

Connah's Quay Low Carbon Power

Preliminary Environmental Information Report
Volume II, Chapter 15: Landscape and Visual Amenity

Uniper

The Planning Act 2008
The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017
PINS Reference: EN010166
September 2024

Prepared for:
Uniper UK Limited

Prepared by:
AECOM Limited

© 2024 AECOM Limited. All Rights Reserved.

This document has been prepared by AECOM Limited ("AECOM") for sole use of our client (the "Client") in accordance with generally accepted consultancy principles, the budget for fees and the terms of reference agreed between AECOM and the Client. Any information provided by third parties and referred to herein has not been checked or verified by AECOM, unless otherwise expressly stated in the document. No third party may rely upon this document without the prior and express written agreement of AECOM.

Table of Contents

15. Landscape and Visual Amenity	15-1
15.1 Introduction.....	15-1
15.2 Consultation and Scope of Assessment	15-3
15.3 Assessment Methodology	15-5
15.4 Baseline Conditions and Study Area	15-11
15.5 Development Design and Embedded Mitigation.....	15-22
15.6 Preliminary Assessment of Likely Impacts and Effects.....	15-23
15.7 Additional Mitigation and Enhancement Measures.....	15-29
15.8 Summary of Likely Significant Residual Effects.....	15-29
References	15-32

Tables

Table 15-1: Legislation, Planning Policy, and Guidance relating to Landscape and Visual Amenity.....	15-2
Table 15-2: Landscape and Visual Amenity engagement undertaken to date	15-4
Table 15-3: Significance Matrix	15-9
Table 15-4: Location of Visual receptors and Value of the View	15-16
Table 15-5: Significance of Visual Amenity Effects in potential viewpoints	15-27
Table 15-6: Summary of Likely Significant Landscape and Visual Residual Effects (Construction).....	15-30
Table 15-7: Summary of Significant Landscape and Visual Residual Effects (Operation).....	15-30
Table 15-8: Summary of Significant Landscape and Visual Residual Effects (Decommissioning).....	15-31

15. Landscape and Visual Amenity

15.1 Introduction

Overview

- 15.1.1 This chapter of the Preliminary Environmental Information Report (PEIR) presents a preliminary assessment of the likely significant environmental effects of Connah's Quay Combined Cycle Gas Turbine (CCGT) with Carbon Capture Plant (CCP) (hereafter referred to as the Proposed Development) on the existing Landscape Character and Visual Amenity during the construction, operation (including maintenance), and decommissioning phases of the Proposed Development.
- 15.1.2 Landscape/ seascape effects relate to changes to the landscape/ seascape as a resource, including physical changes to the fabric or individual elements of the landscape, its aesthetic or perceptual qualities, and landscape/ seascape character. Seascapes have been taken into consideration due to the estuarine setting of the Proposed Development.
- 15.1.3 Visual effects relate to changes to existing views of identified visual receptors ('people'), from the loss or addition of features within their view due to the Proposed Development. For example, this may be nearby residents or users of Public Rights of Way (PRoW).
- 15.1.4 The Landscape and Visual Impact Assessment (LVIA) has been undertaken in accordance with the Guidelines for Landscape and Visual Impact Assessment, Third Edition, 2013 (GLVIA3) (Ref 15-1) and with reference to other environmental topics, including ecology and cultural heritage.
- 15.1.5 This chapter is supported by the following figures in PEIR Volume III:
- **Figure 15-1: Study Area;**
 - **Figure 15-2: Topography;**
 - **Figure 15-3: Landscape Context;**
 - **Figure 15-4A: National Landscape Character Areas;**
 - **Figure 15-4B: Local Landscape Character Area;**
 - **Figure 15-4B1: LANDMAP;**
 - **Figure 15-5: Public Rights of Way;**
 - **Figure 15-6: Viewpoint Locations;**
 - **Figure 15-7: Zone of Theoretical Visibility - 65 m Main Site Structures (excluding absorber and HRSG);**
 - **Figure 15-8: Zone of Theoretical Visibility - 120 m Absorber Column Height plus 8 m Raised Ground Level;**
 - **Figure 15-9: Not in use;**
 - **Figures 15-10 – 15-24: Winter Viewpoint Photography; and**

- **Figures 15-25 – 15-30: Viewpoint Wireline Sheets.**

15.1.6 This chapter is supported by the following appendices in PEIR Volume IV:

- **Appendix 1-B: Scoping Opinion;**
- **Appendix 2-B: Scoping Opinion Responses;**
- **Appendix 7-A: Legislative, Policy and Guidance Framework for Technical Topics;**
- **Appendix 15-A: Landscape and Visual Impact Assessment Methodology;**
- **Appendix 15-B: Landscape Character;**
- **Appendix 15-C: Potential Viewpoints;**
- **Appendix 15-D: Landscape Impact Assessment;** and
- **Appendix 15-E: Visual Impact Assessment.**

Legislation, Policy, and Guidance

15.1.7 Legislation, planning policy, and guidance relating to Landscape and Visual Amenity and pertinent to the Proposed Development are listed in **Table 15-1**. Further detail regarding these can be found in **Appendix 7-A: Legislative, Policy and Guidance Framework for Technical Topics**.

Table 15-1: Legislation, Planning Policy, and Guidance relating to Landscape and Visual Amenity

Type	Legislation, Policy, and Guidance
Legislation	<ul style="list-style-type: none"> • Infrastructure Planning (Environmental Impact Assessment (EIA)) Regulations 2017 (Ref 15-2); and • European Landscape Convention 2020 (Ref 15-27).
National Planning Policy	<ul style="list-style-type: none"> • The Overarching National Policy Statement (NPS) for Energy (EN-1) (Ref 15-3); • The NPS for Natural Gas Electricity Generating Infrastructure (EN-2) (Ref 15-4); • The NPS for Natural Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4) (Ref 15-5); • The NPS for Electricity Networks Infrastructure (EN-5) (Ref 15-6); • Planning Policy Wales (PPW) (Ref 15-7); and • Welsh National Marine Plan 2019 (Ref 15-26).
Local Planning Policy	<ul style="list-style-type: none"> • Flintshire County Council (FCC) Local Development Plan (LDP) (2015-2030) (Ref 15-8).
National Guidance	<ul style="list-style-type: none"> • Guidelines for Landscape and Visual Impact Assessment, Third Edition (GLVIA3) (Ref 15-1); • Landscape Institute Technical Guidance Note (TGN) 06/2019 Visual Representation of Development Proposals, (Ref 15-9); • Landscape Institute TGN 02/21: Assessing Landscape Value Outside National Designations (Ref 15-9); • Landscape Institute TGN Infrastructure, TGN 04/2020 (Ref 15-11); and • Landscape Institute TGN Tranquility 01/17 (Ref 15-12).

15.2 Consultation and Scope of Assessment

Consultation

- 15.2.1 A request for an EIA Scoping Opinion was sought from the Secretary of State (SoS) through the Planning Inspectorate (PINS) in February 2024 as part of the EIA Scoping Process. The EIA Scoping Opinion was adopted on 20 March 2024 (**Appendix 1-B: Scoping Opinion PEIR Volume IV**).
- 15.2.2 Key issues raised in the Scoping Opinion are summarised and responded to in **Appendix 2-B: Scoping Opinion Responses (PEIR Volume IV)**. All issues are being considered during the EIA process.
- 15.2.3 The extent of the LVIA study area is determined by the potential visibility of the Proposed Development in the surrounding landscape. Further information on the study area parameters and the local planning areas potentially affected is available below in Paragraphs 15.3.18 to 15.3.22 with reference to **Figure 15-1: Study Area (PEIR Volume III)**.
- 15.2.4 **Table 15-2** summarises the Landscape and Visual Amenity engagement undertaken to date.

Table 15-2: Landscape and Visual Amenity engagement undertaken to date

Consultee and date	Nature of Consultation	Summary of Response	How and where addressed
14/06/2024 Flintshire County Council (FCC)	Engaged with FCC on the proposed viewpoint locations for the PEIR.	FCC confirmed that they agreed that proposed viewpoint locations will provide a good representative sample for potential viewpoints. FCC requested that the Flintshire Leisure Tour route is also taken into consideration for potential viewpoints.	Flintshire Leisure Tour route was assessed during the summer photography site visit. The impact on the route will be considered from viewpoint 6 Halkyn Mountain and Viewpoint 9 Chester Road.
14/06/2024 Denbighshire County Council (DCC)	Engaged with DCC on the proposed viewpoint locations for the PEIR.	DCC are reassured that Moel Famau, Jubilee Tower, Offa's Dyke Way, Llangynhafal, Denbighshire have been included in the schedule of potential viewpoints and offer no further suggestion.	Noted.
08/05/2024 The Canal and River Trust (CRT)	Engaged with CRT on proposed viewpoint locations for the PEIR. A suite of maps was provided to identify CRT assets in the study area.	CRT confirmed that given the separation distance of the Proposed Development from CRT assets they have no comment to make on the suggested viewpoints and that the Proposed Development would not be visible / have any impact on their waterway.	Noted.
23/05/2024 Natural Resources Wales (NRW)	Engaged with NRW on the proposed viewpoint locations for the PEIR.	NRW are reassured that Moel Famau, Jubilee Tower, Offa's Dyke Way, Llangynhafal, Denbighshire from within the Clwydian Range and Dee Valley (CRDV) National Landscape have been included in the schedule of potential viewpoints and noted the location falls outside of the 10 km study area.	Noted. The 10 km study area was redefined to include a viewpoint from Moel Famau as a representative view from CRDV.
Between 28/02/2024 and 18/06/2014 Wirral Borough Council and Cheshire West and Chester Council	Attempts were made to engage with Wirral Borough Council and Cheshire West and Chester Council on the proposed viewpoint locations for the PEIR.	No response has been received from either Council.	Potential landscape and visual effects within the administrative boundary of Wirral Borough Council and Cheshire West and Chester Councils will be considered in this report.

Scope of the Assessment

15.2.5 Following the scoping process that has been undertaken, the scope of the assessment (informed by the Scoping Opinion) considered in this chapter of the PEIR is as follows:

- the assessment on landscape/ seascape and visual receptors during construction;
- the assessment of landscape/ seascape and visual receptors during the winter season at operation (alongside winter photography presented in the PEIR, the summer season will be assessed at ES stage); and
- the assessment of landscape/ seascape and visual receptors during decommissioning.

15.2.6 The following aspects have not been considered within the scope of the assessment in this chapter of the PEIR:

- an assessment of the visual effects at night time as a result of decommissioning stage lighting has not been included in the PEIR and will be undertaken in the ES that accompanies the DCO application; and
- the unloading of Abnormal Indivisible Load (AIL) components and transportation along AIL routes (referred to as the 'Temporary AIL Work Areas') will be considered in the ES that accompanies the DCO application.

15.3 Assessment Methodology

15.3.1 Details of the assessment methodology are provided in **Appendix 15-A: Landscape and Visual Amenity Methodology (PEIR Volume IV)**, and a summary is provided below.

Assessment Methods

15.3.2 Baseline data has been gathered from a desk-based assessment including study of Ordnance Survey (OS) maps and aerial photographs, publicly available documents such as landscape character assessments from local authorities within the study area and national character mapping available from Natural Resource Wales (NRW) and 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

15.3.3 The assessment of impacts on visual amenity at operation does not include landscape mitigation at this PEIR stage. Landscape and visual mitigation measures will be developed at the ES stage and their effects subsequently assessed. Potential landscape/ seascape and visual impacts and the resulting effects (both adverse and beneficial) are considered for the scenarios as detailed in **Chapter 4: The Proposed Development** and **Chapter 5: Construction Management and Programme**, namely:

- Construction;

- Operation; and
 - Decommissioning.
- 15.3.4 Impacts may be temporary, permanent, medium-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.
- 15.3.5 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 criteria outlined in Table 17 within **Appendix 15-A: Landscape and Visual Assessment Methodology (PEIR Volume IV)**. 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. GLVIA3 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

- 15.3.6 In assessing the predicted effects from any likely impacts to the landscape/ seascape resulting from the Proposed Development, the following aspects are considered:
- baseline landscape/ seascape character;
 - landscape/ seascape sensitivity; and
 - magnitude of likely impacts that may affect the landscape/ seascape.
- 15.3.7 The landscape/ seascape assessment considers both the direct and indirect impacts of the Proposed Development upon landscape/ seascape elements and features (or components), as well as the impact upon the general landscape/ seascape character of the surrounding area.
- 15.3.8 Sensitivity is a combination of value and susceptibility. The value of a landscape/ seascape receptor is a reflection of its importance in terms of any designations that may apply, or its importance in itself as a landscape/ seascape or landscape/ seascape resource, which may be due to its ecological, cultural or recreational value. The susceptibility of the landscape/ seascape 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.
- 15.3.9 The magnitude of a predicted landscape impact relates to the size, extent or degree of change and duration 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 Proposed Development that might have an effect on the character of the area, and whether the impact is permanent or temporary.
- 15.3.10 The relationship between sensitivity and magnitude of impact allows an assessment of the significance of predicted landscape effects to be made.

Table 15-3 below describes the relationship between sensitivity and magnitude of impacts on the landscape to determine the level of effect.

Visual Impact Assessment Methodology

- 15.3.11 An assessment of visual effects deals with the effects of change on the views available to people and their visual amenity, referred to as 'receptors'. Receptors are primarily identified through the combination of:
- definition of the Zone of Theoretical Visibility (ZTV), within which views of the Proposed Development may be possible; and
 - professional judgment. The sensitivity of each receptor group is then evaluated as being high, medium, low, or very low through a combination of the value of view and susceptibility of the receptor.
- 15.3.12 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.
- 15.3.13 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 is 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 15-A: Landscape and Visual Assessment Methodology (PEIR Volume IV)** for details). Table 15-3
- 15.3.14 Although some visual receptors may consider the Proposed Development to be visually 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.
- 15.3.15 Viewpoint photography accompanying this assessment has been undertaken in accordance with best practice in Landscape Institute TGN 06/2019: Visual Representation of Development Proposals (Ref 15-9); Type 1 (annotated viewpoint photograph) and Type 2 (wireline). It is proposed that Type 4 (verified photomontages) will be produced and submitted as part of the Environmental Statement (ES) with the Development Consent Order (DCO) Application.
- 15.3.16 Although the assessment considers all structures relating to the Proposed Development, the focus of the assessment within this chapter is the worst-case scenario which is based on the maximum dimensions of the Single Train Scenario as outlined in **Chapter 4: The Proposed Development**.
- 15.3.17 To facilitate the reader's interpretation of the information, baseline photography and wireline imagery illustrating the Proposed Development (see **Figures 15-25 to 15-29 (PEIR Volume III)**), using the indicative layout shown in **Figure 4-1 and 4-2 (PEIR Volume III)**, has been prepared.

Study Area

- 15.3.18 The extent of the LVIA study area is determined by the potential visibility of the Proposed Development in the surrounding landscape. It is proportionate to the

size and scale of the Proposed Development and nature of the surrounding landscape. GLVIA3 (Ref 15-1) 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”*.

15.3.19 For the purposes of this LVIA the study area has been defined by a combination of ZTV analysis and professional judgement. The initial study area extended 10 km from the Indicative Site Boundary (excluding the Temporary AIL Work Areas). This was informed by consideration of the location and scale of the Proposed Development, desk-based analysis of mapping and aerial photography. Fieldwork was subsequently undertaken to verify the findings of the desk study including viewpoint verification, and assessment of effects on landscape and visual receptors. This analysis determined the study area, defined as the extent in which the Proposed Development may influence the wider landscape around it in a significant manner.

15.3.20 With reference to **Figure 15-1: Study Area (PEIR Volume III)**, the study area is described below:

- to the north approximately 5 to 13 km from the Main Site;
- to the south approximately 4 to 6 km from the Main Site;
- to the east approximately 10 km from the Main Site; and
- to the west approximately 11 km from the Main Site.

15.3.21 Based upon the nature of the works required within the connection corridors (taking account of all permanent above ground structures), it is considered highly unlikely that significant effects will be experienced further than 2 km from them. Therefore, the connection corridors will fall within the study area which has been applied to the Main Site.

15.3.22 The Temporary AIL Work Areas currently lie outside of the LVIA study area as it is anticipated that the temporary works required will not have an impact on landscape and visual amenity. This will be reviewed in the ES.

Zone of Theoretical Visibility

15.3.23 Two ZTVs have been produced in order to identify locations within the study area with the potential to gain views of the Proposed Development. The ZTVs are illustrated on the following figures:

- **Figure 15-7: Zone of Theoretical Visibility - 65 m Main Site Structures (excluding absorber and HRSG)**
- **Figure 15-8: Zone of Theoretical Visibility - 120 m Absorber Column Height plus 8 m Raised Ground Level**

15.3.24 The 65 m ZTV shows proposed Main Site structures at up to 65 m (AGL). Therefore, with the exception of the absorber column(s), the Proposed Development will not introduce new buildings or structures that are significantly taller than those of the existing Connah's Quay Power Station.

15.3.25 The 128 m Above Ordnance Datum (AOD) shows the theoretical visual extent of the tallest proposed structures, i.e., the absorber column(s). These will have

a height of up to 120 m Above Ground Level (AGL) and will be located on 8 m (AGL) raised ground resulting in a total height of 128 m AOD.

15.3.26 The Heat Recovery Steam Generator (HRSG) stack(s) with a height of up to 85 m (AGL) will be the next tallest structures (noting the existing Connah's Quay Power Station HRSG stacks are 85 m structures).

15.3.27 The ZTV has been generated by analysis of a Digital Terrain Model (DTM) of the surrounding terrain and the Proposed Development. Existing buildings have been incorporated into the DTM from OS Open Map Local with an assumed height of 8 m. Woodland from the National Forest Inventory has also been incorporated into the DTM with an assumed height of 12 m. The ZTV is based upon a grid of points at 50 m apart within the Main Site footprint, with an observer eye height of 1.6 m.

Significance criteria

15.3.28 The relationship between the sensitivity of receptors and the magnitude of likely impacts allows the relative significance of predicted effects on landscape and visual receptors to be defined. The table below Table 15-3 shows the relationship between receptor sensitivity / value, and magnitude of impact, and is a guide to allow, in combination with professional judgement, the relative level of significance of any predicted visual effects to be categorised.

15.3.29 Professional judgement ensures that the approach and determination of the significance of effects remain proportional and appropriate to the nature and location of the receptor / receptor groups.

15.3.30 For the purposes of this assessment, moderate and major effects are generally considered 'significant' in accordance with standard EIA practice; while minor and negligible effects are generally considered to be 'not significant'. Where significant adverse environmental effects are identified, measures to mitigate these effects are proposed (where reasonably practicable) and any remaining likely significant residual effects are identified. The significance criteria is detailed in **Appendix 15-A: Landscape and Visual Assessment Methodology (PEIR Volume IV)**.

15.3.31 A Classification of Landscape and Visual Effects Significance matrix is shown in Table 15-3 below.

Table 15-3: Significance Matrix

Receptor sensitivity / Value	Magnitude of Impact			
	High	Medium	Low	Very Low
High	Major	Major	Moderate	Minor
Medium	Major	Moderate	Minor	Negligible
Low	Moderate	Minor	Negligible	Negligible
Very Low	Minor	Negligible	Negligible	Negligible

Data Sources

15.3.32 Field work was undertaken by a Landscape Architect on 10th and 11th January 2024 and 6th March 2024, to provide background knowledge on the existing landscape character of the study area and to record potential views that

receptors will have of the Proposed Development from representative viewpoints to inform this assessment.

Rochdale Envelope

- 15.3.33 The setting of design parameters using the 'Rochdale Envelope' approach is described in **Chapter 2: Assessment Methodology and Consultation**. Table 4-1 of **Chapter 4: The Proposed Development** sets out the maximum parameters currently envisaged for the principal components of the Proposed Development. These parameters have been used to inform the representative worst-case scenario that has been assessed in this chapter, in order to provide a robust assessment of the impacts and likely significance of environmental effects of the Proposed Development at its current stage of design.
- 15.3.34 The magnitude of visual impacts of the Proposed Development relates 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 indicative maximum dimensions for buildings and structures (i.e., the widest building footprint and tallest potential height) within the Proposed Development. The assessment at operation also considers that a single train absorber tower and stack is more likely to result in significant effects and represent the worst-case scenario compared to the twin train absorber towers with stack. The maximum dimensions of buildings and height of stack(s) will be confirmed in the final ES (refer to **Chapter 4: The Proposed Development**).

Assessment Assumptions and Limitations

- 15.3.35 Guidance (Ref 15-1) suggests that consideration be given to seasonal variation in effects where appropriate but acknowledges that the timing of the assessment may mean that this is not practical. Field work was undertaken during the winter season between January 2024 and March 2024. The missing leaf cover represents therefore the 'worst case' scenario. A comparison of visibility during the summer season and the assessment of a potential difference in visual effects has not yet been possible but will be carried out during the ES stage. Summer viewpoint photography will also be taken, and this will inform the preparation of the ES to support the DCO Application.
- 15.3.36 Assessment of visual impact through the use of representative viewpoints has been restricted by the limits of public access. In particular, it has not been possible to visit the upper stories of residential properties to accurately record the views available. In these instances, an estimation of the view has been made from visiting nearby public vantage points.
- 15.3.37 Views of the Proposed Development other than those assessed are acknowledged to exist. The viewpoints are not intended to provide an exhaustive or fully comprehensive catalogue of views of the Site, rather they provide a representative sample for the purpose of the landscape and visual amenity assessment, using viewpoints agreed with engagement parties.
- 15.3.38 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).

15.4 Baseline Conditions and Study Area

Study Area

- 15.4.1 The LVIA study area is as described in Section 15.3 and is illustrated on **Figure 15-1: Study Area (PEIR Volume III)**.

Existing Landscape Baseline

- 15.4.2 At national scale, Natural Resources Wales defines 48 National Landscape Character Areas (NLCA) at a broad landscape scale throughout Wales. Each profile includes a description of the natural and cultural features that shape the landscape. The study area falls within three NLCA. Refer to **Appendix 15-B: Landscape Character (PEIR Volume IV)** for the baseline descriptions for each of the NLCA identified below.

National Landscape Character Areas (Wales)

- NLCA 12 - Bryniau Clwyd/ Clwydian Range (Ref 15-13);
 - NLCA 13 - Glannau Dyfrdwy a Wrecsam/ Deeside and Wrexham (Ref 15-14); and
 - NLCA 14 - Maelor Saesneg/ Maelor (Ref 15-15).
- 15.4.3 The Site (Excluding the Temporary AIL Work Areas) is located within NLCA 13: Deeside and Wrexham (NLCA13), defined by Natural Resources Wales as shown in **Figure 15-4A: National Landscape Character Areas (PEIR Volume III)**.
- 15.4.4 The likelihood of significant landscape effects on NLCA 12 - Bryniau Clwyd/ Clwydian Range and NLCA 14 - Maelor Saesneg/ Maelor is considered negligible, as a result of the very limited intervisibility and distance from the Proposed Development and is therefore not considered further.

National Character Areas (England)

- 15.4.5 Natural England provides 159 National Character Areas (NCA) profiles. The study area encompasses three NCA to be considered. Refer to **Appendix 15-B: Landscape Character (PEIR Volume IV)** for the baseline descriptions for each of the NCA identified below:
- NCA 59: Wirral (Ref 15-17);
 - NCA 60: Mersey Valley (Ref 15-18); and
 - NCA 61: Shropshire, Chesire and Staffordshire Plain (Ref 15-19).
- 15.4.6 The likelihood of significant landscape effects on NCA 60 and NCA 61 is considered negligible, as a result of the very limited intervisibility and distance from the Proposed Development and is therefore not considered further.

Marine Character Area

- 15.4.7 The Site (Excluding the Temporary AIL Work Areas) is situated along the southern shore of the Dee Estuary. The Water Connection Corridor and is located within Marine Character Area (MCA) 01: Dee Estuary (Ref 15-20 and Ref 15-26) and MCA 36 – Dee and Mersey Estuaries and Coastal Waters (Ref

15-21). MCA 01: Dee Estuary overlaps MCA 36 - Dee and Mersey Estuaries and Coastal Waters therefore an assessment of MCA 36 has been carried out for the area that lies out with MCA 01.

15.4.8 The Dee Estuary is designated as a Ramsar site, Special Area of Conservation (SAC), Special Protection Area (SPA), and Site of Special Scientific Interest (SSSI) due to its size and topography, its assemblage of diverse marine, coastal, and intertidal habitats, and its importance for passage and wintering waterfowl and intertidal plant species. The area of land directly north of the Main Site is comprised of large tracts of intertidal mudflats and saltmarsh within the Dee Estuary and are regularly underwater at high tide as outlined in **Chapter 12: Marine Ecology**.

Local Landscape Character Areas

15.4.9 At a local level, the study area is covered by a number of LCA as set out within Landscape Character Assessment documents as listed below. Refer to **Appendix 15-B: Landscape Character (PEIR Volume IV)** for the baseline descriptions for each of the LCA identified below, and to **Figure 15-4A** to **Figure 15-4b1 (PEIR Volume III)**.

15.4.1 The study area is covered by the following Landscape Character Areas (LCA) within The Wirral Landscape Character Assessment (Ref 15-22):

- LCA 1b Dee Estuarine Edge;
- LCA 3b Thurstaston and Greasby Sandstone Hills;
- LCA 3c Irby and Pensby Sandstone Hills;
- LCA 3d Heswall Dales Sandstone Hills;
- LCA 4a Landican and Thingwall Lowland Farmland;
- LCA 4b Thornton Hough Lowland Farmland Estates;
- LCA 4d Raby Lowland Farmland and Estates; and
- LCA 6a Dee Estuary.

15.4.2 At a local level, the study area is covered by the following LCA within A Landscape Strategy for Cheshire West and Cheshire Borough (Ref 15-24):

- LCA4b: The Lache Eyes;
- LCA4d: Burton and Shotwich;
- LCA9d: Saughall to Waverton Plain; and
- LCA11a: Grosvenor Estate.

15.4.3 At a local level, the study area is covered by the following LCA within the LANDMAP Wales (Ref 15-25):

- LCA Built Land;
- LCA Coastal Intertidal Marsh;
- LCA Lowland;
- LCA Mosaic Rolling Lowland; and
- LCA Upland.

Landscape Designations

- 15.4.4 The Main Site is situated approximately 5 km east from the NLCA 12 – Bryniau Clwyd/ Clwydian Range which includes the Clwydian Range and Dee Valley National Landscape (CRDV). This is shown in **Figure 15-3: Landscape Context (PEIR Volume III)**.
- 15.4.5 The most extensive upland areas in the Clwydian Range are centered on Moel Famau. These are areas of smooth, open, rounded, and distinctively shaped heather-clad hills. Their undulating ridge lines and skylines, together with rolling profiles, create a distinctive landscape. Designated a National Landscape Halkyn Mountain is rural and quiet and undeveloped despite a number of quarries. With its relatively low population density, it contributes to a sense of quietness and tranquility that contrasts with the industrial and urbanised character of Deeside and Wrexham to the east. The landscape value is considered to be high.
- 15.4.6 Cheshire West and Chester Council identify 'Areas of Special County Value' (Ref 15-28). One area, Area 2 - Dee Coastal Area (ASCV), is located within the study area. The county significance of the Dee Coastal Area ASCV relates in a large part to the context it sets as a transitional landscape between land and the intertidal Dee Estuary saltmarsh and mudflats, and the opportunities it offers for experiencing the undeveloped, accessible and highly distinctive coastline with outstanding panoramic views.

Estuarine and Marine features

- 15.4.7 The Dee Estuary and the broad flat flood plain is a dynamic and ecologically significant landscape. Characterised by its estuarine and marine features, it supports a variety of habitats and species. The estuary contains a network of tidal channels and sandbanks, which are constantly reshaped by hydrodynamic forces.
- 15.4.8 Extensive intertidal mudflats and sandflats dominate the estuarine landscape, particularly in the middle and upper reaches. These areas are vital feeding grounds for migratory birds. Fringing the estuary, saltmarshes provide important habitats for a range of species and act as natural buffers against coastal erosion and flooding.
- 15.4.9 Industrial activities and historical land reclamation have shaped the shoreline.

Topography

- 15.4.10 The most extensive upland areas in the Clwydian Range are centered on Moel Famau at 554 m AOD and Moel y Gamelin at 577 m AOD. Areas of smooth, open, rounded, and distinctively shaped heather-clad hills gently roll towards the Dee Estuary. Their undulating ridge lines and skylines, together with rolling profiles, create a distinctive landscape of sinuous, organic form. A number of minor rivers dissect the landscape, for example, the Alyn and Eitha, and associated streams.
- 15.4.11 A sandstone ridge dissects the Wirral peninsula and separates the pastoral landscape of central Wirral from the industrial areas of Merseyside. A network of small streams and drainage ditches enter the Dee Estuary.

Vegetation Cover

- 15.4.12 Hedgerows and numerous hedgerow trees follow the complex lines of rock exposure, resulting in a very small-scale, intimate, enclosed farmed landscape with small pastures and woodland. Upper areas are exposed by hill sheep grazing and lowlands comprise of occasional large-scale coniferous plantations. The extensive upland Clwydian Range distinctively shaped heather-clad hills overlook a simple landscape, very much marked with seasonal colour contrast.
- 15.4.13 Woodland in Wirral is predominantly broadleaved, with woodland cover on sandstone ridges, country parks and country estates.

Settlements

- 15.4.14 South of the Dee Estuary, a settled character is apparent with the relatively large, almost linked settlements of Holywell-Connah's Quay-Mold-Wrexham-Ruabon, otherwise a sparse level of settlement is largely confined to compact, nucleated hamlets and isolated farmsteads. Ribbon developments and encroachment on the commons are the legacy of the former coal and lead mining industries.
- 15.4.15 The settlement pattern on the Wirral is a mixture of large country houses and estates, villages, and areas of residential dwellings such as West Kirkby, Heswall and Parkgate which are located along the Dee estuary.

Transportation Infrastructure

- 15.4.16 The study area contains a number of arterial 'A' roads, including the A55 Expressway which lies across the northern part of Flintshire. The A548 (Coast Road) runs parallel to the coast from Prestatyn to Chester, providing a key route through the coastal towns of Prestatyn, Rhyl, Flint, Connah's Quay, and the Deeside Industrial Park.
- 15.4.17 The North Wales Main Line railway, which runs from between Crewe and Holyhead via Chester, is located in close proximity to the south of the Site. The line runs adjacent to the canalised River Dee.
- 15.4.18 A number of Public Right of Way (PRoW) are identified within close proximity to the Site.
- 15.4.19 FCC Footpaths 27 and 28 lie in close proximity to the Construction and Indicative Enhancement Area (C&IEA). FCC Footpath 28 runs alongside the southern border of the C&IEA, approximately less than 5 m from the Main Site. FCC Footpath 27 lies across the North Wales Main Line, terminating approximately 20 m south of the Site.
- 15.4.20 A cluster of PRoWs are located to the south of the Main Site, within 1 km of the Indicative Site Boundary (Excluding the Temporary AIL Work Areas). These include FCC Footpaths 1, 2, 3, and 72.
- 15.4.21 FCC Footpath 66 crosses the Proposed CO₂ Connection Corridor and the Repurposed CO₂ Connection Corridor, and FCC Footpath 67 partially crosses the Repurposed CO₂ Connection Corridor. Additionally, FCC Footpath 69 is located approximately 40 m south of the Repurposed CO₂ Connection Corridor.

The Main Site and its Immediate Setting

- 15.4.22 The Main Site lies adjacent to the Dee Estuary and includes the existing Connah's Quay Power Station. There is a strong industrial character along the Dee Estuary at Connah's Quay and Holywell that includes large scale power generation and industrial plants. up
- 15.4.23 The Main Site includes operational parts of the existing Connah's Quay Power Station to the south-east and three fields currently used for agricultural uses to the north-west.
- 15.4.24 The Main Site is bordered to the north, north-east and north-west by the Dee Estuary, to the east and south-east by the existing National Grid Electricity Transmission (NGET) 400 kV substation, and to the south and south-west by the North Wales Main Line Railway.

Existing Visual Baseline

- 15.4.25 Visibility within the study area is limited by built form, topography, and intervening vegetation. There are frequent, open views towards the Main Site from higher ground from the south-west and sloping ground towards the Dee estuary. Due to the low-lying land bordering the Dee Estuary, open panoramic views are available across the estuary, along coastal roads, and slightly elevated open spaces where there is an absence of built form and vegetation.

Visual Receptors and Viewpoints

- 15.4.26 Potential viewpoints considered within the Scoping Report can be found in **Appendix 15-C: Potential Viewpoints (PEIR Volume IV)**. Following engagement with stakeholders (see **Appendix 2-B (PEIR Volume IV)**), a total of 15 viewpoints have been chosen to represent the typical range of views of the Proposed Development from within the study area. These are listed in **Table 15-4** and illustrated on **Figure 15-6: Viewpoint Locations (PEIR Volume III)**.

Table 15-4: Location of Visual receptors and Value of the View

View point	Name and Location	Receptor Type	Elevation (AOD)	Grid Reference	View
1	Thurstaston Common, Thurstaston, Wirral	Recreational	85.08	324445, 384709	<p>Winter: Long distance, open view across the Dee Estuary with rising landform visible in the distance. A belt of trees is visible in the foreground with farmland and limited built structures visible in the middle ground. Representative of long range views from west of Wirral.</p> <p>Night-time: No direct light sources are present at this location. A sky glow from Connah's Quay and other urban development is visible in the distance, located on the adjacent shoreline. Existing aviation warning lighting is present on the stacks associated with the existing Connah's Quay Power Station. Overall, there are low levels of night-time lighting at this location.</p> <p>Value of view: Locally valued view with low level of detractors. Medium</p>
2	Wirral Country Park, Cady, Wirral	Recreational	22.32	323894, 383154	<p>Winter: Long distance, open view across the Dee Estuary from the Wirral Country Park. The existing Connah's Quay Power Station and plumes from stacks are visible in the distance and form part of the industrialised composition alongside Flint Bridge. Rising ground composed of woodland is visible on the horizon.</p> <p>Night-time: No direct light sources are present at this location. A sky glow from Connah's Quay urban area and road network is present on the adjacent shoreline. Existing aviation warning lighting is present on the taller structures associated with the existing Connah's Quay Power Station. Overall, there are low levels of night-time lighting at this location.</p> <p>Value of view: Locally valued view with low level of detractors. Medium</p>
3	Marine Drive, Heswall, Wirral	Residential	8.65	325911, 380959	<p>Winter: Long distance panoramic view across the Dee Estuary towards the far shore. The plume from the existing Connah's Quay Power Station is discernible from this location. Saltmarsh is visible in the foreground with development and landform visible on the far shore in the background of the view.</p> <p>Night-time: No direct light sources are present at this location. Overspill from adjacent street and residential lighting. A sky glow from Connah's Quay urban area is visible on the far shoreline. Existing aviation warning lighting is present on the stacks associated with the existing Connah's Quay Power Station. Overall, there are low levels of night-time lighting at this location.</p> <p>Value of view: Locally valued view with low level of detractors. Medium</p>

View point	Name and Location	Receptor Type	Elevation (AOD)	Grid Reference	View
4	The Parade, Parkgate, Neston, Cheshire West, and Chester	Residential, employment, road users	6.74	327922, 378087	<p>Winter: Long distance panoramic view across the Dee Estuary towards Flintshire. On a clear day the existing Connah's Quay Power Station is visible in the distance alongside power, industrial and road infrastructure along the Flintshire shoreline. Street furniture and streetscape elements are visible in the foreground.</p> <p>Night-time: Street lighting and lighting from residential properties is present at this location. Distant sky glow is visible along the Flintshire shoreline and from Connah's Quay. Overall, there are medium levels of night-time lighting at this location.</p> <p>Value of view: Locally valued view with low level of detractors. Medium</p>
5	Neston Road, (A540) Neston, Cheshire West and Chester	Residential, road users	47.34	330874, 374959	<p>Winter: Long distance, partially screened views of the Dee Estuary. Residential and farm structures are visible in the foreground. The plumes associated with the existing Connah's Quay Power Station and other industrial activities along the Flintshire shoreline are visible in the background of the view. The Clwydian Range is visible in the background.</p> <p>Night-time: No direct light sources are present at this location. Distant sky glow is visible along the Flintshire shoreline, particularly associated with the urban areas of Flint and Connah's Quay. Overall, there are low levels of night-time lighting at this location.</p> <p>Value of view: An ordinary view with low level of detractors. Low</p>
6	Windmill, Halkyn, Pentre Halkyn, Flintshire, Wales	Residential, recreational, road users	267.67	320147, 371439	<p>Winter: Long distance, elevated panoramic view of the Dee Estuary and the low-lying, undulating agricultural landscape along the estuary's fringes. Residential settlements at Flint and Connah's Quay and along the local road network are visible within the view. Flint Bridge, plumes associated with the existing Connah's Quay Power Station and industrial structures are visible towards the background of the view. Rising landform within the Wirral Peninsula forms the skyline.</p> <p>Night-time: No direct light sources are present at this location. A sky glow from urban areas with street lighting and along the road network is present, particularly associated with the urban areas of Flint and Connah's Quay. Overall, there are low levels of night-time lighting at this location.</p> <p>Value of view: Locally valued view with low level of detractors. Medium</p>
7	Bagilt, Deebank,	Recreational	20.22	321722, 376090	<p>Winter: Long-distance, open, partially elevated view east along the Dee estuary with tidal flats visible in the foreground. The stacks associated with the existing</p>

View point	Name and Location	Receptor Type	Elevation (AOD)	Grid Reference	View
	South of Flint Castle, Flintshire				<p>Connah's Quay Power Station extend above the Flint Foreshore headland in the background of the view, breaking the skyline. Flint Bridge, power infrastructure and the industrial structures are visible in the far distance.</p> <p>Night-time: No direct light sources are present at this location. A sky glow from Flint urban area and along the road network is present. Aviation warning lights on the power station stack are visible from this location. Overall, there are low levels of night-time lighting at this location.</p> <p>Value of view: Locally valued view with low level of detractors. Medium</p>
8	Flint Castle, Castle Dyke Street, Flint, Flintshire	Visitors to heritage asset	7.07	324744, 373357	<p>Winter: Mid-distance, open view east along the Dee Estuary from the vantage point of the Flint Castle walls. The estuarine waters and tidal flats are visible in the foreground including Flint Town rugby ground. Industrial and power related structures along the Dee Estuary, including the existing Connah's Quay Power Station, overhead lines, pylons, and transmission lines are visible in the background of the view with some structures visible against the skyline.</p> <p>Night-time: No direct light sources are present at this location. Occasional lighting from the Flint Town United sports ground in the foreground. Skyglow from street lighting from the local road network and residential clusters around the Flint urban area is present. Aviation warning lights on the Power Station stack are visible from this location. Overall, there are low levels of night-time lighting at this location.</p> <p>Value of view: View from heritage asset with medium level of detractors. Medium</p>
9	Chester Road, Oakenholt, Flint, Flintshire	Residential, recreational, road users	7.23	325662, 372009	<p>Winter: Mid-distance view east across grassland with residential dwellings along Chester Road (A548), Oakenholt visible in the foreground. The Dee Estuary is visible in the middle ground. The existing Connah's Quay Power Station, overhead lines, pylons, transmission lines are visible in the background of the view.</p> <p>Night-time: Street lighting along the Chester Road lighting from the Flint Town United sports ground in the foreground. Skyglow from street lighting from the local road network and residential clusters around the Flint urban area is present. Aviation warning lights on the Power Station stack are visible from this location. Overall, there are low levels of night-time lighting at this location.</p> <p>Value of view: Ordinary view with medium level of detractors. Low</p>
10	Kelsterton Road, Rockcliffe,	Residential, road users	13.7	327390, 371095	<p>Winter: Short distance view north towards the Site. The intervening mature vegetation and residential dwellings screen views of lower levels of the existing</p>

View point	Name and Location	Receptor Type	Elevation (AOD)	Grid Reference	View
	Connah's Quay, Flintshire				<p>Connah's Quay Power Station, while taller elements are visible on the skyline. Overhead lines, pylons, transmission lines are visible in the view.</p> <p>Night-time: Street lighting is present on Kelsterton road. The Power Station will adhere to the relevant Standards/ Regulations compliant with public lighting design. Aviation warning lights on the Power Station stacks are visible from this location. Overall, there are low levels of night-time lighting at this location.</p> <p>Value of view: Ordinary view with medium level of detractors. Low</p>
11	Kelsterton cemetery, Memorial Garden, Rockcliffe, Connah's Quay, Flintshire	Cemetery visitors	12.83	327687, 370631	<p>Winter: Short distance view north across farmland towards the Main Site. The existing Connah's Quay Power Station is the main focus of the view, although undulating topography and intervening mature vegetation filter low level views of infrastructure. Overhead transmission lines and pylons are visible within the view.</p> <p>Night-time: Street lighting is present along the local road network. Aviation warning lights on the existing Connah's Quay Power Station stacks are visible from this location. Overall, there are low levels of night-time lighting at this location.</p> <p>Value of view: Ordinary view with medium level of detractors. Low</p>
12	York Road, Golftyn, Connah's Quay, Flintshire	Residential, road users, recreational	7.27	328398, 370279	<p>Winter: Medium distance view north-west towards the Main Site. The intervening mature vegetation and residential dwellings screen views of lower levels of the existing Connah's Quay Power Station, while taller elements are partially visible through and above the vegetation.</p> <p>Night-time: A sky glow from the road network including street lighting from the B5129 and the A548 is visible. Aviation warning lights on the Power Station stacks are visible from this location. Overall, there are medium levels of night-time lighting at this location.</p> <p>Value of view: Ordinary view with medium level of detractors. Low</p>
13	National Cycle Route (NCR) 568 Sealand, Flintshire	Recreational	4.69	331334, 369309	<p>Winter: Medium distance view from the Wales Coastal Path (NCR 5 and 568) towards the Main Site. Views are partially screened by the Millenium Greenway - Hawarden Bridge. The canal towpath and Dee Estuary are visible in the foreground. Overhead lines, pylons, transmission lines are visible in the background of the view.</p> <p>Night-time: Streetlights are not present at this location. A sky glow from intervening Connah's Quay urban streetlights is visible. Aviation warning lights on</p>

View point	Name and Location	Receptor Type	Elevation (AOD)	Grid Reference	View
					<p>the Power Station stacks are visible from this location. Overall, there are low levels of night-time lighting at this location.</p> <p>Value of view: Locally valued view with medium level of detractors. Medium</p>
14	RSPB Burton Mere Wetlands, Cheshire West, and Chester	Recreational	5.43	331426, 373437	<p>Winter: Medium distance, partially screened views of the Dee Estuary towards the Main Site. The Dee Estuary Burton Mere Wetlands visitor center affords panoramic views over Burton Mere Wetlands, the Dee Estuary, and the Welsh hills beyond. Viewpoint location to be updated during the summer field works to represent a direct, unobstructed view from this location. The relocated view will be assessed during the ES stage.</p> <p>Night-time: Streetlights are not present at this location. A sky glow from Connah's Quay streetlights is present across the Dee estuary. Aviation warning lights on the Power Station stacks are visible from this location. Overall, there are very low levels of night-time lighting at this location.</p> <p>Value of view: Locally valued view visited to observe wildlife. Medium</p>
15	Moel Famau, Jubilee Tower, Offa's Dyke Way, Llangynhafal, Denbigshire	Recreational	553.43	316166, 362655	<p>Winter: Long distance, expansive panoramic view from Moel Famau towards Connah's Quay. The view includes a number of landscapes features including residential settlements and landscape vegetation. At this distance, the Site is not discernible within the view as result of weather conditions.</p> <p>Night-time: Streetlights are not present at this location. A sky glow from Connah's Quay, Flint and surrounding settlements along the road network is visible.</p> <p>Value of view: Nationally valued view from within the National Landscape. High</p>

Dynamic Views

- 15.4.27 Users of the main transport routes and long-distance trails experience dynamic views towards the existing Connah's Quay Power Station to varying degrees, dependent on intervening structures, screening vegetation, elevation, and direction of travel.
- 15.4.28 Users of the NCR 5 and along the public path on the north bank of the River Dee experience transient, dynamic views towards the existing Connah's Quay Power Station. Views include the Dee estuary and a landscape containing large areas of mud flats, industrial structures along the shoreline, overhead power lines, road and bridge infrastructure and electrical infrastructure. In close proximity to the Main Site, the existing Connah's Quay Power Station is prominent within available views.
- 15.4.29 Users of the Dee Estuary experience dynamic and ever-changing views, often influenced by tidal change, the extent of mudflat landform and intervening vegetation. Views include a number of prominent existing industrial structures.
- 15.4.30 Within the study area there are a number of local roads in close proximity of the existing Connah's Quay Power Station which join the settlements. Generally, views from these roads are 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 structures associated with the existing Connah's Quay Power Station are clearly visible, appearing prominent in close proximity to the Main Site.

Summary of Visual Baseline

- 15.4.31 The study area is characterised by the Dee Estuary with low lying land along the estuarine fringes, influenced in parts by industrial development. Large scale pylons and transmission lines transect the landscape. Higher ground at Halkyn Mountain affords open, distant views of Connah's Quay, while long distance views from Moel Famau are potentially available. Open views across the Dee estuary from the north and north-west towards Connah's Quay are readily available. In localised areas to the south and south-west, undulating topography and small, isolated woodlands and hedgerows offer a degree of visual enclosure.
- 15.4.32 The extent of views available to receptors range from close proximity to long distance. A number of receptors are located at the edge of Flint and Connah's Quay urban areas, along the local road network and from nearby PRoW / NCR adjacent to the Main Site. Open and partial views across the Dee Estuary from the coastal road network are available. The rising landform to the west and localised areas of slightly raised ground along the A540 to the north allow for elevated long-distance views towards the Site.

Future Baseline

- 15.4.33 The future baseline scenarios are set out in **Chapter 2: Assessment Methodology and Consultation**.
- 15.4.34 The future baseline is a prediction of baseline conditions in the future, assuming the Proposed Development has not been, or is not being, constructed.

15.4.35 The wider study area will continue to be influenced by a number of existing large-scale power related structures including, the power station, substations, and infrastructure corridors in the future baseline scenario.

15.4.36 In the absence of the Proposed Development the future baseline is therefore unlikely to undergo substantial changes in comparison to the existing baseline.

15.5 Development Design and Embedded Mitigation

15.5.1 The Proposed Development has been designed, as far as possible, to avoid or minimise impacts and effects on Landscape and Visual Amenity through the process of design development, and by embedding measures into the design of the Proposed Development.

15.5.2 As part of the ongoing design process, the following key embedded mitigation measures have been incorporated into the Proposed Development design, with further details to be submitted with the DCO application.

15.5.3 Key impact avoidance measures incorporated into the design to date include:

- the layout of the Proposed Development which follows a broadly linear configuration with the massing of the main built elements 'centralised' and sited in proximity to the existing Connah's Quay Power Station (refer to **Plate 4-5 in Chapter 4: The Proposed Development**);
- the Main Site is partially an operational site (brownfield) which is more appropriate to redevelop in policy terms for large scale power generation than a wholly greenfield location;
- suitable materials will be used, where reasonably practicable, in the construction of structures to reduce reflections and to assist with breaking up the massing of the buildings and structures;
- the proposed design, in particular the designs of the absorber column(s) (stack) and the CCGT and HRSG stack(s), will include consideration of appearance to reduce visual impact, accepting the scale of the Proposed Development. This will include a colour study of the existing colour/materials of the surrounding natural landscape palette and the existing power station building, including using lighter coloured materials on the taller structures to enable them to recede against the sky;
- development will be designed to reduce unnecessary light spill outside of the Main Site boundary, in accordance with a Lighting Strategy to be submitted to accompany the DCO Application; and
- the C&IEA (following the completion of Proposed Development, the construction laydown as described in **Chapter 5: Construction Programme and Management**) together with reinstated areas of the Main Site that have been used for construction, may be reinstated, and used for ecological mitigation and to secure an overall Net Benefit for Biodiversity. An Outline Landscape and Biodiversity Management and Enhancement Plan (LBMEP) will accompany the DCO Application describing these measures.

15.5.4 Further information in the proposed design and design alternatives are included in **Chapter 4: Project Alternatives**.

15.6 Preliminary Assessment of Likely Impacts and Effects

15.6.1 Taking into account the Proposed Development design and embedded mitigation measures in Section 15.5 above, the potential impacts and effects of the Proposed Development have been assessed using the methodology as detailed in Section 15.3 of this chapter and within **Appendix 15-A: Landscape and Visual Amenity Methodology (PEIR Volume IV)**.

Likely Impacts and Effects

15.6.2 The potential landscape/ seascape and visual impacts of the Proposed Development primarily relate to the visibility of the proposed structures (temporary and permanent), including how this affects the perceptual qualities and tranquility of a character area and the direct loss of landscape features within the Site.

15.6.3 In the case of the construction phase of the Proposed Development this will relate to the following:

- permanent removal of areas of grassland;
- removal of areas of vegetative scrub for construction laydown activities;
- the introduction of stationary and moving plant including cranes and piling rigs and other high level construction machinery;
- the introduction of low-level construction activities including temporary stockpiling of storage of materials, contractor/ welfare facilities and temporary laydown areas;
- construction vehicles including Heavy Goods Vehicles (HGV) entering and leaving the Site and surrounding area; and
- the progressive construction of tall structures including new elements of height such as the absorber columns and the HRSG stacks.

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

- introduction of large-scale buildings and structures within the maximum parameters set out in **Chapter 4: The Proposed Development**;
- introduction of additional site lighting, where required for operational safety;
- movement of additional vehicles within and around the operational area; and
- potential visibility of plumes from the Proposed Development including cooling towers at certain times of the year.

15.6.5 **Appendix 15-D: Landscape Impact Assessment (PEIR Volume IV)** provides an assessment of the sensitivity of each landscape receptor and an assessment of the anticipated magnitude of landscape impacts and the classification of effects on each landscape receptor. **Table 15-6** to **Table 15-8** provide a summary of receptors with likely significant landscape residual effects at construction and operation.

Assessment of Landscape Effects

Construction and Operation

- 15.6.6 The Proposed Development is located in close proximity to the existing Connah's Quay Power Station. The Site includes power related structures including pylons and overhead lines. The main feature of change during construction of the Proposed Development will be the introduction of tall cranes and piling rigs.
- 15.6.7 Given the existing presence of large-scale power related developments on and adjacent to the Main Site, there will be a limited impact on landscape characteristics as a result of construction activities, including vehicle movements using the existing road network associated with the Proposed Development.
- 15.6.8 At operation, the increased massing of large-scale power related infrastructure will result in limited changes to key landscape characteristics in comparison to the baseline.
- 15.6.9 Due to the existing industrial setting of the Proposed Development, it is assessed that construction and operation would not result in an inherent change to the existing landscape character at a local scale, and as such the magnitude of landscape effects will be low. The significance of effects will be minor adverse (**not significant**).
- 15.6.10 At a regional or national scale, it is assessed that the magnitude of landscape impacts will be very low to low on landscape characteristics. The significance of effects will be negligible to minor adverse (**not significant**).
- 15.6.11 As a result of long distance there would be no impacts on the special qualities of the CRDV National Landscape.

Assessment of Visual Effects

- 15.6.12 Potential visual effects of the Proposed Development in comparison with the baseline visual context are considered in **Appendix 15-E: Visual Impact Assessment (PEIR Volume IV)**. A summary of the assessment is contained within **Table 15-5** below and should be read in conjunction with **Figures 15-10 to 15-24: Winter Viewpoint Photography** which illustrate the baseline situation at each viewpoint.
- 15.6.13 A series of wirelines have been prepared in **Figures 15-25 to 15-30: Viewpoint Wireline Sheets** which illustrate the likely visibility of the Proposed Development at five of the assessed viewpoints. The wirelines represent the heights of key elements of the Proposed Development as set out in Table 4-1 of **Chapter 4: The Proposed Development**.
- 15.6.14 The design of the Proposed Development will seek to minimise adverse impacts on visual amenity through appropriate siting of infrastructure including materials and colours (in line with EN-1 (Ref 15-3)).

Construction and Operation

- 15.6.15 It is assessed that the progressive height and increasing massing of new structures will be the most visible aspect of construction activity relating to the

Proposed Development. Earthworks and ground level activity will often be screened as a result of intervening landform and vegetation. Construction activities will largely be characteristic of the existing industrial context of the wider receiving environment.

- 15.6.16 The Proposed Development will often be seen in conjunction with the existing Connah's Quay Power Station and considering the land use of the surrounding areas for industry, the Proposed Development is not an uncharacteristic structure.
- 15.6.17 The visibility of construction activity and the operational Proposed Development within the wider study area to the north and beyond 1 km of the Site will range from long to middle distance views. A number of views are often restricted by intervening vegetation and structures. Where views are open, construction activity is viewed alongside the existing Connah's Quay Power Station and form part of a wider view. The magnitude of impact on visual amenity are assessed to result in very low to low resulting in a negligible to minor adverse effect (**not significant**).
- 15.6.18 The visibility of construction activity and the operational Proposed Development within the wider study area beyond 1 km will be limited to middle distance, open and partial views within Flintshire and open views across the Dee Estuary from the Wirral coastline. Impacts on visual amenity are assessed to be very low to low. The resulting effect will be negligible to minor adverse (**not significant**).
- 15.6.19 To the north-west to the Main Site, construction activity will be visible from the elevated view from Flint Castle (Viewpoint 8) and contain views of structures associated with the existing Connah's Quay Power Station and other power-related structures. The magnitude of visual impact is assessed to be medium. The resulting effect will be moderate adverse (**significant**) as a result of the medium sensitivity of receptor and the close proximity of the view.
- 15.6.20 To the south and in close proximity to the Main Site, construction activity and the operational Proposed Development will be clearly visible as a result of the close distance. Views vary between open (Viewpoint 10) and partially screened (Viewpoint 11) and contain views of structures associated with the existing Connah's Quay Power Station. The magnitude of visual impact are assessed to be medium. The resulting effect will be moderate adverse (**significant**) as a result of the medium sensitivity of receptor and the close proximity of the view.
- 15.6.21 Impacts arising from the Site at Jubilee Tower, the public viewing point at Moel Famau within the CRDV National Landscape (Viewpoint 15), assume a clear visibility. The magnitude of visual effects is assessed to be very low as a result of the long distance. The resulting effect will be minor adverse (**not significant**).

Dynamic Views

- 15.6.22 Views from the Dee Estuary and users of the NCR 5 and the PRoW on the north bank of the River Dee are generally located within an estuarine landscape with intervening structures and vegetation occasionally limiting views. The value of the view is considered to be medium. Users of the Dee Estuary, NCR 5 and PRoW are typically likely to be involved in an activity that

includes enjoyment of the view, resulting in a medium susceptibility and medium sensitivity. Views in proximity to the Proposed Development will either be clear and open, or partially restricted by structures or vegetation. Views for these receptors will be similar to Viewpoints 4 and 8. Where views are available, the Main Site will be clearly visible, seen in the context of existing power related structures.

- 15.6.23 The magnitude of visual effects for dynamic views in close proximity to the Site are therefore predicted to be medium during all assessment scenarios. The significance will be moderate adverse (**significant**). The duration of effects will be medium to long term and reversible. For views further afield, it is predicted that the magnitude of visual effects for all assessment scenarios will be low. The resulting effect will be minor adverse (**not significant**). The duration of effects will range from medium to long term and be reversible.
- 15.6.24 The local roads within the study area that will gain views of the Proposed Development are located within and around the settlements including land between settlements. The value of the view is considered to range from low to medium. The direction of the view ranges and susceptibility is considered to be low as result of existing views containing power related structures such as Connah's Quay Power Station and pylons. Overall sensitivity is considered to be low. Views of the Proposed Development will range from clear and open to restricted by intervening vegetation or built form. Where views in proximity to the Main Site are available, they would be partially screened by vegetation and built form. The magnitude of visual effects is therefore predicted to be low at all assessment scenarios. Their significance will be minor adverse (**not significant**), and their duration will range between medium to long term and reversible.
- 15.6.25 Dynamic views are summarised in Section 15.8 below.

Table 15-5: Significance of Visual Amenity Effects in potential viewpoints

VP No:	Location	Receptor type	Significance of effect - Construction	Significance of effect - Operation
1	Thurstaston Common, Thurstaston, Wirral	Recreational	Negligible adverse (not significant)	Negligible adverse (not significant)
2	Wirral Country Park, Caldy, Wirral	Recreational	Negligible adverse (not significant)	Negligible adverse (not significant)
3	Marine Drive, Heswall, Wirral	Residential	Minor adverse (not significant)	Minor adverse (not significant)
4	The Parade, Parkgate, Neston, Cheshire West & Chester	Residential, employment, road users	Minor adverse (not significant)	Minor adverse (not significant)
5	Neston Road, Neston, Cheshire West & Chester	Residential, road users	Minor adverse (not significant)	Minor adverse (not significant)
6	Windmill, Halkyn, Pentre Halkyn, Flintshire	Residential, recreational, road users	Minor adverse (not significant)	Minor adverse (not significant)
7	Bagilt, Deebank, South of Flint Castle, Flintshire	Recreational	Negligible adverse (not significant)	Negligible adverse (not significant)
8	Flint Castle, Castle Dyke Street, Flint, Flintshire	Visitors to heritage asset	Moderate adverse (significant)	Moderate adverse (significant)
9	Chester Road, Oakenholt, Flint, Flintshire	Residential, recreational road users	Minor adverse (not significant)	Minor adverse (not significant)
10	Kelsterton Road, Rockcliffe, Connah's Quay, Flintshire	Residential, road users	Moderate, adverse (significant)	Moderate, adverse (significant)
11	Kelsterton Cemetery, Memorial Garden, Rockcliffe, Connah's Quay, Flintshire	Cemetery visitors	Moderate, adverse (significant)	Moderate, adverse (significant)
12	York Road, Golftyn, Connah's Quay, Flintshire	Residential, road users, recreational	Minor adverse (not significant)	Minor adverse (not significant)
13	NCR 5 and 568 Sealand, Flintshire	Recreational	Negligible adverse (not significant)	Negligible adverse (not significant)

VP No:	Location	Receptor type	Significance of effect - Construction	Significance of effect - Operation
14	RSPB Burton Mere Wetlands, Cheshire West & Chester	Recreational	Minor adverse (not significant)	Minor adverse (not significant)
15	Moel Famau, Jubilee Tower, Offa's Dyke Way, Llangynhafal, Denbighshire	Recreational	Minor adverse (not significant)	Minor adverse (not significant)

Decommissioning Phase

- 15.6.26 The Proposed Development will have a design life of approximately 30 years. 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 of the Proposed Development. 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 landscape character areas. For visual amenity this is as a result of the visibility of decommissioning and demolition activities being of a similar nature to construction.

15.7 Additional Mitigation and Enhancement Measures

- 15.7.1 Significant adverse visual amenity effects have been assessed for Viewpoint 10 (Kelsterton Road, Rockcliffe, Connah's Quay) and Viewpoint 11 (Kelsterton Cemetery, Memorial Garden, Rockcliffe, Connah's Quay, Flintshire) during construction, operation, and decommissioning assessment scenarios. A number of dynamic or transient views from the Dee Estuary and users of the NCR 5 and the PRow on the north bank of the River Dee, similar to views illustrated in Viewpoints 4 and 8, will also be moderate adverse and therefore **significant** during all assessment scenarios.
- 15.7.2 The opportunity for mitigation of the visual effects of the Proposed Development is limited due to the size and scale of the Proposed Development. Section 2.6.5 of NPS EN-2 (Ref 15-4) 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"*.
- 15.7.3 No potential additional mitigation has been identified for Viewpoints 10 and 11 and dynamic views due to the proximity to the Proposed Development and the scale of the structures. It is considered that the addition of landscape features such as groups of trees or woodland will not be effective in reducing these effects on visual amenity.

15.8 Summary of Likely Significant Residual Effects

- 15.8.1 Table 15-6The tables below summarise the likely residual significant effects of the Proposed Development on Landscape and Visual Amenity and receptors following implementation of additional mitigation.
- 15.8.2 An assessment of cumulative effects with other proposed developments that could interact with the effects of this Proposed Development will be carried out at the ES stage, when the short-list of other developments has been finalised.

Table 15-6: Summary of Likely Significant Landscape and Visual Residual Effects (Construction)

Receptor	Sensitivity (value)	Description of Impact	Classification of Effect (prior to Additional Mitigation)	Additional Mitigation / Enhancement Measure	Magnitude of Impact after Additional Mitigation	Residual Effect after Additional Mitigation
Viewpoint 8	Medium	Impact on visual amenity to visitors to heritage asset	Moderate adverse (significant)	None	Medium	Moderate adverse (significant)
Viewpoint 10	Medium	Impact on visual amenity to residential receptors during construction activities.	Moderate adverse (significant)	None	Medium	Moderate adverse (significant)
Viewpoint 11	Medium	Impact on visual amenity to cemetery visitors during construction activities.	Moderate adverse (significant)	None	Medium	Moderate adverse (significant)
Dynamic views in close proximity to the Main Site including Dee Estuary, NCR 5, and PRow on the north bank of the River Dee	Medium	Impact on visual amenity of receptors involved in an activity that includes the enjoyment of available views.	Moderate adverse (significant)	None	Medium	Moderate adverse (significant)

Table 15-7: Summary of Significant Landscape and Visual Residual Effects (Operation)

Receptor	Sensitivity (value)	Description of Impact	Classification of Effect (prior to Additional Mitigation)	Additional Mitigation / Enhancement Measure	Magnitude of Impact after Additional Mitigation	Residual Effect after Additional Mitigation
Viewpoint 8	Medium	Impact on visual amenity to visitors to heritage asset	Moderate adverse (significant)	None	Medium	Moderate adverse (significant)
Viewpoint 10	Medium	Impact on visual amenity to residential receptors during operation.	Moderate adverse (significant)	None	Medium	Moderate adverse (significant)

Receptor	Sensitivity (value)	Description of Impact	Classification of Effect (prior to Additional Mitigation)	Additional Mitigation / Enhancement Measure	Magnitude of Impact after Additional Mitigation	Residual Effect after Additional Mitigation
Viewpoint 11	Medium	Impact on visual amenity to cemetery visitors during operation.	Moderate adverse (significant)	None	Medium	Moderate adverse (significant)
Dynamic views in close proximity to the Main Site including Dee Estuary, NCR 5, and PRow on the north bank of the River Dee	Medium	Impact on visual amenity of receptors involved in an activity that includes the enjoyment of available views.	Moderate adverse (significant)	None	Medium	Moderate adverse (significant)

Table 15-8: Summary of Significant Landscape and Visual Residual Effects (Decommissioning)

Receptor	Sensitivity (value)	Description of Impact	Classification of Effect (prior to Additional Mitigation)	Additional Mitigation / Enhancement Measure	Magnitude of Impact after Additional Mitigation	Residual Effect after Additional Mitigation
Viewpoint 8	Medium	Impact on visual amenity to visitors to heritage asset	Moderate adverse (significant)	None	Medium	Moderate adverse (significant)
Viewpoint 10	Medium	Impact on visual amenity to residential receptors during decommissioning.	Moderate adverse (significant)	None	Medium	Moderate adverse (significant)
Viewpoint 11	Medium	Impact on visual amenity to cemetery visitors during decommissioning.	Moderate adverse (significant)	None	Medium	Moderate adverse (significant)
Dynamic views in close proximity to the Main Site including Dee Estuary, NCR 5, and PRow on the north bank of the River Dee	Medium	Impact on visual amenity of receptors involved in an activity that includes the enjoyment of available views.	Moderate adverse (significant)	None	Medium	Moderate adverse (significant)

References

- Ref 15-1 Guidelines for Landscape and Visual Impact Assessment, Third Edition, 2013. London: Landscape Institute.
- Ref 15-2 The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (SI 2017/572). London: HMSO. Available online: <https://www.legislation.gov.uk/ukxi/2017/572/contents> (Accessed 28/08/24)
- Ref 15-3 Department for Energy Security & Net Zero, 2023; Overarching National Policy Statement for Energy (EN-1). Available online: <https://assets.publishing.service.gov.uk/media/65a7864e96a5ec0013731a93/overarching-nps-for-energy-en1.pdf> (Accessed 28/08/24)
- Ref 15-4 Department for Energy Security & Net Zero, 2023; National Policy Statement for Natural Gas Electricity Generating Infrastructure (EN-2). Available online: <https://assets.publishing.service.gov.uk/media/655dc15a544aea000dfb3239/nps-natural-gas-electricitygenerating-infrastructure-en2.pdf> (Accessed 28/08/24)
- Ref 15-5 Department for Energy Security & Net Zero, 2023; National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4). Available online: <https://assets.publishing.service.gov.uk/media/655dc2d4046ed4000d8b9dd9/nps-natural-gas-supply-infrastructurepipelines-en4.pdf> (Accessed 28/08/24)
- Ref 15-6 Department for Energy Security & Net Zero, 2023; National Policy Statement for Electricity Networks Infrastructure (EN-5). Available online: <https://assets.publishing.service.gov.uk/media/655dc25e046ed400148b9dca/nps-electricity-networks-infrastructure-en5.pdf> (Accessed 28/08/24)
- Ref 15-7 Welsh Government, 2021; Planning Policy Wales: Edition 11. Available online: https://www.gov.wales/sites/default/files/publications/2021-02/planning-policy-wales-edition-11_0.pdf (Accessed 28/08/24)
- Ref 15-8 FCC, 2023; Flintshire Local Development Plan 2015 – 2030. Adopted Plan 24th January 2023. Available online: <https://flintshire.gov.uk/en/PDFFiles/Planning/Examination-Library-Documents/FINAL-LDP-Written-Statement-English.pdf> (Accessed 28/08/24)
- Ref 15-9 Landscape Institute, 2019; Visual Representation of Development Proposals, (The Landscape Institute's Technical Guidance Note 06/19). London: Landscape Institute. Available online: https://landscapewpstorage01.blob.core.windows.net/www-landscapeinstitute-org/2019/09/LI_TGN-06-19_Visual_Representation.pdf (Accessed 28/08/24)
- Ref 15-10 Landscape Institute, 2021; Assessing landscape value outside national designations, Technical Guidance Note 02/21. London: Landscape Institute. Available online: <https://www.landscapeinstitute.org/publication/tgn-02-21-assessing-landscape-value-outside-national-designations/> (Accessed 28/08/24)
- Ref 15-11 Landscape Institute, 2020; Infrastructure, Technical Guidance Note 04/2020. London: Landscape Institute. Available online: <https://landscapewpstorage01.blob.core.windows.net/www-landscapeinstitute-org/2018/01/LI-Infrastructure-TGN-FINAL-200924.pdf> (Accessed 28/08/24)
- Ref 15-12 Landscape Institute, 2017; Tranquillity – An overview, Technical Guidance Note Tranquillity 01/17. Available online: <https://landscapewpstorage01.blob.core.windows.net/www-landscapeinstitute-org/2017/02/Tranquillity-An-Overview-1-DH.pdf> (Accessed 28/08/24)
- Ref 15-13 Natural Resources Wales, (NRW), 2013: National Landscape Character Area NLCA12: Clwydian Range. Available online: nca12-clwydian-range-description.pdf (naturalresourceswales.gov.uk) (Accessed 28/08/24)

- Ref 15-14 Natural Resources Wales, 2014; National Landscape Character Area NLCA13: Deeside and Wrexham. Available online: <https://cdn.cyfoethnaturiol.cymru/media/682570/nlca13-deeside-and-wrexham-description.pdf?mode=pad&rnd=131550580272430000> (Accessed 28/08/24)
- Ref 15-15 Natural Resources Wales, 2014; National Landscape Character Area NLCA14: Maelor. Available online: <https://cdn.cyfoethnaturiol.cymru/media/682572/nlca14-maelor-description.pdf?mode=pad> (Accessed 28/08/24)
- Ref 15-16 Natural England, 2013; National Landscape Character Area (NCA) Profile: 58: Merseyside Conurbation (NE505). Available online: <https://publications.naturalengland.org.uk/publication/5835259841085440> (Accessed 28/08/24)
- Ref 15-17 Natural England, 2014; National Landscape Character Area (NCA) Profile: 59: Wirral (NE545). Available online: <https://publications.naturalengland.org.uk/publication/6535185847812096> (Accessed 28/08/24)
- Ref 15-18 Natural England, 2013; National Landscape Character Area (NCA) Profile: 60: Mersey Valley (NE492). Available online: <https://publications.naturalengland.org.uk/publication/6387892108656640> (Accessed 28/08/24)
- Ref 15-19 Natural England, 2014; National Landscape Character Area (NCA) Profile: 61: Shropshire, Cheshire and Staffordshire Plain (NE556). Available online: <https://publications.naturalengland.org.uk/publication/6076647514046464> (Accessed 28/08/24)
- Ref 15-20 Natural Resources Wales, 2015; Marine Character Areas: MCA 01, Dee Estuary, Wales. Available online: <https://cdn.cyfoethnaturiol.cymru/media/674479/mca-01-dee-estuary-final.pdf?mode=pad&rnd=131503033822500000> (Accessed 28/08/24)
- Ref 15-21 Marine Management Organisation (MMO), 2018; Seascape Character Assessment for the North West Inshore and Offshore marine plan areas. Available online: https://assets.publishing.service.gov.uk/media/5bcdac69e5274a6be7fbcfae/North_West_-_Seascape_character_assessment_report.pdf (Accessed 28/08/24)
- Ref 15-22 Wirral Council, 2019. Wirral Landscape Character Assessment. Available online: <https://www.wirral.gov.uk/files/ecc-4.5-wirral-landscape-character-assessment-2019-e.pdf/download?inline> (Accessed 28/08/24)
- Ref 15-23 Natural Resource Wales, (NRW), 2018: LANDMAP North-East Wales. Available online: <https://naturalresourceswales.gov.uk/media/685442/as-north-east-wales-landscape-final-april-2018.pdf> (Accessed 28/08/24)
- Ref 15-24 Cheshire West and Chester Council 2016: A Landscape Strategy for Cheshire West and Cheshire Borough
Available online: <https://www.cheshirewestandchester.gov.uk/residents/planning-and-building-control/total-environment/local-landscape-character-assessment-landscape-strategy-2016> (Accessed 28/08/24)
- Ref 15-25 [Natural Resources Wales, 2018: LANDMAP - the Welsh landscape baseline.](#)
Available online: <https://naturalresources.wales/guidance-and-advice/business-sectors/planning-and-development/evidence-to-inform-development-planning/landmap-the-welsh-landscape-baseline/?lang=en> (Accessed 28/08/24)
- Ref 15-26 Welsh Government, November 2019. Welsh National Marine Plan
Available online: https://www.gov.wales/sites/default/files/publications/2019-11/welsh-national-marine-plan-document_0.pdf (Accessed 28/08/24)

Ref 15-27 European Council, 2020, The European Landscape Convention

Available online: <https://www.coe.int/en/web/landscape/the-european-landscape-convention> (Accessed 28/08/24)

Ref 15-28 Cheshire West and Chester Council, June 2017. Local landscape designations: Areas of Special County Value in Cheshire West and Chester

Available online: <https://www.cheshirewestandchester.gov.uk/asset-library/local-landscape-designations-areas-of-special-county-value-june-2017.pdf> (Accessed 30/08/24)

