operation are anticipated to be similar to the opening assessment scenario. The operation of the Proposed Development is assessed to have limited potential to affect the landscape character, perception and tranquillity of the LCA. Impacts would be over a small area, long term and reversible.	Low	Minor adverse (not significant)
Coastal Fringe LCT	High	The impacts during operation are anticipated to be similar to the opening assessment scenario. The operation of the Proposed Development will have little perceptible change on the landscape character and tranquillity of the LCT. Impacts would be long term and reversible.	Very low	Minor adverse (not significant)
Estuarine LCT	Medium	The impacts during operation are anticipated to be similar to the opening assessment scenario. The operation of the Proposed Development will have little perceptible change on the landscape character and tranquillity of the LCT. Impacts would be long term and reversible.	Very low	Negligible adverse (not significant)
Rural Fringe LCT	Medium	The impacts during operation are anticipated to be similar to the opening assessment scenario. The operation of the Proposed Development will have little perceptible change on the landscape character and tranquillity of the LCT. Impacts would be long term and reversible.	Very low	Negligible adverse (not significant)

Visual Amenity

17.6.14 Potential visual effects of the Proposed Development in comparison with the future baseline visual context are considered in Table 17-8 by reference to representative viewpoints. The assessments contained within Table 17-8 should be read in conjunction with Figures 17-7 to 17-18 (ES Volume II, Document Ref. 6.3) which illustrate the baseline situation at each viewpoint for both summer and winter views.

17.6.15 A series of Type 3 photowires and photomontages have been prepared (Figures 17.19-7 to 17-30 which illustrate the likely visibility of the Proposed Development at four of the assessed viewpoints. The photowires represent the heights of key elements in the proposed development as set out in the parameter Table 4-1 Chapter 4: Proposed Development (ES Volume I, Document Ref. 6.2) and the photomontages represent the indicative layout as illustrated on Figure 4-1 (ES Volume II, Document Ref. 6.3).

17.6.16 Although smaller scale plant and equipment e.g. the proposed substation within the PCC Site and the new NZT substation at Tod Point have been considered as part of the overall development proposals, these have not been included on the photowires and photomontages. These small-scale elements are considered to be inconsequential when considered in the context of the larger proposed structures and existing surrounding industrial structures and installations, and therefore will not result in significant visual effects.

Table 17-8: Viewpoint Assessment

Viewpoint 1: Albion Terrace, Hartlepool

Grid reference	Receptor type	Elevation (m AOD)	Approx. distance from PCC Site (km)	Direction of view
452933, 533502	Residential and Recreational Users	11	8.6	South-east
Visual susceptibility to change		**Value of view**		**Sensitivity of receptor**
View forms primary focus from residential properties and users of the long-distance trail at this location. Therefore, susceptibility is considered to be high.		Medium		High for residential and PRoW users.
Size/ scale, duration and reversibility of impact at construction				
Long distance views towards the PCC Site with construction activity visible at the end of the headland. Construction activities will be visible, although viewed from a long distance of over 8 km. The operations will be viewed as an extension of the Teesside industrial port. The increase in cranes and construction activity will be noticeable but not alter the overall balance of features and viewed in the context of an area containing a high number of large-scale industrial structures. The availability of alternative views, long distance and the presence of other detracting features in the landscape reduce the impact that Proposed Development has on visual amenity. The impact is assessed to be very low, short term and reversible.				
Magnitude of impact at construction				Very low
Significance of effect at construction		Residential and PRoW users		Negligible adverse (not significant)
Size/ scale, duration and reversibility of impact at opening				
The operational PCC Site will be visible to the left of the view, with the structures, stacks and associated plume from the absorber stack appearing against the high ground in the distance. The structures and plumes will be visible, viewed within a context of existing large-scale structures as part of the wider view. The Proposed Development will be barely noticeable and would not alter the overall context of the view. The impact is assessed to be very low, long term and reversible.				
Magnitude of impact at opening				Very low
Significance of effect at opening		Residential and recreational users		Negligible adverse (not significant)
Size/ scale, duration and reversibility of impact at operation				
Maturing replacement planting will not be visible from this viewpoint. Therefore, there will be no change to the impacts assessed at opening. The Proposed Development will continue to be barely noticeable and not alter the overall context of the view. The impact is assessed to be very low, long term and reversible.				
Magnitude of impact at operation				Very low
Significance of effect at operation		Residential and recreational users		Negligible adverse (not significant)

Viewpoint 2: The Cliff, Seaton Carew

Grid reference	Receptor type	Elevation (m AOD)	Approx. distance from PCC Site (km)	Direction of view
452473, 530118	Residential and recreational users	10	6.2	South-east

Visual susceptibility to change	Value of view	Sensitivity of receptor
View forms primary focus from residential properties, conservation area and users of the long-distance trail at this location. Therefore, susceptibility is considered to be high.	Medium	High for residential and PRoW users.

Size/ scale, duration and reversibility of impact at construction

Long distance views towards the PCC Site with construction activity visible in the centre of the view. Construction activities relating to the PCC Site will be visible, set amongst a number of existing large-scale industrial structures visible in the wider view. The movement of vehicles and low level operations may not be perceptible at this distance. The presence of cranes and construction activity will be noticeable but not alter the overall balance of features. The availability of alternative views, long distance and the presence of other detracting features in the landscape reduces the impact on visual amenity. The impact is assessed to be low, short term and reversible.

Magnitude of impact at construction		Low
Significance of effect at construction	Residential and recreational users	Minor adverse (not significant)

Size/ scale, duration and reversibility of impact at opening

Long distance view towards the operational PCC Site. The structures, stacks and plume associated with the absorber stack will appear against the high ground, with the tips of the stacks breaking the skyline. The structures will be clearly visible, although viewed within a context of existing large-scale structures within the wider view. The Proposed Development will be barely noticeable, but not overall alter the context of the view. The impact is assessed to be very low, long term and reversible.

Magnitude of impact at opening		Very low
Significance of effect at opening	Residential and recreational users	Negligible adverse (not significant)

Size/ scale, duration and reversibility of impact at operation

Maturing replacement planting will not be visible from this viewpoint. Therefore, there will be no change to the impacts assessed at opening. The Proposed Development will be barely noticeable, but not overall alter the context of the view. The impact is assessed to be very low, long term and reversible.

Magnitude of impact at operation		Very low
Significance of effect at operation	Residential and recreational users	Negligible adverse (not significant)

Viewpoint 3: Teesmouth National Nature Reserve, England Coast Path

Grid reference	Receptor type	Elevation (m AOD)	Approx. distance from PCC Site (km)	Direction of view
452488, 527854	Recreational	4	4.8	East
Visual susceptibility to change		**Value of view**		**Sensitivity of receptor**
The view forms the primary focus for users of the long-distance trail at this location. Therefore, susceptibility is considered to be high.		Medium		High for recreational users.
Size/ scale, duration and reversibility of impact at construction				
Medium distance views towards the PCC Site with the majority of construction activity visible in the centre of the view. Low level construction activities will be screened by intervening landform and vegetation. Construction activities, including crane movements will be clearly visible and form the most prominent structures in the view. As a result of the existing structures within the wider view and long distance, the addition of construction operations associated with the Proposed Development will not alter the balance of features in the view. The impact is assessed to be low, short term and reversible.				
Magnitude of impact at construction				Low
Significance of effect at construction		Recreational		Minor adverse (not significant)
Size/ scale, duration and reversibility of impact at opening				
During operation, the majority of low level structures on the PCC Site will be screened as a result of intervening landform and vegetation. The larger structures, stacks and plume associated with the absorber stack will appear against the sky. The Proposed Development will be noticeable but not alter the overall balance of the view as a result of the existing large-scale structures within the wider view. The impact is assessed to be low, long term and reversible.				
Magnitude of impact at opening				Low
Significance of effect at opening		Recreational		Minor adverse (not significant)
Size/ scale, duration and reversibility of impact at operation				
Maturing replacement planting will not be visible from this viewpoint. Therefore, there will be no change to the impacts assessed at opening. The Proposed Development will be noticeable but not alter the overall balance of the view as a result of the existing large-scale structures within the wider view. The impact is assessed to be low, long term and reversible.				
Magnitude of impact at operation				Low
Significance of effect at operation		Recreational		Minor adverse (not significant)

Viewpoint 4: North Gare Sands

Grid reference	Receptor type	Elevation (m AOD)	Approx. distance from PCC Site (km)	Direction of view
453752, 527277	Recreational	0	3.5	East

Visual susceptibility to change	Value of view	Sensitivity of receptor
View forms primary focus for users of the beach at this location. Therefore, susceptibility is considered to be high.	Medium	High for recreational users.

Size/ scale, duration and reversibility of impact at construction
Medium range view towards construction activities on the PCC Site including CO_2 Export Pipeline and Water Connection Corridors. The majority of construction activities will be visible due to the lack of intervening built form. Views of high level construction activities on the PCC Site, including cranes will be seen in the context of existing large-scale industrial structures, visible against the sky within the wider view. The addition of construction operations associated with the Proposed Development will be noticeable but will not alter the overall balance of features in the view. As a result of the close proximity and scale of operations the impact is assessed to be low, short term and reversible.

Magnitude of impact at construction		Low
Significance of effect at construction	Recreational	Minor adverse (not significant)

Size/ scale, duration and reversibility of impact at opening
Medium range view towards the operational PCC Site. The structures, stacks and plume associated with the absorber stack will appear against the skyline, increasing their visibility. The structures will be viewed within a context of existing large-scale structures. The Proposed Development will be noticeable, but not alter the overall context of the view. The impact is assessed to be low, long term and reversible.

Magnitude of impact at opening		Low
Significance of effect at opening	Recreational	Minor adverse (not significant)

Size/ scale, duration and reversibility of impact at operation
Maturing replacement planting will not be visible from this viewpoint. Therefore, there will be no change to the impacts assessed at opening. The Proposed Development will be noticeable, but not alter the overall context of the view. The impact is assessed to be low, long term and reversible.

Magnitude of impact at operation		Low
Significance of effect at operation	Recreational	Minor adverse (not significant)

Viewpoint 5- South Gare Breakwater

Grid reference	Receptor type	Elevation (m AOD)	Approx. distance from PCC Site (km)	Direction of view
455638, 527828	Recreational	0	2.4	South

Visual susceptibility to change	Value of view	Sensitivity of receptor
View forms primary focus for recreational users of the beach and Tees Mouth at this location. Therefore, susceptibility is considered to be high.	Medium	High for recreational users.

Size/ scale, duration and reversibility of impact at construction

Medium range view of construction operations visible to the left of the view. Low level construction operations will be largely screened behind localised sand dunes and low level vegetation. Construction operations will be seen in the context of existing large-scale structures within the wider view. The introduction of cranes and the gradual increase in structures will be readily apparent and characteristic of the existing view. The overall balance will be changed by the introduction of large-scale construction operations which will be readily apparent in the view. The impact is assessed to be medium, short term and reversible.

Magnitude of impact at construction		Medium
Significance of effect at construction	Recreational	Moderate adverse (significant)

Size/ scale, duration and reversibility of impact at opening

Medium distance view towards the operational PCC Site, visible towards the edge of the headland. The majority of the high level structures, stacks and plume associated with the absorber stack will appear against the skyline, increasing their visibility. The operational PCC Site will be seen in the context of an open, panoramic view, containing a high level of industrial structures including stacks and flares. The Proposed Development will be noticeable but would not change the overall balance of the view. The impact is assessed to be low, long term and reversible.

Magnitude of impact at opening		Low
Significance of effect at opening	Recreational	Minor adverse (not significant)

Size/ scale, duration and reversibility of impact at operation

Maturing replacement planting will not be visible from this viewpoint. Therefore, there will be no change to the impacts assessed at opening. The Proposed Development will be noticeable, but not change the overall balance of the view. The impact is assessed to be low, long term and reversible.

Magnitude of impact at operation		Low
Significance of effect at operation	Recreational	Minor adverse (not significant)

Viewpoint 6- Cowpen Bewley Country Park

Grid reference	Receptor type	Elevation (m AOD)	Approx. distance from PCC Site (km)	Direction of view
448591, 525700	Recreational	20	8.1	East

Visual susceptibility to change	Value of view	Sensitivity of receptor
View forms primary focus for recreational users of Cowpen Bewley Country Park at this location. Therefore, susceptibility is considered to be high.	Medium	High for recreational users.

Size/ scale, duration and reversibility of impact at construction		
Long distance views towards the PCC Site with construction activities visible to the right of the view. Due to lack of intervening vegetation or landform, construction activities including the use of cranes will be visible, although at a long distance and set within a wide 360° panorama containing a high number of existing industrial structures. Construction activities will form a barely noticeable part of the view. The impact is assessed to be very low, short term and reversible.		
Magnitude of impact at construction		Very low
Significance of effect at construction	Recreational	Negligible adverse (not significant)

Size/ scale, duration and reversibility of impact at opening		
Long distance view towards the operational PCC Site viewed to the right of the view. The structures including stacks and plume associated with the absorber stack will be viewed against the skyline, marginally increasing their visibility. The presence of additional structures in the view will be barely noticeable and will not alter the overall balance of the view that contains a high number of industrial structures. The impact at opening is assessed to be reduced in comparison with the construction stage, although would remain at very low. Impacts will be long term and reversible.		
Magnitude of impact at opening		Very low
Significance of effect at opening	Recreational	Negligible adverse (not significant)

Size/ scale, duration and reversibility of impact at operation (Year 15)		
Maturing replacement planting will not be visible from this viewpoint. Therefore, there will be no change to the impacts assessed at opening. The Proposed Development will be barely noticeable and will not alter the overall balance of the view that contains a high number of industrial structures. The impact is assessed to be very low, long term and reversible.		
Magnitude of impact at operation		Very low
Significance of effect at operation	Recreational	Negligible adverse (not significant)

Viewpoint 7- England Coast Path, Warrenby

Grid reference	Receptor type	Elevation (m AOD)	Approx. distance from PCC Site (km)	Direction of view
458610, 525421	Recreational	3	1.2	West
Visual susceptibility to change		**Value of view**		**Sensitivity of receptor**
View forms primary focus for users of the long-distance trail and golf course at this location. Therefore, susceptibility is considered to be high.		Medium		High for recreational users.
Size/ scale, duration and reversibility of impact at construction				
Medium distance views of construction activities associated with the PCC Site. Low level activities will be largely screened by intervening sand dunes and localised landforms. Higher level activities will be clearly visible within the middle ground of the view. The use of high level cranes and the movement of construction activity will be readily apparent and form a noticeable part of the view. The impact is assessed to be medium, short term and reversible.				
Magnitude of impact at construction				Medium
Significance of effect at construction		Recreational		Moderate adverse (significant)
Size/ scale, duration and reversibility of impact at opening				
Medium distance views of the operational PCC Site, including stacks and plume associated with the absorber stack will be highly visible from this location. The increase in massing of structures associated with the operational PCC Site will become the most prominent structure from this location, altering the overall balance of the view. The impact is assessed to be medium, long term and reversible.				
Magnitude of impact at opening				Medium
Significance of effect at opening		Recreational		Moderate adverse (significant)
Size/ scale, duration and reversibility of impact at operation				
Maturing replacement planting will not be visible from this viewpoint. Therefore, there will be no change to the impacts assessed at opening. The Proposed Development will continue to be the most prominent structure from this location. The impact is assessed to be medium, long term and reversible.				
Magnitude of impact at operation				Medium
Significance of effect at operation		Recreational		Moderate adverse (significant)

Viewpoint 8- Redcar seafront

Grid reference	Receptor type	Elevation (mAOD)	Approx. distance from PCC Site (km)	Direction of view
459886, 525465	Recreational users and residential	11	2.4	West
Visual susceptibility to change		**Value of view**		**Sensitivity of receptor**
View forms primary focus for residential receptors and users of the long-distance trail at this location. Therefore, susceptibility is considered to be high.		Medium.		High for residential and recreational users.
Size/ scale, duration and reversibility of impact at construction				
Medium distance view towards construction activity associated with the PCC Site, visible on the headland in the centre of the view. Construction operations, including low level activities will be clearly visible, set within a wide, open view that contains a small number of detractors. The presence of cranes and construction activity will be readily apparent although will not alter the overall balance of features. The impact is assessed to be medium, short term and reversible.				
Magnitude of impact at construction				Medium
Significance of effect at construction		Recreational users and residential		Moderate adverse (significant)
Size/ scale, duration and reversibility of impact at opening				
At opening the operational PCC Site will be visible in the view. The stacks and plume associated with the absorber stack will be visible, with the operational PCC Site forming a visible structure in the background of the view that will be noticeable. Due to the presence of existing structures, the Proposed Development will not alter the overall balance of the view. The impact is assessed to be low, long term and reversible.				
Magnitude of impact at opening				Low
Significance of effect at opening		Recreational users and residential		Minor adverse (not significant)
Size/ scale, duration and reversibility of impact at operation				
Maturing replacement planting will not be visible from this viewpoint. Therefore, there will be no change to the impacts assessed at opening. The operational Proposed Development will continue to form a visible structure in the background of the view that is noticeable. The impact is assessed to be low, long term and reversible.				
Magnitude of impact at operation				Low
Significance of effect at operation		Recreational users and residential		Minor adverse (not significant)

Viewpoint 9- Coatham Marsh Nature Reserve

Grid reference	Receptor type	Elevation (m AOD)	Approx. distance from PCC Site (km)	Direction of view
459168, 524686	Recreational	4	1.9	North-west
Visual susceptibility to change		**Value of view**		**Sensitivity of receptor**
View forms secondary view for recreational users of Coatham Marsh Nature Reserve. Therefore, susceptibility is considered to be medium.		Low.		Medium for recreational users.
Size/ scale, duration and reversibility of impact at construction				
Medium distance view towards construction activities associated with the PCC Site where no intervening vegetation is present. Construction activities, including the presence of high level cranes will be visible, set within a wide view that contains a number of existing detractors. Construction activities will form a noticeable part of the view but will not alter the overall balance of the view. The impact is assessed to be low, short term and reversible.				
Magnitude of impact at construction				Low
Significance of effect at construction		Recreational		Minor adverse (not significant)
Size/ scale, duration and reversibility of impact at opening				
The operational PCC Site will be clearly visible in the view. The stacks and plume associated with the absorber stack will be visible, increasing the number of large-scale structures within the view. The Proposed Development will be clearly noticeable but will not alter the overall balance of features in the view as a result of the presence of existing built structures. The impact is assessed to be low, long term and reversible.				
Magnitude of impact at opening				Low
Significance of effect at opening		Recreational		Minor adverse (not significant)
Size/ scale, duration and reversibility of impact at operation				
Maturing replacement planting will not be visible from this viewpoint. Therefore, there will be no change to the impacts assessed at opening. The operational development will be clearly visible in the view. The impact is assessed to be low, long term and reversible.				
Magnitude of impact at operation				Low
Significance of effect at operation		Recreational		Minor adverse (not significant)

Viewpoint 10- Eston Nab

Grid reference	Receptor type	Elevation (m AOD)	Approx. distance from PCC Site (km)	Direction of view
456899, 518348	Recreational	238	6.7	North
Visual susceptibility to change		**Value of view**		**Sensitivity of receptor**
View forms primary focus for users of the PRoW at this location. Therefore, susceptibility is considered to be high.		High.		High for recreational users.
Size/ scale, duration and reversibility of impact at construction				
Long distance, elevated view towards construction activities associated with the PCC Site and Connections Corridors. Construction operations associated with the PCC Site will be the most visible activities. The construction of the PCC Site including high level cranes will be visible, forming a small, barely noticeable feature within the wider view. The impact is assessed to be very low, short term and reversible.				
Magnitude of impact at construction				Very low
Significance of effect at construction		Recreational		Negligible adverse (not significant)
Size/ scale, duration and reversibility of impact at opening				
The operational PCC Site will be visible within the wider view, although partially screened by intervening structures located in close proximity to the PCC Site. The stacks and plume would form the most visible structures of the Proposed Development, viewed against the North Sea, increasing their visibility. As a result of the high number of existing industrial structures, the Proposed Development would be barely noticeable as part of the wider view. The impact is assessed to be very low, long term and reversible.				
Magnitude of impact at opening				Very low
Significance of effect at opening		Recreational		Negligible adverse (not significant)
Size/ scale, duration and reversibility of impact at operation				
Maturing replacement planting will not be visible from this viewpoint. Therefore, there will be no change to the impacts assessed at opening. The Proposed Development would be barely noticeable as part of the wider view. The impact is assessed to be very low, long term and reversible.				
Magnitude of impact at operation				Very low
Significance of effect at operation		Recreational		Negligible adverse (not significant)

Viewpoint 11- Longbeck Lane

Grid reference	Receptor type	Elevation (m AOD)	Approx. distance from PCC Site (km)	Direction of view
461856, 521012	Residential	48	6.1	North-west

Visual susceptibility to change	Value of view	Sensitivity of receptor
View forms primary focus for residents at this location. Therefore, susceptibility is considered to be high.	Low.	Medium for residential users.

Size/ scale, duration and reversibility of impact at construction

Long distance views towards construction activities associated with the PCC Site. Due to lack of intervening vegetation or landform, construction activities including the use of cranes would be clearly visible, although at a long distance and set within a wide panoramic view containing a high number of existing industrial structures. Construction activities would form a barely noticeable part of the wider view. The impact is assessed to be very low, short term and reversible.

Magnitude of impact at construction		Very low
Significance of effect at construction	Residential	Negligible adverse (not significant)

Size/ scale, duration and reversibility of impact at operation

The operational PCC Site will be visible to the left of the centre of the view. The stacks and plume associated with the absorber stack will be visible in the background of the view, seen in the context of a high number of industrial structures including stacks and plumes. The Proposed Development would form a barely noticeable feature within the wider view. The impact is assessed to be very low, long term and reversible.

Magnitude of impact at opening		Very low
Significance of effect at opening	Residential	Negligible adverse (not significant)

Size/ scale, duration and reversibility of impact at operation

Maturing replacement planting will not be visible from this viewpoint. Therefore, there will be no change to the impacts assessed at opening. The Proposed Development would form a barely noticeable feature within the wider view and the impact is assessed to be very low, long term and reversible.

Magnitude of impact at operation		Very low
Significance of effect at operation	Residential	Negligible adverse (not significant)

Viewpoint 12- Carpark off A1085 Coast Road, Marske by the Sea

Grid reference	Receptor type	Elevation (m AOD)	Approx. distance from PCC Site (km)	Direction of view
463156, 523188	Recreational	13	6.4	North-west
At construction				
Visual susceptibility to change		**Value of view**		**Sensitivity of receptor**
View forms primary focus for users of Redcar beachfront at this location. Therefore, susceptibility is considered to be high.		Medium.		High for recreational users.
Size/ scale, duration and reversibility of impact at construction				
Long distance view towards construction activities associated with the PCC Site. Low and medium level activities would be largely screened by housing within Redcar. High level activities, including the use of cranes, will be barely noticeable above the intervening structures, viewed against the sky. The impact is assessed to be very low, short term and reversible.				
Magnitude of impact at construction				Very low
Significance of effect at construction		Recreational		Negligible adverse (not significant)
Size/ scale, duration and reversibility of impact at opening				
The upper sections of the operational PCC Site at opening including stacks and plume associated with the absorber stack will be visible, viewed above the residential area of Redcar. The high level structures will be barely noticeable, viewed against the sky. Due to the limited industrial structures in the view the impact is assessed to be very low, long term and reversible.				
Magnitude of impact at opening				Very low
Significance of effect at opening		Recreational		Negligible adverse (not significant)
Size/ scale, duration and reversibility of impact at operation				
Maturing replacement planting will not be visible from this viewpoint. Therefore, there will be no change to the impacts assessed at opening. The upper sections of the operational Proposed Development will be barely noticeable, viewed against the sky. The impact is assessed to be very low, long term and reversible.				
Magnitude of impact at operation				Very low
Significance of effect at operation		Recreational		Negligible adverse (not significant)

Visible Plumes

17.6.17 As discussed in Chapter 8: Air Quality (ES Volume I, Document Ref. 6.2) and Appendix 8B: Air Quality Operational Phase (ES Volume III, Document Ref. 6.4), there are currently two options for release temperatures of the absorber stack under consideration to ensure an acceptable level of impact at ecological receptors: 35°C and 60°C release. The average visible plume length for a 35°C release is predicted to be 21 m long and visible for up to 40% of the time reducing to approximately 4% of the time for a plume over

115 m in length (i.e. the height of the stack). An average plume length of 1 m is predicted for a 60°C release, visible for less than 1% of the time.

17.6.18 As such the visual impact associated with visible plumes from a 35°C release is considered worst-case and this scenario has been used for the assessment of impacts on visual amenity.

17.6.19 In addition to the potential for visible plumes to occur from the absorber stack, there is also potential for visible plumes to occur from the mechanical draft cooling towers (22 cooling cells). Plumes will be present for up to 85% of the time with an average length of 15 m. Visible plumes over 100 m are only predicted to be present for up to approximately 1% of the time.

17.6.20 At the opening and operational assessment scenarios, this impact is set in the context of the existing Teesside industrial area which contains a number of visible plumes from existing stacks and chimneys.

Table 17-9: Summary of Effects on Visual Amenity

Viewpoint reference	Sensitivity of receptor	Receptor location	Receptor type	Significance of effect		
				Construction	Opening	Operation
1	High	Albion Terrace, Hartlepool	Residential and PRoW users	Negligible adverse (not significant)	Negligible adverse (not significant)	Negligible adverse (not significant)
2	High	The Cliff, Seaton Carew	Residential and PRoW users	Minor adverse (not significant)	Negligible adverse (not significant)	Negligible adverse (not significant)
3	High	Teesmouth National Nature Reserve, England Coast Path	Recreational	Minor adverse (not significant)	Minor adverse (not significant)	Minor adverse (not significant)
4	High	North Gare Sands	Recreational	Minor adverse (not significant)	Minor adverse (not significant)	Minor adverse (not significant)
5	High	South Gare Breakwater	Recreational	Moderate adverse (significant)	Minor adverse (not significant)	Minor adverse (not significant)
6	High	Cowpen Bewley Country Park	Recreational	Negligible adverse (not significant)	Negligible adverse (not significant)	Negligible adverse (not significant)
7	High	England Coast Path, Warrenby	Recreational	Moderate adverse (significant)	Moderate adverse (significant)	Moderate adverse (significant)
8	High	Redcar seafront	Recreational and residential	Moderate adverse (significant)	Minor adverse (not significant)	Minor adverse (not significant)
9	Medium	Coatham Marsh Nature Reserve	Recreational	Minor adverse (not significant)	Minor adverse (not significant)	Minor adverse (not significant)
10	High	Eston Nab	Recreational	Negligible adverse (not significant)	Negligible adverse (not significant)	Negligible adverse (not significant)
11	Medium	Longbeck Lane	Residential	Negligible adverse (not significant)	Negligible adverse (not significant)	Negligible adverse (not significant)

Viewpoint reference	Sensitivity of receptor	Receptor location	Receptor type	Significance of effect		
				Construction	Opening	Operation
12	High	Carpark off A1085 Coast Road, Marske by the Sea	Recreational	Negligible adverse (not significant)	Negligible adverse (not significant)	Negligible adverse (not significant)

Dynamic Views

17.6.21 Users of the main transport routes and long distance trails will gain dynamic views towards the PCC Site to varying degrees dependent on intervening structures, screening vegetation, elevation and direction of travel. Due to the height of the tallest structure within the Site (the stacks, with a maximum height of 115 m above ground level/ 128 m AOD) these receptors will gain a wide variety of views, dependent upon the proximity to the Proposed Development, and direction of travel.

17.6.22 Within the Study Area there are a number of local roads in close proximity of the PCC Site and Connection Corridors which join the settlements. Generally, views from these roads will be dynamic and ever changing. Views are often broken or restricted by screening vegetation and built form located along the road corridors. Where views are open, the stacks and associated plumes will be clearly visible, appearing prominent in close views.

Decommissioning

17.6.23 The impacts on landscape character and visual amenity arising as a result of decommissioning of the Proposed Development are considered (using professional judgement) to be similar to those identified at the construction stage. For landscape this is as a result of the scale and nature of the development in relation to the existing industrial structures and complexes present in the wider landscape and the large-scale of the LCAs. For visual amenity this is as a result of the visibility of decommissioning and demolition activities not being prominent for the majority of viewpoints as a result of long-distance views and, intervening vegetation, and the presence of mature screen planting in proximity to the Electrical Connection Corridor.

17.7 Mitigation and Enhancement Measures

17.7.1 The assessment has concluded that there will be no significant effects on landscape receptors during all assessment scenarios.

17.7.2 Significant adverse visual effects have been assessed for a number of representative viewpoints, as follows:

- Viewpoint 5 (South Gare Breakwater) during the construction assessment scenario;
- Viewpoint 7 (England Coast Path, Warrenby) during construction, opening and operation assessment scenarios; and
- Viewpoint 8 (Redcar seafront) during the construction assessment scenario.

17.7.3 Section 2.65 of NPS EN-2 (DECC, 2011b) states that *'It is not possible to eliminate the visual impacts associated with a fossil fuel generating station. Mitigation is therefore to reduce the visual intrusion of the buildings in the landscape and minimise impact on visual amenity as far as reasonably practicable'*.

17.7.4 The following mitigation measures will be undertaken as part of design development to address requirements of a number of relevant planning policies:

- the design of the Proposed Development will seek to minimise adverse impacts on visual amenity through appropriate siting of infrastructure including materials and colours. (EN-1, EN-2, N1, SD8).

17.7.5 No potential additional mitigation has been identified for Viewpoints 5, 7 and 8 due to the proximity to the Proposed Development and the scale of the structures.

17.8 Limitations or Difficulties

17.8.1 Technical difficulties in, or limitations on, carrying out the landscape and visual impact assessment as detailed at the PEI Stage have now been resolved i.e. site visits have been completed to capture all seasons.

17.8.2 Assessment of visual impact through the use of representative viewpoints is often limited/ restricted by the limits of public access. Land outside of the control of the Applicants was accessed from points of public access (roads and public rights of way) only. This is considered good practice and therefore has not affected the appropriateness of the viewpoints selected nor the robustness of the assessment.

17.8.3 The viewpoints that have been included within the assessment were based on representative views from where the receptor was considered the most sensitive (based on professional judgement).

17.9 Cumulative Effects

Scope of Assessment

17.9.1 In order to ensure all developments with the potential to result in significant effects with the addition of the Proposed Development, an initial search of 10 km from the PCC Site was used or 2 km from the Site boundary where this covers a greater extent. Cumulative development considered in this assessment are described in full in Chapter 24: Cumulative and Combined Effects (ES Volume I, Document Ref. 6.2) and illustrated on Figure 24-1 (ES Volume II, Document Ref. 6.3).

17.9.2 The assessment considers the potential for combined impacts to static views within the landscape which may be either simultaneous (where developments would be observable at the same time) or successive (where an observer would be required to turn to experience multiple developments).

17.9.3 Cumulative landscape effects may result where a number of developments combine, increasing the prevalence of such development within a landscape to an extent where they may become a defining characteristic. The likely significance of these effects relates to the number of developments affecting the landscape, their scale, their inter-relationship and the sensitivity and ability of the particular landscape to accommodate this type of development.

17.9.4 Cumulative visual effects may result where a number of developments combine to increase the appearance and dominance within a particular view. The likely significance of these effects relates to the number of developments visible and their scale, location and inter-relationship to each other within the view.

Landscape Character

17.9.5 The landscape cumulative assessment assesses the cumulative effects on identified landscape receptors within the Study Area. Landscape receptors that have been assessed as having negligible adverse effects have not been included in the assessment of cumulative effects, as it is considered unlikely that the addition of a negligible adverse effect to the cumulative effects of other developments within the Study Area, would lead to a significant cumulative effect.

Table 17-10: Assessment of Cumulative Landscape Effects – Construction

Landscape type	Sensitivity of receptor	Description of impact	Magnitude of cumulative impact	Classification of effect
Eston Hills LCTr	High	A number of the cumulative developments will introduce construction activity within views from the LCTr. Due to the high number of existing large-scale industrial complexes and transport infrastructure that influence the LCTr it is assessed that the introduction of construction activity associated with the Proposed Development would result in a limited change to the LCTr. It is assessed that the cumulative impact would remain at very low, the same as for the Proposed Development assessed in isolation.	Very low	Minor adverse (not significant)
Redcar Flats LCTr	Medium	A number of the cumulative developments are located within or adjacent to the Redcar Flats LCTr. Due to existing large-scale industrial complexes that influence the LCTr it is assessed that the impact of construction activity associated with the Proposed Development would result in a limited influence on the LCTr. It is assessed that the cumulative impact on the LCTr would remain at low, the same as for the Proposed Development assessed in isolation.	Low	Minor adverse (not significant)
East Billingham to Teesmouth LCA	Medium	A number of the cumulative developments will introduce construction activity within views from the LCA. Due to the high number of existing large-scale industrial complexes and transport infrastructure that influence the LCA it is assessed that the direct impact of construction activity associated with the Proposed Development would result in a limited change to the LCA. It is assessed that the cumulative impact would remain at low, the same as for the Proposed Development assessed in isolation.	Low	Minor adverse (not significant)
Coastal Fringe LCT	High	A number of the cumulative developments will introduce construction activity within views from both LCT. Due to the high number of existing large-scale industrial complexes and transport infrastructure that influence the LCT it is assessed that the impact of construction activity associated with the Proposed Development would result in a limited change to both LCTs. It is assessed that the cumulative impact would remain at low, the same as for the Proposed Development assessed in isolation.	Low	Minor adverse (not significant)
Estuarine LCT	Medium		Low	Minor adverse (not significant)

Table 17-11: Assessment of Cumulative Landscape Effects – Opening (Year 1)

Landscape type	Sensitivity of receptor	Description of impact	Magnitude of cumulative impact	Classification of effect
Eston Hills LCTr	High	A number of the cumulative developments will introduce additional built form within views from the LCTr. Due to the high number of existing large-scale industrial complexes and transport infrastructure that influence the LCTr it is assessed that the opening of the Proposed Development would result in a limited change to the LCTr. It is assessed that the cumulative impact would remain at very low, the same as for the Proposed Development assessed in isolation.	Very low	Minor adverse (not significant)
Redcar Flats LCTr	Medium	The built form associated with the cumulative developments within the LCTr would introduce uncharacteristic development into the LCTr alongside views of the Proposed Development. The impact is viewed in the context of the adjacent large-scale industrial developments and it is assessed that the cumulative impact on the LCTr would remain at low, the same as for the Proposed Development assessed in isolation.	Low	Minor adverse (not significant)
East Billingham to Teesmouth LCA	Medium	A number of the cumulative developments will introduce additional built form within views from the LCA. Due to the high number of existing large-scale industrial complexes and transport infrastructure that influence the LCA it is assessed that the impact associated with the Proposed Development would result in a limited change to the LCA. It is assessed that the cumulative impact would remain at low, the same as for the Proposed Development assessed in isolation.	Low	Minor adverse (not significant)
Coastal Fringe LCT	High	A number of the cumulative developments will introduce built form within views from both LCT. Due to the high number of existing large-scale industrial complexes and transport infrastructure that influence the LCT it is assessed that built form associated with the Proposed Development would result in a limited change to both LCT. It is assessed that the cumulative impact would remain at very low, the same as for the Proposed Development assessed in isolation.	Very low	Minor adverse (not significant)
Estuarine LCT	Medium		Very low	Negligible adverse (not significant)

Table 17-12: Assessment of Cumulative Landscape Effects – Operation (Year 15)

Landscape type	Sensitivity of receptor	Description of impact	Magnitude of cumulative impact	Classification of effect
Eston Hills LCTr	High	The impacts during operation are anticipated to be similar to the opening assessment scenario. The operation of the Proposed Development in addition to the cumulative developments is assessed to remain at very low, the same as for the Proposed Development assessed in isolation.	Very low	Minor adverse (not significant)
Redcar Flats LCTr	Medium	The impacts during operation are anticipated to be similar to the opening assessment scenario. The operation of the Proposed Development in addition to the cumulative developments is assessed to remain at low, the same as for the Proposed Development assessed in isolation.	Low	Minor adverse (not significant)
East Billingham to Teesmouth LCA	Medium	The impacts during operation are anticipated to be similar to the opening assessment scenario. The operation of the Proposed Development in addition to the cumulative developments is assessed to remain at low, the same as for the Proposed Development assessed in isolation.	Low	Minor adverse (not significant)
Coastal Fringe LCT	High	The impacts during operation are anticipated to be similar to the opening assessment scenario. The operation of the Proposed Development in addition to the cumulative developments is assessed to remain at very low, the same as for the Proposed Development assessed in isolation.	Very low	Minor adverse (not significant)
Estuarine LCT	Medium		Very low	Negligible adverse (not significant)

17.9.6 In summary the assessment has concluded that the identified LCTr, LCA and LCT are not predicted to experience significant cumulative effects for any of the assessment scenarios.

Visual Amenity

17.9.7 For the assessment of cumulative visual impacts, the cumulative developments as set out in Table 17-13 have been scoped out as a result of no intervisibility with the Proposed Development, the scale of the cumulative development (mass or height) or distance.

Table 17-13: Developments Scoped out of the Cumulative Visual Assessment

ID	Cumulative Development	Reason
1	Net Zero Teesside offshore elements.	Discounted due to long distance and majority of elements being below sea level – no potential for significant cumulative effects.
4	Dogger Bank Wind Farm development.	Discounted due to long distance – no potential for significant cumulative effects.
17	Outline planning application for up to 550 residential units with associated access.	Discounted due to lack of intervisibility with the representative viewpoints and scale of development.
31	Installation of two underground sections of high voltage electrical cables and fibre-optic cable associated with Dogger bank Teesside A & B offshore wind farms.	Discounted due to lack of intervisibility with the representative viewpoints and scale of development.
51	Redcar & Cleveland Local Plan (2018) Allocation H3.15 (West of Kirkleatham), for up to 550 houses – Linked to ID 17.	Discounted due to lack of inter-visibility with the representative viewpoints and scale of development.
71	York Potash Ltd The winning and working of polyhalite by underground methods including the construction of a tunnel portal at Wilton comprising buildings, landform of spoil and associated works.	Discounted due to lack of intervisibility with the representative viewpoints and distance from the Proposed Development.
73	South Tees Development Corporation (STDC) South Bank 2 - demolition of existing structures and development of storage or distribution facilities, office accommodation, Heavy Goods Vehicles (HGVs) and car parking and associated infrastructure.	Discounted due to height of structures and distance from the Proposed Development.
78	Port Clarence Energy Proposed 45MWe renewable energy plant.	Discounted due to lack of intervisibility with the representative viewpoints and distance from the Proposed Development.
83	STDC Dorman Point - development of general industry, storage and distribution facilities with ancillary office accommodation, HGV and car parking and associated works.	Discounted due to height of structures and distance from the Proposed Development.
84	STDC Lackenby - development of general industry, storage and distribution facilities with ancillary office accommodation, HGV and car parking and associated works.	Discounted due to height of structures and distance from the Proposed Development.

17.9.8 The cumulative developments that have been scoped into the cumulative visual impact assessment are set out in Table 17.14.

Table 17-14: Developments Scoped into Cumulative Visual Assessment

ID	Cumulative Development
2	York Potash installation of wharf jetties including a material handling facility
3	Tees Combined Cycle Power Plant, Combined Cycle Gas Turbine power station
13	CBRE, anaerobic biogas production facility and combined heat and power plant
16	Energy recovery facility and associated development
27	Overhead conveyor and associated storage facilities in connection with the York potash project
36	Graythorp Energy Ltd, energy recovery (energy from waste) facility and associated infrastructure.
66	STDC South Bank 1 - demolition of structures, ground preparation and temporary storage of soils.
68	Tees Renewable Energy 300 Mw biomass fired renewable energy power station.
77	Redcar Energy Centre consisting of a material recovery facility incorporating a bulk storage facility; an energy recovery facility; and an incinerator bottom ash recycling facility.
79	Northern Gateway Container Terminal, Teesport.
85	STDC The Foundry - development of general industry, storage and distribution facilities with ancillary office accommodation, HGV and car parking and associated works.
86	STDC Long Acre - development of general industry, storage and distribution facilities with ancillary office accommodation, HGV and car parking and associated works.
87	STDC Steel House - development of office accommodation and incubator space, car parking and associated works.

17.9.9 Potential cumulative visual effects of the Proposed Development are assessed in Table 17-15 by reference to representative viewpoints. The assessments contained within Table 17-15 should be read in conjunction with Figures 17-7 to 17-18 (ES Volume II, Document Ref. 6.3) which illustrates the baseline conditions at each viewpoint.

17.9.10 Visual receptors that have been assessed as having a negligible effect due to the Proposed Development have not been included in the assessment of cumulative effects, as it is considered unlikely that the addition of a negligible effect to the cumulative effects of other developments within the Study Area would lead to a significant cumulative impact. This applies to:

- Viewpoint 1 (Albion Terrace, Hartlepool) at all assessment scenarios;
- Viewpoint 2 (The Cliff, Seaton Carew) at opening and operation;
- Viewpoint 3 (Teesmouth National Nature Reserve, England Coast Path) at opening and operation;
- Viewpoint 6 (Cowpen Bewley Country Park) at all assessment scenarios;
- Viewpoint 10 (Eston Nab) at all assessment scenarios;
- Viewpoint 11 (Longbeck Lane) at all assessment scenarios; and

- Viewpoint 12 (Carpark off A1085 Coast Road, Marske by the Sea) at all assessment scenarios.

Table 17-15: Cumulative Visual Effects from Representative Viewpoints

Viewpoint 2: The Cliff, Seaton Carew

Grid reference	Receptor type	Elevation (m AOD)	Approx. distance from PCC Site (km)	Direction of view
452473, 530118	Residential and recreational users	10	6.2	South-east

Cumulative Developments
York Potash (ID 2)
CBRE Anaerobic Biogas (ID 13)
York Potash overhead conveyor (ID 27)
STDC South Bank 1 (ID 66) – construction period only
Redcar Energy Centre (ID 77)
Northern Gateway Container Terminal (ID 79)
STDC The Foundry (ID 85)
STDC Long Acre (ID 86)
STDC Steel House (ID 87)

Visual susceptibility to change	Value of view	Sensitivity of receptor
View forms primary focus from residential properties, conservation area and users of the long-distance trail at this location. Therefore, susceptibility is considered to be high.	Medium	High for residential and PRoW users.

Size/ scale, duration and reversibility of impact at construction

The structures associated with the demolition of the areas within STDC ownership and the construction of the STDC structures will be barely visible within the view due to distance and intervening structures. The construction of the Redcar Energy Centre will appear in front of and partially screening the construction activity associated with the Proposed Development. The presence of the other characteristic, cumulative developments including stacks, will slightly intensify the built structures visible from this location. The addition of the construction operations associated with the Proposed Development will result in a low cumulative impact, although no greater than that assessed for the Proposed Development in isolation. The impact will be short term and reversible.

Magnitude of impact at construction		Low
Significance of effect at construction	Residential and recreational users	Minor adverse (not significant)

Viewpoint 3: Teesmouth National Nature Reserve, England Coast Path

Grid reference	Receptor type	Elevation (m AOD)	Approx. distance from PCC Site (km)	Direction of view
452488, 527854	Recreational	4	4.8	East

Cumulative Developments

Graythorp Energy from Waste (ID 36)
STDC South Bank 1 (ID 66) – construction period only
MGT Teesside (ID 68)
Redcar Energy Centre (ID 77)
Northern Gateway Container Terminal (ID 79)

Visual susceptibility to change	Value of view	Sensitivity of receptor
The view forms the primary focus for users of the long-distance trail at this location. Therefore, susceptibility is considered to be high.	Medium	High for recreational users.

Size/ scale, duration and reversibility of impact at construction

The structures associated with the demolition of the areas within STDC ownership and the construction of the STDC structures will be barely visible within the view due to distance and intervening structures. The construction of the Redcar Energy Centre will appear in front of and partially screening the construction activity associated with the Proposed Development.

The construction operations associated with the Graythorp Energy from Waste development will be visible to the right of the view. The presence of the other characteristic, cumulative developments including stacks, will slightly intensify the built structures visible from this location. The addition of the construction operations associated with the Proposed Development will result in a low cumulative impact, although no greater than that assessed for the Proposed Development in isolation. The impact will be short term and reversible.

Magnitude of impact at construction		Low
Significance of effect at construction	Recreational	Minor adverse (not significant)

Viewpoint 4: North Gare Sands

Grid reference	Receptor type	Elevation (m AOD)	Approx. distance from PCC Site (km)	Direction of view
453752, 527277	Recreational	0	3.5	East

Cumulative Developments

York Potash (ID 2)
CBRE Anaerobic Biogas (ID 13)
Energy recovery facility (ID 16)
York Potash overhead conveyor (ID 27)
STDC South Bank 1 (ID 66) – construction period only
MGT Teesside (ID 68)
Redcar Energy Centre (ID 77)
Northern Gateway Container Terminal (ID 79)
STDC The Foundry (ID 85)

Viewpoint 4: North Gare Sands

STDC Long Acre (ID 86)
STDC Steel House (ID 87)

Visual susceptibility to change	Value of view	Sensitivity of receptor
View forms primary focus for users of the beach at this location. Therefore, susceptibility is considered to be high.	Medium	High for recreational users.

Size/ scale, duration and reversibility of impact at construction

The structures associated with the demolition of the areas within STDC ownership and the construction of the STDC structures will be visible within the view. The construction of the Redcar Energy Centre will appear in front of and partially screening the construction activity associated with the Proposed Development. The presence of the other characteristic, cumulative developments including stacks, will slightly intensify the built structures visible from this location. The addition of the construction operations associated with the Proposed Development will result in a low cumulative impact, although no greater than that assessed for the Proposed Development in isolation. The impact will be short term and reversible.

Magnitude of impact at construction		Low
Significance of effect at construction	Recreational	Minor adverse (not significant)

Size/ scale, duration and reversibility of impact at opening

The presence of the identified cumulative developments including the operational Redcar Energy Centre, which will partially screen the Proposed Development will slightly intensify the visibility of characteristic built structures from this location. The addition of the structures associated with the Proposed Development will result in a low cumulative impact, although no greater than that assessed for the Proposed Development in isolation. The impact will be long term and reversible.

Magnitude of impact at opening		Low
Significance of effect at opening	Recreational	Minor adverse (not significant)

Size/ scale, duration and reversibility of impact at operation

Maturing replacement planting will not be visible from this viewpoint. Therefore, there will be no change to the impacts assessed at opening. The additional of the Proposed Development will result in a cumulative impact that is no greater than that assessed for the Proposed Development in isolation. The impact will be long term and reversible.

Magnitude of impact at operation		Low
Significance of effect at operation	Recreational	Minor adverse (not significant)

Viewpoint 5- South Gare Breakwater

Grid reference	Receptor type	Elevation (m AOD)	Approx. distance from PCC Site (km)	Direction of view
455638, 527828	Recreational	0	2.4	South

Cumulative Developments
York Potash (ID 2)
Tees CCGT power station (ID 3)
CBRE Anaerobic Biogas (ID 13)
Energy recovery facility (ID 16)
York Potash overhead conveyor (ID 27)
STDC South Bank 1 (ID 66) – construction period only
MGT Teesside (ID 68)
Redcar Energy Centre (ID 77)
Northern Gateway Container Terminal (ID 79)
STDC The Foundry (ID 85)
STDC Long Acre (ID 86)
STDC Steel House (ID 87)

Visual susceptibility to change	Value of view	Sensitivity of receptor
View forms primary focus for recreational users of the beach and Tees Mouth at this location. Therefore, susceptibility is considered to be high	Medium	High for recreational users.

Size/ scale, duration and reversibility of impact at construction

The construction of the Redcar Energy Centre will be visible to the right of the construction activity associated with the Proposed Development. The construction of the Energy recovery facility will be partially visible behind the Proposed Development. The presence of the other characteristic, cumulative developments including stacks, will slightly intensify the built structures visible from this location. The addition of the construction operations associated with the Proposed Development will result in a medium cumulative impact, although no greater than that assessed for the Proposed Development in isolation. The impact will be short term and reversible.

Magnitude of impact at construction		Medium
Significance of effect at construction	Recreational	Moderate adverse (significant)

Viewpoint 7- England Coast Path, Warrenby

Grid reference	Receptor type	Elevation (m AOD)	Approx. distance from PCC Site (km)	Direction of view
458610, 525421	Recreational	3	1.2	West

Cumulative Developments
York Potash (ID 2)
York Potash overhead conveyor (ID 27)

Viewpoint 7- England Coast Path, Warrenby

STDC South Bank 1 (ID 66) – construction period only
MGT Teesside (ID 68)
Redcar Energy Centre (ID 77)
STDC Long Acre (ID 86)
STDC Steel House (ID 87)

Visual susceptibility to change	Value of view	Sensitivity of receptor
View forms primary focus for users of the long-distance trail and golf course at this location. Therefore, susceptibility is considered to be high.	Medium	High for recreational users.

Size/ scale, duration and reversibility of impact at construction

The activity associated with the STDC demolition will be partially visible in the foreground. Construction activity associated with the MGT Teesside and the STDC Long Acre and Steel House developments will be visible in the foreground. Construction activity associated with the Redcar Energy Centre will be visible in the background of the view.
The presence of the other characteristic cumulative developments, will intensify the built structures visible from this location. The addition of the construction operations associated with the Proposed Development will result in a medium cumulative impact, although no greater than that assessed for the Proposed Development in isolation. The impact will be short term and reversible.

Magnitude of impact at construction		Medium
Significance of effect at construction	Recreational	Moderate adverse (significant)

Viewpoint 8- Redcar seafront

Grid reference	Receptor type	Elevation (mAOD)	Approx. distance from PCC Site (km)	Direction of view
459886, 525465	Recreational users and residential	11	2.4	West

Cumulative Developments
York Potash (ID 2)
York Potash overhead conveyor (ID 27)
STDC South Bank 1 (ID 66) – construction period only
MGT Teesside (ID 68)
Redcar Energy Centre (ID 77)
STDC The Foundry (ID. 85)
STDC Long Acre (ID 86)
STDC Steel House (ID 87)

Visual susceptibility to change	Value of view	Sensitivity of receptor
View forms primary focus for residential receptors and users of the long-distance trail at this location. Therefore, susceptibility is considered to be high.	Medium.	High for residential and recreational users.

Viewpoint 8- Redcar seafront

Size/ scale, duration and reversibility of impact at construction
The construction activity and completed structures associated with the identified cumulative developments will be visible from this location, spread across the majority of the visible landform on the horizon. The presence of the other characteristic cumulative developments, will intensify the built structures visible from this location. The addition of the construction operations associated with the Proposed Development will result in a medium cumulative impact, although no greater than that assessed for the Proposed Development in isolation. The impact will be short term and reversible.

Magnitude of impact at construction		Medium
Significance of effect at construction	Recreational users and residential	Moderate adverse (significant)

Viewpoint 9- Coatham Marsh Nature Reserve

Grid reference	Receptor type	Elevation (m AOD)	Approx. distance from PCC Site (km)	Direction of view
459168, 524686	Recreational	4	1.9	North-west

Cumulative Developments

York Potash overhead conveyor (ID 27)
STDC South Bank 1 (ID 66) – construction period only
MGT Teesside (ID 68)
Redcar Energy Centre (ID 77)
STDC Long Acre (ID 86)
STDC Steel House (ID 87)

Visual susceptibility to change	**Value of view**	**Sensitivity of receptor**
View forms secondary view for recreational users of Coatham Marsh Nature Reserve. Therefore, susceptibility is considered to be medium.	Low.	Medium for recreational users.

Size/ scale, duration and reversibility of impact at construction
The construction activity and completed structures associated with the identified cumulative developments will be visible from this location, spread across the majority of the visible landform on the horizon. The presence of the other characteristic cumulative developments, will intensify the built structures visible from this location. The addition of the construction operations associated with the Proposed Development will result in a low cumulative impact, although no greater than that assessed for the Proposed Development in isolation. The impact will be short term and reversible.

Magnitude of impact at construction		Low
Significance of effect at construction	Recreational	Minor adverse (not significant)

Size/ scale, duration and reversibility of impact at opening
The structures associated with the cumulative developments will be visible, spread across the horizon, intensifying the built structures visible from this location. The addition of the Proposed Development will result in a low cumulative impact, although no greater than that assessed for the Proposed Development in isolation. The impact will be short term and reversible.

Viewpoint 9- Coatham Marsh Nature Reserve

Magnitude of impact at opening		Low
Significance of effect at opening	Recreational	Minor adverse (not significant)

Size/ scale, duration and reversibility of impact at operation

Maturing replacement planting will not be visible from this viewpoint. Therefore, there will be no change to the impacts assessed at opening. The operational development will be clearly visible in the view. The impact is assessed to be low, long term and reversible.

Magnitude of impact at operation		Low
Significance of effect at operation	Recreational	Minor adverse (not significant)

17.9.11 In summary the cumulative viewpoint assessment identified that viewpoint 5 (recreational receptors at South Gare Breakwater) and viewpoint 8 (recreational and residential receptors at Redcar seafront) will receive moderate adverse significant cumulative effect as a result of views of both the Proposed Development construction if concurrent with the construction and operation of a number of the identified cumulative developments. This cumulative effect is the same overall classification of effect as for the Proposed Development alone.

17.9.12 Viewpoint 7 (recreational receptors at England Coast Path, Warrenby) will receive moderate adverse significant cumulative effect as a result of views of both the Proposed Development construction if concurrent with the construction and operation of a number of the identified cumulative developments and during opening and operation as a result of the operation of the cumulative developments. This cumulative effect is the same overall classification of effect as for the Proposed Development alone.

17.9.13 The remaining viewpoints are all predicted to receive minor adverse cumulative effects that are not significant.

17.10 Residual Effects and Conclusions

17.10.1 The assessment has determined that the Proposed Development is unlikely to result in significant adverse landscape effects during any of the assessment scenarios.

17.10.2 The assessment has determined that a small number of recreational receptors - South Gare Breakwater (Viewpoint 5), England Coastal Path (Viewpoint 7) and Redcar seafront (Viewpoint 8) - are likely to experience significant short-term adverse effects during construction as a result of the close distance to the PCC Site and limited intervening vegetation. The impact on receptors at South Gare Breakwater (Viewpoint 5) and Redcar Seafront (Viewpoint 8) would reduce to not significant during opening; however, effects would remain significant at opening and during operation along the England Coastal Path (Viewpoint 7) due to the close proximity and prominence of structures associated with the Proposed Development.

17.10.3 A summary of significant visual effects is presented in Table 17-16.

Table 17-16: Summary of Significant Effects

Development Stage	Environmental effect (following development design and impact avoidance measures)	Classification of effect prior to mitigation	Mitigation/ enhancement (if identified)	Classification of residual effect after mitigation	Nature of effect(s)*
Construction	Impact on recreational users at viewpoint 5 South Gare Breakwater- during construction activities	Moderate Adverse (significant)	None	Moderate adverse (significant)	St/T/D
Construction	Impact on recreational users at viewpoint 7 England Coastal Path – during construction activities	Moderate Adverse (significant)	None	Moderate adverse (significant)	St/T/D
Construction	Impact on recreational users at viewpoint 8 Redcar seafront during construction activities	Moderate Adverse (significant)	None	Moderate adverse (significant)	St/T/D
Opening	Impact on recreational users at viewpoint 7 England Coastal Path – during opening	Moderate Adverse (significant)	None	Moderate adverse (significant)	Lt/P/D
Operation	Impact on recreational users at viewpoint 7 England Coastal Path – during operation	Moderate Adverse (significant)	None	Moderate adverse (significant)	Lt/P/D

* Long term (Lt)/ Medium term (Mt)/ Short term (St) and Permeant (P)/ Temporary (T) and Direct (D)/ Indirect (In)

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