STEPHENSON HALLIDAY

Planning, Landscape & Environment
an RSK company

CARBON CAPTURE AND STORAGE PROJECT
PADESWOOD, FLINTSHIRE

Planning, Design and Access Statement
Castle Cement Limited

June 2024

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1 INTRODUCTION

1.1.1 This Planning, Design and Access Statement (PDAS) has been prepared by Stephenson Halliday (part of RSK Group) on behalf of Castle Cement Limited (the 'Applicant') to accompany a planning application to Welsh Ministers seeking planning permission (the 'planning application') for the "Erection of a post combustion Carbon Capture Plant, together with a combined heat and power plant and other associated plant and structures. Temporary and permanent works required to facilitate the Proposed Development including accesses, drainage, temporary construction areas, site offices, control centre, car parking, landscaping, biodiversity mitigation areas and other ancillary infrastructure. Demolition of existing structures and buildings within the site boundary to facilitate the Proposed Development including one residential property (Padeswood Hall Farm), Padeswood Hall (derelict) and outbuildings". (the 'Proposed Development') on land at the Padeswood Cement Works, Chester Road, Mold, Flintshire, North Wales, CH7 4HB (the 'Site').

1.1.2 In accordance with Section 38(6) of the Planning and Compulsory Purchase Act 2004[1] (the "2004 Act"), the planning application should be determined in accordance with the Development Plan, unless material considerations indicate otherwise. Under Section 38(4) of the 2004 Act, the Development Plan comprises the National Development Framework for Wales (Future Wales: The National Plan) and the Flintshire Local Development Plan which covers the Site.

1.1.3 This PDAS provides an assessment of the Proposed Development against the relevant Development Plan policies and considers any material considerations in accordance with Section 38(6) of the 2004 Act. The PDAS also considers the benefits and potential harm which may arise from the Proposed Development and reaches conclusions on its acceptability considering the planning policy framework and relevant material considerations.

1.1.4 This PDAS is separate from the draft Environmental Statement (ES) and other environmental reports which accompany the Application but draws upon their conclusions in undertaking the assessments against the relevant policies.

1.2 Scope and Format of this Planning Statement

1.2.1 This PDAS is organised and structured into the following sections:

- Section 1 provides an introduction to the Proposed Development, details of the Applicant and information on the Environmental Impact Assessment (EIA) process;
- Section 2 describes the planning application documents including non-statutory and statutory consultation;
- Section 3 describes the Site and its surrounding area, including the Site's planning history;
- Section 4 describes the Proposed Development;

[1] https://www.legislation.gov.uk/ukpga/2004/5/contents

- Section 5 describes the design of the Proposed Development and how it will be accessed;
- Section 6 outlines the relevant local, national and European planning policy context including material considerations;
- Section 7 provides an assessment of the Proposed Development against the relevant Development Plan policies and material considerations; and
- Section 8 summarises the planning balance and reaches conclusions on the acceptability of the Proposed Development.

1.3 Development of National Significance Consenting Process

1.3.1 The statutory basis for the Development of National Significance (DNS) consenting process is provided by the Planning (Wales) Act 2015[2], which amends the Town and Country Planning Act 1990[3] (TCPA), and the Developments of National Significance (Wales) Regulations 2016 (as amended)[4] . The purpose of the DNS process is to ensure timely decisions are made on those planning applications that are of the greatest significance to Wales.

1.3.2 Section 62D of the TCPA sets out that development is of national significance if it meets criteria specified in regulations made by the Welsh Ministers for the purposes of this section. These are provided within Part 2 of The Developments of National Significance (Specified Criteria and Prescribed Secondary Consents) (Wales) Regulations 2016 (as amended)[5].The power output from the CHP Plant within the Proposed Development is 15MWe (minimum) and, thus when screening against Part 2 Regulation 4(1), this surpasses the threshold of 10MWe. The Proposed Development is therefore classified as a DNS.

1.4 Environmental Impact Assessment

1.4.1 The Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017[6] (EIA Regulations) sets out a procedure for assessing, consulting on, and coming to a decision on projects that may have likely 'significant' environmental effects.

1.4.2 Regulation 3 of the EIA Regulations provides that, before consent is granted for certain types of development, an EIA may be required. The EIA Regulations set out the types of development which must be subject to an EIA (referred to as Schedule 1 development) and other developments, which may be subject to an EIA depending on certain parameters and/or their potential to give rise to 'significant' environmental effects (referred to as Schedule 2 development).

[2] https://www.legislation.gov.uk/anaw/2015/4/contents/enacted

[3] https://www.legislation.gov.uk/ukpga/1990/8/contents

[4] https://www.legislation.gov.uk/wsi/2016/56/contents

[5] https://www.legislation.gov.uk/wsi/2016/53/contents/made

[6] https://www.legislation.gov.uk/wsi/2017/567/contents/made

1.4.3 The Proposed Development is expected to capture up to 800,000t of CO_2 per year, which does not exceed the 1.5Mt per year threshold set out at paragraph 22 of Schedule 1. Therefore, the Proposed Development does not constitute Schedule 1 development and an EIA is not automatically required. However, the Proposed Development does meet the description specified at paragraph 2 of Schedule 2 (refer to section 3(j) of column 1) which includes:

"Installations for the capture of carbon dioxide streams for the purposes of geological storage pursuant to Directive 2009/31/EC from installations not included in Schedule 1".

1.4.4 Therefore, the Proposed Development constitutes Schedule 2 development and may be subject to an EIA if certain parameters are met and/or if there is potential for the Proposed Development to give rise to 'significant' environmental effects. As such, the selection criteria outlined in Schedule 3 of the EIA Regulations needs to be considered to determine whether the Proposed Development is likely to have 'significant' effects on the environment by virtue of factors such as its nature, size or location.

1.4.5 The selection criteria as set out in the EIA Regulations identifies three broad criteria which should be considered:

- "*The characteristics of the development (size, design, use of natural resources, quantities of pollution, waste generated, risk of accidents and risk to human health);*
- *The environmental sensitivity of the location; and*
- *The types and characteristics of the potential impact (magnitude and duration)."*

1.4.6 It was concluded, having reviewed the selection criteria, that the Proposed Development qualifies as EIA development, due to the size and the potential for 'significant' environmental effects, and therefore, an ES has been produced to support the planning application.

1.4.7 Regulation 17 of the EIA Regulations requires that the planning application must be accompanied by an ES which must describe the likely 'significant' effects of the Proposed Development on the environment. An ES has been prepared in accordance with the EIA Regulations and accompanies the planning application.

EIA Scoping

1.4.8 Decisions on DNS applications are made by the Welsh Ministers rather than Local Planning Authorities. Planning and Environment Decisions Wales (PEDW) (formerly the Planning Inspectorate) handles DNS applications on behalf of the Welsh Ministers. Given the potential for 'significant' environmental effects the Applicant decided not to seek a formal Screening Opinion as the development would constitute EIA development.

1.4.9 An EIA Scoping Direction Request (CAS-02009-W1R1Z7) was submitted to PEDW on the 04 November 2022 in accordance with Regulation 33(7)(b) of the EIA Regulations. The purpose of the EIA Scoping Direction Request was to establish the scope of the ES to be submitted in accordance with EIA Regulations 2017 with the planning application and to seek the views of PEDW and statutory consultees on that proposed scope.

1.4.10 PEDW issued a Scoping Direction under Regulation 24 of the EIA Regulations on behalf of the Welsh Ministers. The Scoping Direction broadly aligned with the EIA Scoping Direction Request issued to PEDW. The Direction set out where it has/has not agreed with the scope of

matters on the basis of the information contained within the Scoping Direction. The key points to highlight from the Scoping Direction were as follows:

- *PEDW concluded that the Rochdale Envelope approach is not appropriate for a DNS application and therefore a level of certainty of the Proposed Development would be required to undertake an ES which captures the impacts of the application;*
- *Inclusion of the proposed access and temporary construction compounds within the scope of activities assessed;*
- *Decommissioning of the Proposed Development should be included. If no decommissioning is anticipated, this should be explained in the ES; and*
- *Cumulative impacts should consider the construction of the connection to HyNet AGI at Northop Hall.*

1.4.11 As detailed in the ES Volume 2, Chapter 4, the Applicant is not seeking planning permission for decommissioning as the Carbon Capture Plant is expected to operate for the lifespan of the existing operational cement works. In addition the effects of decommissioning are expected to be of similar nature to the construction phase but are likely to be of a reduced extent to that of construction and therefore will have a lower environmental impact, assessment of decommissioning related effects is not considered to require further assessment within the ES.

1.4.12 The ES includes a high level assessment of the construction of the connection of the pipeline between the Proposed Development and Hynet connection point in Northorp Hall within the ES Volume 2, Chapter 15.

1.4.13 The responses from statutory consultees raised in the scoping opinion have been taken into account where relevant in the ES topic chapters.

The Applicant and Rationale for the planning application

1.4.14 The Padeswood Cement Works is owned by Castle Cement Limited, part of the Heidelberg Materials group of companies and operates under the trading name as Heidelberg Materials UK. Heidelberg Materials is one of the largest building materials manufacturers in the world, the global market leader in aggregates which also has leading positions in asphalt, cement, concrete and other downstream activities. Heidelberg Materials UK is a leading supplier of low carbon heavy building materials to the construction industry including aggregates (crushed rock, sand and gravel), ready-mixed concrete, asphalt, cement and cement related materials.

1.4.15 The cement produced at the Padeswood Cement Works is used primarily in bulk for ready mix concrete, production of concrete products and bagged cement sold through builders' merchants. The Applicant is a national supplier and Padeswood Cement Works is connected to the rail network, enabling cement to be delivered to rail depots located in London, Glasgow and Avonmouth. Bulk and packed cements are also delivered to regional customers by road. The plant currently employs approximately 175 people.

1.4.16 Cement is essential to the UK's transition to net zero. It is fundamental to the development of everything from new offshore wind farms, nuclear power stations, clean transport infrastructure, schools, homes and hospitals and the thousands of jobs that these projects will create. However, the production of cement is currently carbon intensive. A large proportion of the carbon emissions produced by cement manufacture is derived from the chemical processes

involved in making cement and cannot be addressed by using renewable fuel or energy sources. Likewise, there is no viable alternative to cement in the construction industry. The only way to produce the cement that the UK needs, without large amounts of carbon emissions, is to use carbon capture and storage technology.

1.4.17 The UK Government is a signatory of the 2015 Paris Agreement (UN Framework Convention on Climate Change, 2018)[7] which commits the UK to measures aimed at keeping global temperature rise to well below 2°C compared with pre-industrial levels and to pursue best efforts to limit the increase to 1.5°C. As part of these targets, in June 2019, the UK became the first major economy in the world to commit to a 'net zero' carbon dioxide emission target, pledging to end the UK's contribution to global climate change by 2050 (HM Government, 2019).

1.4.18 In November 2020, the UK Government announced a Ten Point Plan for a Green Industrial Revolution (Department of Business, Energy and Industry (DBEI), 2020)[8]. The plan laid the foundations for a green economic recovery following the impacts of COVID-19. The Ten Point Plan established a commitment to deploy Carbon Capture Usage and Storage (CCUS) in industrial cluster zones with a minimum of two (Track-1) by the mid-2020's and four (Track-2) by 2030 at the latest; this was the Phase-1 CCUS cluster sequencing process. The UK Government pledged £1 billion through the Carbon Capture and Storage Infrastructure Fund to deploy CCUS technology at pace and at scale. Five industrial cluster consortiums bid for Phase-1 to become a Track-1 cluster (DBEI, 2021).

1.4.19 On 19 October 2021 HyNet North West along with East Coast Clusters were selected as Track-1 clusters (HyNet, 2021). HyNet North West is comprised of two main components; firstly, to produce, transport and store low carbon ('green') hydrogen across the North West and North Wales, and secondly, to develop and upgrade new and existing infrastructure to capture, transport and lock away CO_2 emissions from industry through use of geological reservoirs under the sea, off the coast of North Wales.

1.4.20 The aim of the Proposed Development is to integrate into the HyNet North West network through the capture of CO_2 from the cement works for transportation and subsequent storage in the Liverpool Bay storage facilities. HyNet North West will develop new and upgrade existing infrastructure to produce, transport and store low carbon hydrogen as well as capture, transport and store CO_2 across north west England and North Wales.

1.4.21 In September 2020, the Applicant entered into a memorandum of understanding with Liverpool Bay CCS Limited; the HyNet CO_2 transport and storage system provider. The Applicant also has a collaboration agreement with the HyNet Industrial Decarbonisation partners, allowing active involvement in the development of the overall HyNet project.

1.4.22 Liverpool Bay CCS Limited is leading on the development of the CO_2 pipeline transport system for the wider HyNet North West scheme. Liverpool Bay CCS Limited owns and operates the CO_2 pipeline network and storage sites that is being upgraded as part of the scheme. Liverpool Bay CCS Limited is responsible for the consenting, construction, and operation of the CO_2

[7] https://unfccc.int/documents/184656

[8] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/936567/10_POINT_PLAN_BOOKLET.pdf

pipeline connecting the Proposed Development through a new Above Ground Installation within the Proposed Development to the main HyNet CO_2 pipeline at Northop Hall. The project is currently progressing, with strategic routing assessment ongoing (as of May 2024) and planning application submission anticipated in early 2025. Information on the CO_2 pipeline route corridor is available on the HyNet Hub website. The construction programme is subject to the grant of planning permission and therefore subject to confirmation. Operation is anticipated by 2029 to coincide with that of the Proposed Development.

1.4.23 The Applicant, and its parent company Heidelberg Materials, are global leaders in the race to decarbonise cement – Heidelberg Materials is promoting the world's first full scale cement carbon capture and storage project being built at Brevik, Norway and progressing several other schemes globally. The Applicant is now looking to develop the UK's first net zero carbon cement facility at Padeswood.

2 PLANNING APPLICATION DOCUMENTS

2.1.1 The planning application is accompanied by an ES which provides a full appraisal of the environmental baseline conditions of the Site and surrounding area and an assessment of the potential and 'significant' environmental effects of the Proposed Development when considered against and in combination with the environmental baseline. The ES also provides, where necessary, recommendations for mitigation measures to ensure the residual environmental effects of the Proposed Development are acceptable.

2.1.2 The ES is presented as follows:

- Volume 1: Non-Technical Summary (NTS) - a report which summarises the findings of the EIA written in non-technical language in accordance with Part 4; Regulation 17(3)(a) of the EIA Regulations 2017
- Volume 2: draft Environmental Statement comprising 15 chapters;
- Volume 3: Figures; and
- Volume 4: Technical Appendices.

2.1.3 The content of the ES is listed within Appendix 1.

2.1.4 The ES has been prepared in full accordance with the EIA Regulations, as detailed within Table 2.1.

Table 2.1: Schedule 4 Requirements for inclusion with EIA

Schedule 4 Requirement	Where assessed/included in the ES
A description of the development including; a description of the physical characteristics of the whole development, A description of the main characteristics of the operational phase of the development (in particular any production process); an estimate, by type and quantity, of expected residues and emissions.	ES Volume 2, Chapter 2
A description of the reasonable alternatives (for example in terms of development design, technology, location, size and scale)	ES Volume 2, Chapter 3 summarises the reasonable alternatives that have been considered (e.g. design, technology, location, size and scale) in the Proposed Development and emergence of a preferred design solution.
A description of the relevant aspects of the current state of the environment (baseline scenario)	ES Volume 2 Chapters 5 to 15
A description of the factors specified in regulation 4(2) likely to be significantly affected by the	ES Volume 2 Chapters 5 to 15

Schedule 4 Requirement	Where assessed/included in the ES
development: population, human health, biodiversity, land, soil, water, air, climate, material assets, cultural heritage, including architectural and archaeological aspects, and landscape	
A description of the likely 'significant' effects of the development on the environment resulting from e.g. the use of natural resources, the emission of pollutants and the risks to human health	ES Volume 2 Chapters 5 to 15
A description of the forecasting methods or evidence used to identify and assess the effects on the environment	ES Volume 2 Chapters 5 to 15
A description of the measures envisaged to avoid, prevent, reduce or, if possible, offset any identified 'significant' adverse effects on the environment	ES Volume 2 Chapters 5 to 15
A description of the expected 'significant' adverse effects of the development on the environment deriving from risks of major accidents and/or disasters which are relevant to the project concerned	ES Volume 2 Chapters 5 to 15
A non-technical summary of the above information	This has been prepared for submission with the ES.
A reference list detailing sources used in the ES	References have been included in each of the ES chapters as footnotes.

2.1.5 The planning application also includes the following supporting information, which should be read in conjunction with this PDAS:

- Planning Application Form and Certificates;
- Statutory Pre-Application Consultation Report (PAC);
- Green Infrastructure Statement;
- Social-Economics Statement;
- Flood Consequences Assessment;
- Arboricultural Impact Assessment Report;
- Habitat Creation and Management Plan;
- Soil Resource Assessment and Outline Soil Resource Management; and
- Written Statement of Secondary Consents.

2.1.6 The planning application is accompanied by a series of planning drawings, which are listed within **Appendix 2**.

2.2 Non-Statutory Consultation

2.2.1 Non-statutory consultation was held between 25 January 2023 and 21 February 2023. The aim of non-statutory consultation was to:

- Outline the broad parameters of the Proposed Development;
- Gather feedback on key issues and options;
- Understand and respond to key community and stakeholder concerns;
- Reassure concerned stakeholders; and
- Continue to build understanding of the Proposed Development with a wide range of stakeholders.

2.2.2 Various means of communication to publicise the non-statutory consultation events were utilised including email notifications to stakeholders (local councillors, parish councillors and liaison groups), displayed posters in the local community and hard-to-reach areas, issued a press release and posted across social media platforms.

2.2.3 Feedback from non-statutory consultation was collated and distributed to the project team and has been incorporated into the EIA. Respondents were asked to rank their priorities for assessing environmental impact. Air quality issues were given the highest priority followed by climate, landscape and visual, noise and vibration, biodiversity, traffic and transport and lastly cultural heritage.

2.3 Statutory Consultation

2.3.1 As set out in **Section 1.3** the Proposed Development falls within the definition of a Development of National Significance. A statutory requirement to consult under section 61Z of the Town and Country Planning Act 1990 is specified by Article 7 of The Developments of National Significance (Procedure) (Wales) Order 2016. Further provision on the procedure for this consultation is contained in that Order. The statutory requirements set out a number of consultation activities that need to be undertaken by the developer before a planning application can be submitted. This includes:

- A requirement for the Applicant to publicise the proposed application by:
    - Giving requisite notice to affected land owners and the local community (via local newspapers and site notices) as well as other relevant consultees under the Town and Country Planning Act;
    - Publishing the draft planning application documents on a website for review by interested parties, for no less than 42 days;

2.3.2 The results of the consultation will be set out in a 'Pre-application Consultation Report' (PAC) in accordance with Section 61Z of the Town and Country Planning Act 1990 (as amended)[9] (as inserted by Section 17 of the Planning (Wales) Act 2015) and under Articles 10 and 11 of the Developments of National Significance (Procedure) (Wales) Order 2016 (as amended).

2.3.3 A draft version of the planning application documents including this PDAS will be made publicly available for a minimum 42 days. The statutory 42-day consultation period will be held ahead of submission of the planning application.

2.3.4 The PAC Report will contain the Site notices (as required under Part 1A) in the form these will have been provided to all adjoining owners/occupiers, community and specialist consultees. The PAC Report will provide a summary of all the comments received during the consultation and will include a summary of the responses from the specialist consultees. All comments received within the specified timescale will be considered.

2.3.5 The PAC materials comprise draft versions of the full package of drawings, assessments, and reports that will be submitted with the planning application. This includes all reports and figures noted in **Section 2**.

[9] https://www.legislation.gov.uk/ukpga/1990/8/contents

3 THE SITE

3.1 Site Location and Surroundings

Figure 3.1 Site Location Plan

Source: Google Earth

3.1.1 The red line boundary in **Figure 3.1** is referred to throughout the planning application as the 'Site'. This boundary aligns with the Applicant's wider landholding for the existing Padeswood Cement Works. This is located to the south of Buckley, near Mold, Flintshire, North Wales, CH7 4HB at National Grid Reference SJ 29127 62227 and falls within the jurisdiction of Flintshire County Council. The A5118 runs parallel to the northern boundary of the Site, where the junction for the main site access is located. The eastern boundary of the Site is aligned with Borderlands railway, running north to south, terminating at Wrexham General to the south and Bidston to the north, for onward connection to Liverpool.

3.1.2 Currently, the operational cement works (as shown as the developed area within the redline boundary in **Figure 3.1**) contains infrastructure, plant and machinery that include, but are not limited to, cement kilns, grinding mills and silos as well as several office buildings, workshops and vehicle parking. The wider landholding (i.e. the rest of the Site) beyond the operational cement works comprises of pasture fields and mature vegetation. The overall extent of this landholding, and therefore the Site for the purpose of the planning application is approximately 70.9ha in size.

3.1.3 The use of the wider landholding as the redline boundary for the Site was to allow the required flexibility in terms of the location of enabling development and environmental enhancements. The works and ongoing infrastructure for the Proposed Development does not extend over the whole Site. The majority of the built elements of the Proposed Development will be located to the southwestern boundary of the Site.

3.2 Site Features

3.2.1 There are no identified designated heritage assets within the Site. Refer to ES Volume 3, Figure 8.5 and Figure 8.4. The nearest designated heritage assets are several Scheduled Ancient Monuments to the south and west of the Site. These include:

- Wat's Dyke: Section E and SE of Dyke Farm, which borders the Site at the closest point; and
- Wat's Dyke: Section NE of Hen-Dy Farm, approximately 170m west.

3.2.2 There are three Listed Buildings within a 1km radius buffer of the Site (refer to ES Volume 3, Figure 8.2, these comprise:

- Pen-yr-Allt Farmhouse and attached byre, Listed Building Grade II, situated c. 0.66km south west;
- Old Parsonage, Listed Building Grade II, situated c 0.96km east; and
- St John the Baptist's Church, Listed Building Grade II*, situated c. 0.97km east.

3.2.3 There are no registered ecological designations contained within the Site; however, there are some present within a 1km buffer zone from the Site refer to ES Volume 3, Figure 1.4 and ES Volume 3, Figure 8.4. Hartsheath Registered Park and Garden is situated approximately 0.8km south of site, with the Buckley Claypits and Commons Sites of Special Scientific Interest (SSSI) and Deeside and Buckley Newt Special Areas of Conservation (SAC) situated approximately 0.9km to the north.

3.2.4 Woodland is present on the Site, however there are no Ancient Woodland or Ancient and Veteran Trees on-site. The trees to the north western corner of the Site, surrounding Padeswood Hall Farm are protected by Tree Preservation Orders (TPOs) and will be fenced and protected during construction.

3.2.5 Public Rights of Way (PRoW) Buckley 55 and Buckley 56 (Footpaths) intersect the Site boundary towards the west and south. Additionally, Footpath Hawarden 103 intersects the northeastern portion of the Site. There are several other PRoWs within a 1km radius. A railway track runs adjacent to the Site on the eastern boundary as illustrated in ES Volume 3, Figure 9.1.

3.3 Secondary Consent for PRoW diversion

3.3.1 The Proposed Development will occupy the south western portion of the Site. As a result, the existing PRoW (301/56/20) which bisects this area of the Site in a northwest to southeast direction will need to be permanently diverted. It is proposed that the existing footpath (PRoW 2012/56/20) will be stopped up where it reaches the Site boundary, and a PRoW will then be

created in a west to east direction across the southern boundary of the Site in order to continue this route outside of the Site. Approximately 476m of PRoW will be removed and a 385m section of PRoW will be created so that a through-route is maintain from north to south. Refer to ES Volume 4, Technical Appendix 11.1 (Transport Statement) for further details.

3.3.2 The planning application includes a secondary consent comprising permission for "*for the permanent diversion of Footpath 56 (301/56/20) sought under Section 247 of the Town and Country Planning Act 1990".* Further details are provided within the Written Statement of Secondary Consents, which accompanies the planning application.

3.4 Dwellings/Properties Within or Adjacent to the Site

3.4.1 Padeswood Hall Farm, a property owned and leased to private tenants by the Applicant, is located within the Site towards the northern boundary. A further property, Padeswood Hall, is located approximately 100m west of Padeswood Hall Farm and also located within the boundary of the Site. Padeswood Hall was previously occupied as office accommodation but has been vacant for over a decade and is now in a derelict state. Padeswood Hall and Padeswood Hall Farm will be demolished as part of the Proposed Development. The Applicant has engaged with, and will continue to engage with, current tenants at Padeswood Hall Farm to enable them to make future alternative housing arrangements. The Applicant will liaise with the tenants in the event that another property within the Applicant's Padeswood Cement Works portfolio becomes available.

3.4.2 Padeswood Drive, a residential road with access from the A5118, is located within the northern perimeter of the Site and includes 12 semi-detached residential dwellings, which are owned by the Applicant and privately rented to residential tenants. Bannel Farm, another residential property is located within the northeast corner of the Site. There are small farm holdings with several agricultural buildings and sheds located within 200m-400m surrounding the Site.

3.4.3 A small automotive industrial estate is located immediately opposite the main site access on the opposite side of the A5118. Otherwise, the land surrounding the Site comprises agricultural fields with hedgerow field boundaries and there are several small areas of woodland. Planting has been undertaken in areas of the Site to provide screening to nearby receptors, such as the A5118.

3.5 Planning History

3.5.1 Through use of Flintshire County Council's planning application search function, a review of the planning history of the Site has been undertaken, with the following previous applications identified in Table 3.1.

Table 3.1: Planning Application History

App Ref	Decision	Description	Address
FUL/000562/22	Approved 06/04/23	The erection of a Solid Recovered Fuel Facility, together with ancillary development including an electricity/power room, pipeline and conveyor system.	CASTLE CEMENT LTD, Padeswood, Buckley, CH7 4HB

App Ref	Decision	Description	Address
64339	Approved 03/05/2022	Pollard, fell and crown raise various trees at different locations on-site	Castle Cement Ltd, Padeswood, Mold, Flintshire. CH7 4HB
63114	Approved 20/07/2021	Demolition of existing and installation of replacement chlorine bypass system, together with ancillary development.	Padeswood Cement Works Chester Road, Padeswood, Mold. CH7 4HB
58689	Approved 01/10/2018	Application for the approval of details reserved by condition nos; 17 (wildlife management scheme) and 18 (landscaping/woodland management scheme) attached to planning permission ref. 057343	Castle Cement Ltd Chester Road, Padeswood, Mold. CH7 4HB
58200	Approved 11/05/2018	Application for the approval of details reserved by condition nos. 4 (construction and environmental management plan), 6 (contaminated land scheme), 8 (surface water drainage), 15 (bio-security scheme) and 19 (tree safeguarding plan) attached to planning	Castle Cement Ltd Chester Road, Padeswood, Mold. CH7 4HB
57343	Approved 29/11/2017	Demolition of the existing cement storage and loading facilities and the erection of a new Vertical Roller Mill (VRM), rail loading facility and modification to and extension of the existing railway line, together with ancillary development.	Castle Cement Ltd Chester Road, Padeswood, Mold. CH7 4HB
57319	Approved 11/08/2017	Application for prior notification of Proposed Development	Castle Cement Ltd Chester Road, Padeswood, Mold. CH7 4HB

App Ref	Decision	Description	Address
55420	Approved 12/07/2016	Erection of new building to extend existing warehouse, formation of an area of hard standing and widening of internal roads to form a new entry and exit road	Padeswood Cement Works Chester Road, Padeswood, Mold. CH7 4HB
52927	Approved 07/01/2015	Erection of a solid recovered fuel reception facility	Castle Cement Ltd, Padeswood, Mold, Flintshire. CH7 4HB
58637	Approved 31/07/2014	Extension to existing warehouse (retrospective)	Padeswood Cement Works Chester Road, Padeswood, Mold. CH7 4HB
52191	Approved 31/07/2014	Application for the approval of details reserved by Condition No9 (revised restoration on early cessation of development) attached to appeal ref: APP/A6835/A/05/1194951	Chester Road, Padeswood, Mold. CH7 4HB
52205	Approved 31/07/2014	Planning application to extend an existing packing plant building, involving the demolition of part of the existing building and the erection of a new replacement building at Padeswood Cement Works	Castle Cement Ltd Chester Road, Padeswood, Mold. CH7 4HB
44703	Approved 16/06/2009	Extension to existing coal store	Castle Cement Ltd Chester Road, Padeswood, Mold. CH7 4HB
44238	Approved 19/02/2008	Installation of silo for storage of meat and bone meal (MBM)	Chester Road, Padeswood,

App Ref	Decision	Description	Address
			Mold. CH7 4HB
038838 (APP/A6835/A/05/1194951)	Approved 07/12/2006	Change of Use from Agriculture to disposal Cement Kiln Dust	Castle Cement Ltd, Padeswood, Mold, CH7 4HB
029427	Approved 31/03/2002	Construction of New Kiln Line and associated plant limestone store, fuel storage buildings, re-profiling of former licensed waste site and ancillary works	Castle Cement Ltd, Padeswood, Mold, CH7 4HB

4 PROPOSED DEVELOPMENT

4.1 Description of Proposed Development

4.1.1 Carbon Capture and Storage (CCS) is a way of reducing carbon emissions through a three-step process involving capturing, transporting, and storage. Once the CO_2 has been captured it can be transported to storage underground.

4.1.2 CCS is currently the only technology that can help reduce emissions from large scale industrial installations, therefore making it an essential technology in efforts to tackle global climate change, with the potential to generate 'negative emissions', hence removing CO_2 from the atmosphere.

4.1.3 A description of each component that comprises the Proposed Development is provided in Table 4.1.

Table 4.1: Full Description of the Main Proposed Development Components

Proposed Development Component	Component Description
Temporary Enabling Development	
Carbon Capture Plant materials laydown and contractors' storage area	This area will be used by the appointed principal contractor for storage of materials, equipment and plant required for the construction phase of the Proposed Development. This area will also be used for the fabrication of large plant, such as the regenerator and absorber columns. This area will be reinstated post-construction.
Carbon Capture Plant contractor village and welfare	This area will be used by the appointed principal contractor for temporary welfare facilities for construction workers. The facilities will include toilet and washing provision, sheltered areas to change and rest and places for workers to prepare food.
Plant shutdown village	This is a temporary working area for use during shutdowns of the existing operational kiln.
Carbon Capture Plant laydown and construction offices	This area will be used by workers for vehicle parking during the construction phase of the Proposed Development. Temporary construction offices will be erected for the duration of the construction period. This area is part of the biodiversity mitigation proposals and will be reinstated and improved post-construction.
Carbon Capture Plant laydown area	This area will be used by the appointed principal contractor for temporary storage and assembly of construction equipment, similar to the Carbon Capture Plant materials laydown and contractors' storage area.
Permanent Enabling Development	
Earth bunding	Earth bunding will be implemented on the northern section of the Site to screen the Proposed Development from residential properties on Padeswood Drive. Bunding will be created using the

Proposed Development Component	Component Description
	stripped soil during the construction phase and will be stabilised and landscaped by native planting.
Padeswood Hall	The derelict Padeswood Hall will be demolished as part of the Proposed Development.
Padeswood Hall Farm and all outbuildings	These buildings are set to be demolished as part of the Proposed Development. The Applicant will engage with current tenants at Padeswood Hall Farm to provide ample notice of the works to enable them to make plans for future housing arrangements. The Applicant will notify the tenants when a local property within the Applicant's company portfolio becomes available.
Carbon Capture Plant site access road	A permanent site access road will be constructed to allow for vehicle access to the Carbon Capture Plant from the A5118. The site access road will use the existing site access from the A5118 then follow the existing track immediately west past Padeswood Hall and Padeswood Hall Farm before following the western perimeter of the Site boundary, heading southwards for approximately 350m to the Carbon Capture Plant.
Site access improvements	Minor modifications will be carried out to the existing site access from the A5118 to facilitate access for construction equipment and vehicles.
Offices and joint control centre	A new building will be constructed and used during the operational phase of the Proposed Development as a base for workers to control the Carbon Capture Plant.
Storm water holding pond	A new storm water attenuation pond will be constructed to serve the Carbon Capture Plant.
General car park	An new car park area for staff, general contractors and visitors to the new Carbon Capture Plant and existing cement works will be constructed.
Pipeline connection point compound ground preparation	A 50m by 28m area located within the north western corner of the Carbon Capture Plant footprint and is designated for the construction of Liverpool Bay CCS Limited's Above Ground Installation (connection point) where the CO_2 transport pipeline will connect the Proposed Development to the HyNet connection point in Northop Hall. Ground will be prepared (vegetation clearance, cut and fill and levelling) to accommodate the installation of the Above Ground Installation.
Carbon Capture Plant	
Instrument air system	Comprising air compressor and air dryer, to provide a clean supply of compressed air for use by various plant control instrumentation such as pneumatic equipment and electrical control valves.

Proposed Development Component	Component Description
Waste heat recovery system	Two heat exchangers will be installed within the existing cement works. One will be installed adjacent to the preheater tower and the second installed at the clinker cooler. They will be used to harvest waste heat for use in the Carbon Capture Plant.
Combined Heat Power plant and associated infrastructure	A Combined Heat Power plant comprising a gas burner and boiler to produce steam, for a steam turbine generator with 15MWe (minimum) and low pressure steam for heating in the PCCCC 83MW (minimum) thermal of installed capacity.
Integrated quencher	An integrated quencher tower will be constructed which cools the gas stream using water and removes particles and aerosols to optimise CO_2 absorption.
Gas-Gas heater	A type of heat exchanger which exchanges the heat from the untreated flue gas upstream of the Integrated quencher to treated flue gas from the Wash tower.
Absorber tower	The CO_2 in the gas stream reacts with the amine solution to capture the CO_2.
Wash tower	The wash tower collects liquid droplets that are transported in the gas stream from the Absorber tower to improve CO_2 capture efficiency and reduce emissions.
CO_2 regenerator column	A cylindrical pressure vessel where the rich amine (amine containing CO_2) is heated to release the CO_2 captured in the Absorber tower.
Compressor house	A building containing a multistage CO_2 compressor to increase pressure for CO_2 pipeline operation.
Pipeline connection point compound	This 50m by 28m area is located within the north western corner of the Carbon Capture Plant footprint and is designated for the construction of Liverpool Bay CCS Limited's Above Ground Installation (connection point) where the CO_2 transport pipeline will connect the Proposed Development to the HyNet connection point in Northop Hall. This Above Ground Installation will tie into the Proposed Development utilities mentioned above i.e. drainage and power. The Above Ground Installation does not form part of this DNS application as permission will be sought by Liverpool Bay CCS Limited at a later date. The land required for the Above Ground Installation is reserved on the planning drawings submitted with this planning application.
Flue gas stack	The residual emissions will be released from the new Flue gas stack after the removal of up to 95% of the CO_2.
Hybrid cooling towers	Used to control water temperature to indirectly cool the amine solution sent to the Absorber tower and thus optimise CO_2 capture efficiency.

Proposed Development Component	Component Description
Piperack and air coolers	Process pipes and cable trays to transfer liquids and power around the Carbon Capture Plant are mounted on the piperack at lower levels. Air coolers are mounted on top of the piperack to reduce cooling water temperature.
Substation	The substation will distribute power to the capture plant from the CHP and grid electricity during start up and CHP outages.

Access

4.1.4 The Proposed Development will be accessed from the existing Site access off the A5118, located approximately 1.2km to the west of the A550. This is a well-established access and is currently used regularly by both Light Goods Vehicles and Heavy Goods Vehicles for access into the existing operational cement works.

4.1.5 From the Site access, there is a c.300m road which runs into the Site, providing sufficient room for vehicles entering the Site to queue internally during busy periods to avoid any potential for queuing on the A5118. Further information is provided within ES Volume 4 Technical Appendix 11.1 (Transport Statement).

Construction Phase

4.1.6 Following the granting of planning permission and the discharge of pre-commencement conditions, construction will commence through installation of the access improvements to facilitate safe and efficient construction access. Internal accesses will then be established within the Site to allow access to the Carbon Capture Plant and the required construction areas.

4.1.7 Contractor car parking will be established with measures also in place for bus transfer of contractors according with the proposed Travel Plan, provided within ES Volume 4 Technical Appendix 11.2 (Travel Plan).

4.1.8 Some diversion of existing services on the construction site and site assembly areas will be required prior to site clearance. Where possible these works will be progressed with the utility provider under their permitted development rights in advance of the main works.

4.1.9 Padeswood Hall, Padeswood Hall Farm and associated outbuildings will be demolished prior to construction, with resultant materials re-used on site where use exists, and any surplus taken off site.

4.1.10 The construction boundary will be demarcated by a construction fence to physically segregate construction and operations personnel and activities. Topsoil will then be stripped and vegetation removed as required. Soil from the temporary areas will be stored in bunds to the south of Padeswood Drive, and in an adjacent soil storage area as shown in ES Volume 3, Figure 1.2. The bunds to the south of Padeswood Drive are proposed to be permanent features. The soils in the adjacent soil storage area will be used for site restoration on completion of the temporary works. Any surplus soils that cannot be appropriately stored in these areas will be taken off site. The Applicant may be able to provide temporary soil storage

and/or re-use at nearby minerals sites but this is not confirmed and does not form part of the planning application.

4.1.11 The stripped areas will be surfaced with compacted stone on a geogrid textile (to allow reinstatement on completion of the works).

4.1.12 Trees and hedges being retained including the trees subject to TPOs, adjacent to the northern Site boundary, will be fenced and protected during the site establishment.

4.1.13 Following site clearance, earthworks on the Carbon Capture Plant area will commence to establish a level development platform, 5m below that of the existing cement works. This will involve cut and fill, with levels at the northern end of the plot being reduced through excavation and the material used to fill the southern end. Surplus material will be removed from the site.

4.1.14 The boundary between the levels will have sheet piled retaining wall with a ramped access road down to the site along the west boundary completed in advance of the main cut and fill operations.

4.1.15 Foundations for the main Carbon Capture Plant items will be piled. All services and foundations will then be established and remaining civils works such as construction of the attenuation basin will be completed. If there is a need for de-watering during the civils works this will be subject to abstraction and discharge licences which will be applied for separate to the planning application at the appropriate time.

4.1.16 The site preparation works as described are anticipated to take approximately seven months.

4.1.17 To maximise construction efficiency and to overcome space limitations on site, a number of plant items will be pre-fabricated off-site and brought to the site by road. This is anticipated to include sections of the absorber and quencher towers, flue gas stack sections, pipe rack sections and instrument rooms.

4.1.18 These components will be stored and assembled in the materials laydown and storage area as shown in ES Volume 3, Figure 1.2. Erection of temporary buildings and cranes will be required in this area to safely store, assemble and move these items of equipment. Once equipment has been assembled to the required stage and is ready for mechanical installation it will be transported to the Carbon Capture Plant plot using the internal access roads.

4.1.19 Mechanical installation of the Carbon Capture Plant will involve erection of the main structures and plant items. Methods will differ between the structures in question, with a summary by main items provided in ES Volume 2, Chapter 2.

4.1.20 Following completion of the main construction works the temporary areas will be reinstated through removal of temporary buildings and surfacing and reinstatement will be either by re-seeding back to grassland, or for habitat creation purposes as shown on ES Volume 4 Technical Appendix 9.4 (Landscape and Habitat Strategic Mitigation Proposal). This will involve removal of temporary structure and buildings the stone surface in the temporary areas.

4.1.21 The construction phase is assumed to take place over a 37 month period with operation anticipated by 2029.

5 DESIGN AND ACCESS

Introduction

5.1.1 This Section of the report constitutes a Design and Access Statement (DAS). It has been prepared in line with the requirements and recommendations of Technical Advice Note 12: Design (TAN 12)[10], Flintshire County Council's own guidance on DAS[11] and with reference to the 'Design and Access Statements in Wales Why, What and How' (April 2017)[12] guidance, which builds on that understanding and responds to legislative requirements for DAS under the Planning (Wales) Act 2015[13].

5.1.2 This section contains a summary of the site context, analysis of the surrounding areas and an explanation of the relevant design frameworks. It explores how the physical characteristics of the Proposed Development have been informed by the design process and explains the steps taken in the process to arrive at the proposed design.

Site Context

5.1.3 The Site, as defined by the red line boundary shown on **Figure 3.1**, covers the whole landholding associated with Padeswood Cement Works; an area measuring 70.9ha.

5.1.4 Padeswood Cement Works has been operating since 1949, with the main industrial built development located within the centre of the Site, set back from the A5118. An operational railway line runs north/south along the eastern boundary and a former railway embankment runs east/west along the southern boundary.

5.1.5 Within the Applicant's landholding are ancillary buildings and uses including former workers accommodation along Padeswood Drive, former workers recreational facilities (now derelict), Padeswood Hall (now derelict) and Padeswood Hall Farm. Pasture fields and mature vegetation/greenspaces surround the built development within the Site to the east and south. Located within the south western area of the site is an engineered drainage pond.

5.1.6 The operational cement works consists of numerous buildings, enclosures and industrial infrastructure associated with the manufacturing of cement, including but not limited to, cement kilns, grinding mills, silos, office buildings, workshops and vehicle parking. The existing buildings and infrastructure across the site are tall in height, giving the site a clear industrial appearance from close proximity views.

5.1.7 The site slopes from the A5118 to the north, down to the former railway embankment to the south with a fall of c.16m.

[10] https://www.gov.wales/technical-advice-note-tan-12-design

[11] https://www.flintshire.gov.uk/en/PDFFiles/Planning/Design-and-Access-Statements.pdf

[12] https://www.gov.wales/sites/default/files/publications/2018-09/design-and-access-statements.pdf

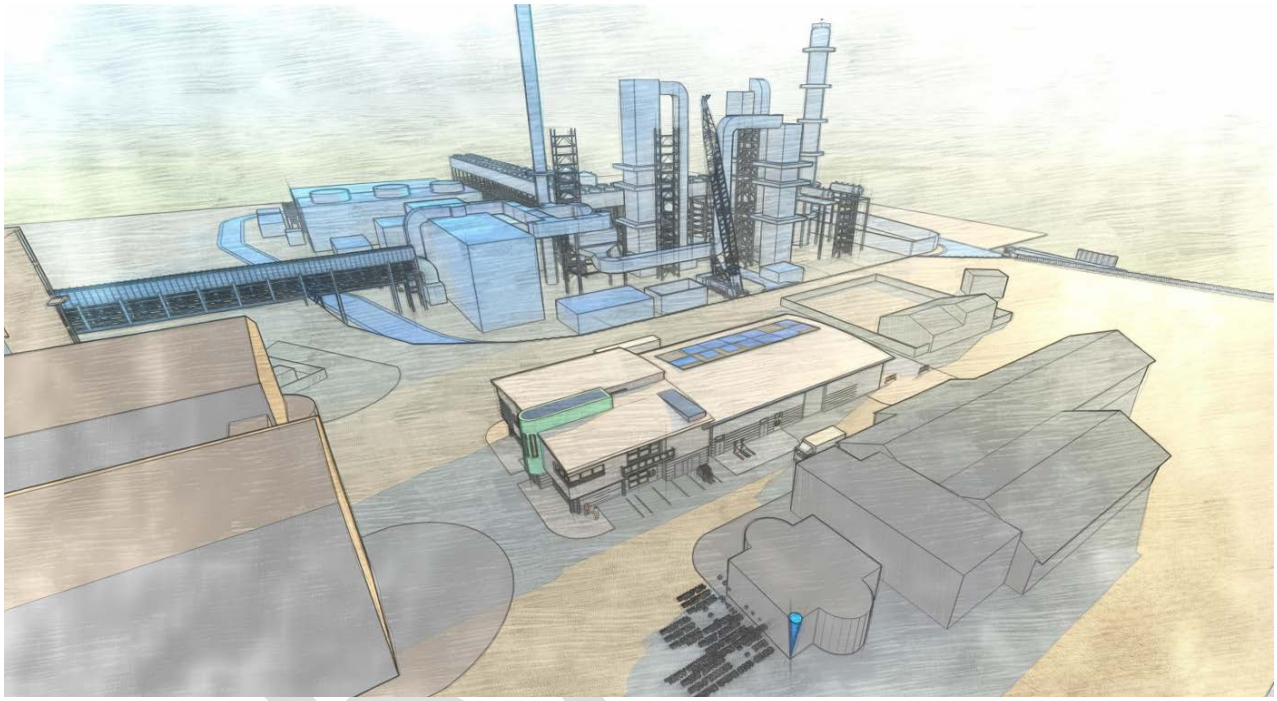
[13] https://www.legislation.gov.uk/anaw/2015/4/contents/enacted

Proposed Development

5.1.8 The Proposed Development comprises a number of buildings, enclosures and industrial infrastructure with range in height up to a maximum of 117.9m.

5.1.9 Table 4.1 provides a description of the main components of the Proposed Development, which are illustrated in **Figure 5.1**.

Figure 5.1 Proposed Development Illustration



Constraints and Opportunities

5.1.10 ES Volume 2, Chapter 3 provides a summary of alternatives that were considered for the Proposed Development including its design and technology. The plant, machinery and enclosures required are largely fixed due to the existing specifications of the cement works and the necessary industrial features of the carbon capture and CHP systems dictating the required size and design. Thus, little influence could be given to the majority of the design and therefore consideration was mainly given to its location.

5.1.11 In order for the carbon capture process to be commercially viable at the scale proposed, it needs to be co-located with the source of production. Otherwise, the need for intermediate transmission of emissions from the operational cement works, prior to treatment, would require significant additional infrastructure and technological challenge which would likely cause the Proposed Development to be unviable.

5.1.12 The sites considered for the Carbon Capture Plant location were therefore limited to land adjacent to the operational cement works and land within the Applicant's ownership. The proposals have also been shaped by the species and habitats present on Site and the need to minimise any wider ecological and environmental effects. As an example, areas of previous ecological enhancement have been avoided, tree and habitat removal has been minimised and

extensive ecological surveys have been completed to inform the required mitigation and compensation measures.

5.1.13 As the Applicant's landholding is fairly extensive, a number of locations were considered. A summary of these is identified below:

- North west of the operational cement works: This location was considered, however there was limited land available to construct and operate the Proposed Development. It would also bring the industrial works closer to the A5118 and neighbouring properties;
- North east of the operational cement works: This location would bring the plant closer to the properties at Padeswood Drive which would have led to the potential for visual impacts and other nuisance effects to occur at these properties;
- South east of the operational cement works: This location was discounted as, whilst there is sufficient land available, the development would have involved the greatest amount of habitat loss; and
- South west of the operational cement works: This location provided sufficient land area for the Proposed Development, with limited ecological value. It was considered the closest location to the principal existing emission sources which minimises the amount of additional ducting required and maximises the efficiency of the carbon capture process. This location could also utilise the existing landfall across the site with the opportunity to provide a development platform at a lower level, reducing landscape and visual effects. This area was selected as the preferred location for the Proposed Development.

5.1.14 Following the selection of the location within the Site for the Carbon Capture Plant the site configuration for the rest of the elements of the Proposed Development has been informed by the technical and site-specific requirements including the layout of the existing site access, technical engineering considerations, operational, safety and environmental considerations. The site configuration of these elements was informed by a number of criteria:

- Proximity to occupied dwellings (Padeswood Drive) and other properties surrounding the Site;
- Environmental constraints – features and areas of local environmental sensitivity including (ecology, noise and hydrology etc) were identified and their implications considered; and
- Landscape and visual design considerations were taken into account and the layout modified accordingly.

5.1.15 Table 5.2 provides the key design elements in response to environmental constraints and opportunities.

Table 5.2 Environmental Constraints and Opportunities

Environmental constraints or opportunity	Design Response
Potential effects on biodiversity and habitat clearance	The Proposed Development will result in the need for some vegetation clearance, both from the area of the Carbon Capture Plant and the construction and access areas. New areas of habitat creation and planting are proposed as part of the Proposed Development to mitigate any loss. The most sensitive ecological areas across the site have been avoided including areas which constitute previous ecological enhancement.
Air Quality effects	Sensitivity testing of different stack heights has been undertaken to ensure that that the stack, as proposed, is sufficiently high to achieve the required dispersion of emissions. Modelling of emissions from a number of scenarios was undertaken to inform the final design of the carbon capture plant
Climate Change	The operational works energy consumption and fuel mix has been optimised to minimise CO_2 emissions from the cement production. Waste heat from the operational cement works will be utilised in the post combustion carbon capture process to reduce natural gas consumption. Kiln gases will be utilised as a source of oxygen for combustion rather than fresh air. This will reduce the diameter of the absorber which in turn will reduce the volume of materials and energy required.
Effects on cultural heritage	An archaeology desk-based assessment has been completed to inform the detailed design and minimise effects on potential archaeological sites. Access tracks have been chosen to ensure non-designated heritage assets are avoided.
Effects on landscape and visual	Whilst air dispersion modelling largely dictated the required height of the stack, consideration was given to the height of the existing stack on site and the ground level of the Proposed Development platform to ensure that both stacks will be of a similar height so as to reduce noticeable visual effects of the new stack. Bunding will be constructed to act as a visual screen for the lower parts of the Proposed Development with native plants

	used to ensure the bunding is sympathetic to the surrounding area. Landscaping of the Site boundaries and car parking areas are provided as part of the Proposed Development.
Noise and vibration effects	Noise emitting plant has been located as far away as practicable from sensitive receptors. Noise modelling and revisions/mitigation have been completed/incorporated into the design to inform the noise reduction proposals which form part of the Proposed Development.
Effects on Watercourses	Surface water treatment devices have been incorporated into the drainage network. The Carbon Capture Plant has been designed to ensure any process discharges into water have been eliminated. The Proposed Development includes a new attenuation basin to store and discharge rainwater run-off to reduce the risk of flooding off-site.
Effects on public access	The affected footpath will be diverted and remain open during construction and operation of the Proposed Development.

5.1.16 In addition to the above considerations, planning guidance, discussions and/or consultation with statutory and non-statutory consultees and the Applicant have influenced the evolution of design.

Scale

5.1.17 The maximum height of the tallest structure proposed is the flue gas and stack structure, with a maximum height of approximately 117.9m. Given this is located at a lower ground level to the operational cement works, it results in it being a similar height to the existing stack. Photomontages of the Proposed Development from a number of agreed viewpoints in the area have been included within ES Volume 2, Chapter 9. The landscape and visual effects of the scale of the Proposed Development within the landscape setting has been considered through the comprehensive landscape and visual impact assessment (LVIA).

Appearance

5.1.18 The Proposed Development is industrial in its appearance; however, it will be set within the boundary of the operational cement works. Thus, the appearance of the buildings and structures of the Proposed Development are consistent with the existing industrialised context. The appearance of the buildings and structures is representative of their function and purpose.

5.1.19 As part of the Proposed Development, a new Control Centre for both the Carbon Capture Plant and the operational cement works is proposed. The proposed new Control Centre is of a contemporary industrial design. A first fabric approach has been taken to sustainability with high levels of insulation to minimise energy requirements and solar control shading to the large area of glazing in the first floor control tower to reduce solar gains. Solar PV panels are to be installed on the south side of the curved roof.

5.1.20 The Control Building facades comprise of a black Welsh slate plinth with grey limestone and black Welsh slate branding to the lower level and grey micro rib cladding to the upper level of the walls. The proposed curved roof is to be finished in sheet metal profiles. Windows and doors are to be black aluminium. **Figure 5.2** illustrates the south east view.

Figure 5.2 3D Visualisation- Southeast View

Access Arrangements

5.1.21 Permanent access to the Proposed Development during the operational phase would be via the existing main access to the Padeswood Cement Works off the A5118 which borders the north of the Site. A new access road is proposed which will run along the western boundary of the Site. During the construction phase, large HGV's will enter the Site from, and depart the Site from the east along the A5118, following the A550 to join the A55. This route has been chosen as it avoids height restrictions. This route is a well-established access and is currently used regularly by both Heavy Goods Vehicles and Light Goods Vehicles for access into the Padeswood Cement Works and operates within a safe manner. A small proportion of HGVs (20%) over the 14'6" height limit will travel to and from the Site from the west (via A5118, A541, A494). Site access improvements will be undertaken including minor modifications to this existing site access to facilitate access for construction equipment and vehicles.

5.1.22 A Transport Statement has been prepared and can be found in ES Volume 4, Technical Appendix 11.1 (Transport Statement). The Transport Statement concludes that the existing access to the Site is satisfactory from a highways perspective and suitable for the anticipated construction and operational traffic associated with the Proposed Development.

Car Parking

5.1.23 A total of c.436 parking spaces for staff, general contractors and visitors to the Proposed Development and operational cement works will be constructed. The new car park area is located within the north western boundary of the Site. Refer to Planning Drawing Reference: 2022-34-SMP-AL-102, Car Park General Arrangement for further details.

6 PLANNING POLICY CONTEXT

6.1 Introduction

6.1.1 This section of the PDAS reviews the key national and local planning policies which relate specifically to the Proposed Development. The aim of this section is to establish the land use implications of the Proposed Development, consider its compliance with the Development Plan, and identify other material considerations which should be taken into consideration during the determination process.

6.2 Planning Legislation

6.2.1 The primacy of the Development Plan in the application decision making process is established in both planning guidance and statute. Section 70(2) of the Town and Country Planning Act (1990)[14] requires that: *"…in dealing with an application for planning permission, the authority shall have regard to the provisions of the development plan, so far as material to the application*".

6.2.2 Section 38(6) of the Planning and Compulsory Purchase Act 2004[15] requires that applications for planning permission should be determined: *"…in accordance with the provisions of the development plan unless material planning considerations indicate otherwise*".

6.2.3 These legislative provisions are reiterated within Planning Policy Wales Edition 12 (PPW12)[16] where it is stated at Paragraph 1.22 that: "*Plans at all levels of the development plan hierarchy must be prepared in accordance with national planning policies. Planning applications must be determined in accordance with the adopted plan unless material considerations indicate otherwise".*

6.2.4 Local Development Plans (LDPs) require consideration, as part of the statutory Development Plan, alongside Future Wales the national Development Plan. The Site lies wholly within the administrative boundary of Flintshire County Council for planning purposes, and within the boundary of Buckley Town Council. The Development Plan applicable to the Proposed Development comprises:

- Future Wales: The National Plan 2040[17]; and
- Flintshire Local Development Plan (2015-2030)[18].

[14] https://www.legislation.gov.uk/ukpga/1990/8/contents

[15] https://www.legislation.gov.uk/id/ukpga/2004/5

[16] https://www.gov.wales/planning-policy-wales

[17] https://www.gov.wales/future-wales-national-plan-2040

[18] https://www.flintshire.gov.uk/en/PDFFiles/Planning/Examination-Library-Documents/LDP-Version-8.pdf

6.3 Development Plan

Future Wales: The National Plan 2040

6.3.1 Future Wales is the Welsh Government's National Development Framework and is the highest tier of the Development Plan in Wales. It sets out that proposals for large scale energy development are classed as DNS and, as set out in legislation, "*applications for developments of national significance must be determined in accordance with Future Wales, which is the National Development Plan for Wales."*

6.3.2 The specific purpose for Future Wales is to ensure the planning system at all levels is consistent with, and supports the delivery of, the strategic aims and policies of the Welsh Government. In addition, Future Wales identifies challenges and opportunities faced by Wales through the creation of places, the energy we generate, the natural resources and materials we use and how people live and travel.

6.3.3 Further, Future Wales states that it is vital that emissions are reduced, to protect well-being and to demonstrate our global responsibility. Future Wales, together with PPW12, sets the intention to ensure the planning system focuses on delivering a *"decarbonised and resilient Wales".*

6.3.4 Future Wales provides support for the Low Carbon Economy, pointing out the decline in carbon greenhouse gas emissions over the past 20 years, at the same time as Gross Value Added has risen. It emphasises the importance for economic prosperity in delivering clean growth, preparing the Welsh economy for the markets of the future and demand for low carbon goods and services.

6.3.5 Future Wales outlines a series of 11 ambitions it aims to achieve, with ambition 11 describing a "*Wales where people live in places which are decarbonised and carbon-resilient*". It goes on to say that the *"challenges of the Climate Emergency require urgent action on climate emissions"*. Though this does not directly reference CCS, it does highlight that the planning system must help Wales to promote and deliver a competitive, sustainable decarbonised society. Indeed, the first measure of the success of Future Wales is said to be whether it has "*supported decarbonisation*".

6.3.6 Overall, Policy 1 - Where Wales will grow, identifies North Wales as a Regional Growth Area which will "*grow, develop and offer a variety of public and commercial services*". Overall, the policy drives the delivery of the Future Wales outcomes and ensures Future Wales policies and the planning system in general are committed to their achievement. It highlights the key issue of decarbonisation as a common thread underpinning all Future Wales policies.

6.3.7 Future Wales identifies three policies relevant to CCS and renewable energy generations, these have been identified in Table 6.1:

Table 6.1 Future Wales Renewable Energy Policies

Policy Number	Policy Title
Policy 17	Renewable and Low Carbon Energy and Associated Infrastructure
Policy 18	Renewable and Local Carbon Energy Developments of National Significance
Policy 21	Regional Growth Area – North Wales Coastal Settlements

6.3.8 Policies 17 and 18 set out the requirements for renewable energy and associated infrastructure and are the policies against which DNS applications will be determined.

6.3.9 Policy 17 recognises the wealth of current and emerging renewable technologies that can contribute towards our energy and decarbonisation targets. Policy 17 states the Welsh Government's (WG) strong support for the principle of developing renewable and low carbon energy from all technologies and at all scales to meet future energy needs. It states that in determining planning applications for renewable and low carbon energy development, decision-makers must give significant weight to the need to meet Wales' International commitments and its *"target to generate 70% of consumed electricity by renewable means by 2030 in order to combat the climate emergency".*

6.3.10 In addition, Policy 18 states that proposals for renewable and low carbon energy projects which qualify as DNS will be permitted subject to Policy 17 and certain criteria.

6.3.11 The supporting text to Policies 17 and 18 outlines that, as set out in legislation, applications for DNS must be determined in accordance with FW. The Proposed Development seeks to ensure there are no significant unacceptable detrimental impacts to the surrounding natural environment and local communities and that the development drives positive social, environmental, cultural and economic benefits.

6.3.12 Policy 21 establishes that the North of Wales has been identified as having a role to play in the decarbonisation of society and supporting the realisation of new infrastructure projects.

Flintshire Local Development Plan (2015 – 2030)

6.3.13 The adopted Local Development Plan for Flintshire County Council is the Flintshire Local Development Plan (FLDP), covering a period 2015-2030. The aim of the FLDP is to provide a framework for making rational and consistent decisions on planning applications and guiding development to appropriate locations. The FLDP is supplemented by several Supplementary Planning Guidance Notes (SPG's).

6.3.14 The FLDP includes various strategic policies, development management and monitoring policies. The policies relate to the creation of sustainable places, building a prosperous economy, respecting the environment and meeting housing needs.

6.3.15 The relevant local policies within the FLDP are detailed in Table 6.2 and have been considered in the design of the Proposed Development. The full text of the wording of the Local Plan policies can be found at Appendix 2 of this report.

Table 6:2 Flintshire Local Development Plan Policies

Policy No	Policy Title	Summary
Policy STR1	*Strategic Growth*	This Policy sets the Plan's intention to meet Flintshire's economic ambitions by making provision for: • 8,000 – 10,000 new jobs; • 124.97 hectares of employment land;

Policy No	Policy Title	Summary
		• 7,870 new homes to meet a housing requirement of 6,950 of which 2,265 will be affordable.
Policy STR4	*Principles of Sustainable Development, Design and Placemaking*	This Policy requires development to meet high design standards, using sustainable placemaking design principles and achieving local distinctiveness. It states that all development should be adaptable, safe and accessible, make the best use of land, materials and resources. It should also incorporate, where possible, on-site energy efficiency and renewable energy generation, manage water and waste sustainability and incorporate new, and connect to existing green infrastructure, promoting biodiversity.
Policy STR5	*Transport and Accessibility*	This Policy requires that new development is located in places with access to integrated transport infrastructure, and ensure that the local highway network has, or can be upgraded to provide capacity to accommodate sustainable levels of development.
Policy STR7	*Economic Development, Enterprise and Employment*	This Policy states that the Plan will support Flintshire as a sub-regional economic hub by providing a range of general employment sites to enable a range of businesses to innovate, expand and grow to provide the opportunity to realise the creation of 8,000-10,000 jobs in key sectors.
Policy ST13	*Natural Environment, Green Networks and Infrastructure*	This Policy states that development should identify, respect, protect, enhance and connect Flintshire's environmental assets. Development should promote opportunities to enhance biodiversity and ensure resilience as well as conserving, protecting and enhancing the local distinctiveness and quality of Flintshire's built and historic environment.
Policy STR14	*Climate Change and Environmental Protection*	This Policy states the Council's objective to mitigate the effects of climate change and ensure appropriate environmental protection by: • Ensuring new development is sustainably located and reduces the need for travel by private car, encourages the use and development of appropriate brownfield land; • Adopting a sustainable approach to water resource management; • Directing development away from flood risk areas and ensuring that new development does not increase the risk of flooding elsewhere;

Policy No	Policy Title	Summary
		• Encouraging energy efficient development, environmentally acceptable renewable and zero/low carbon energy generation; and • Ensuring new development has regard to the protection of the environment in terms of air, noise and light pollution, unstable and contaminated land and former landfill sites.
Policy PC2	*General Requirements for Development*	This Policy reflects other policy requirements in relation to design response to local context, not having significant adverse impact on the local community through increased activity, disturbance, noise, dust, vibration, hazard, or the adverse effects of pollution; maximising sustainable travel, avoiding unacceptable impact on the highway network; and not result in or be susceptible to problems related to foul and surface water drainage, land stability, contamination, flooding, or pollution of light, air and water, either on or off site.
Policy PC3	*Design*	This Policy asks that all new development is of a high quality design which responds to the Site context in terms of its siting, layout, scale, height, design, density, use of materials and landscaping, and creates a sense of place; provide opportunities to enhance biodiversity and ecological connectivity: ensure that new materials are appropriate, durable and sympathetic to the character and context of the Site; protect and enhance the townscape, architectural, historic and cultural built environment; and, incorporates Sustainable Urban Drainage Schemes (SuDS) to bring about multiple benefits as an integral part of the development.
Policy PC5	*Transport and Accessibility*	This Policy states that development should encourage sustainable modes of travel and be supported by adequate transport infrastructure. Development should also provide appropriate levels of parking, servicing and maneuvering space, with a minimum 10% electric vehicle charging points for commercial developments.
Policy PC8	*Airport Safeguarding Zone*	This Policy prohibits development which would prejudice the safe and efficient operation of Hawarden Airport.
Policy PE5	*Expansion of Existing Employment Uses*	This Policy states that development outside of Principal Employment Areas or allocated sites will only be permitted where it is on land within or abutting the boundary of existing premises; and the scale of development is in keeping with existing operation and its surroundings; and, the new Site

Policy No	Policy Title	Summary
		boundary is logical and incorporates suitable boundary treatment and sensitive landscaping measures.
Policy D1	*Design Quality, Location and Layout*	This Policy repeats the guidance of Policy PC3 that development must incorporate good design standards which are sympathetic to their context and maximise the efficient use of resources.
Policy EN2	*Green Infrastructure*	This Policy states that development must protect, maintain and enhance existing green infrastructure. Where loss or damage is unavoidable, mitigation and compensation will be required.
Policy EN4	*Landscape Character*	This Policy asks that new development must not have a significant adverse impact on character and appearance of the landscape. Landscaping and other mitigation measures should seek to reduce this impact.
Policy EN6	*Sites of Biodiversity Importance*	This Policy states that development will not be permitted that would result in an adverse effect on the integrity of sites of international nature conservation importance and that development affecting nationally designated sites will only be granted in exceptional circumstances where appropriate compensation can be provided. For developments affecting locally designated sites, the Policy sets out a requirement for replacement, mitigation, enhancement and ensuring benefits of the scheme outweigh any harm.
Policy EN7	*Development Affecting Trees, Woodland and Hedgerows*	This Policy requires development to avoid significant loss of, or harm to, trees, woodlands or hedgerows of biodiversity, historic, and amenity value. Where any impact is considered acceptable, mitigation and enhancement will be required.
Policy EN12	*New Development and Renewable and Low Carbon Energy Technology*	This Policy asks that new development maximises the potential for renewable or low carbon energy to meet the needs of the proposal.
Policy EN13	*Renewable and Low Carbon Energy Deployment*	This Policy provides a criteria within which renewable and low carbon energy proposals will be permitted.
Policy EN14	*Flood Risk*	The Policy states that development will not be permitted where it will lead to an increase in the risk of flooding on the

Policy No	Policy Title	Summary
		Site or elsewhere. It also ensures existing and proposed flood risk management are not impacted upon.
Policy EN15	*Water Resources*	This Policy requires development to not have a significant adverse impact on the capacity and flow of groundwater, surface water, or coastal water systems.
Policy EN18	*Pollution and Nuisance*	This Policy requires developments with an increased risk of noise, vibration, odour, dust, light or other pollution or hazard to not unacceptably harm amenity or living conditions; and to not restrict the use or development of surrounding land
Policy EN19	*Managing Waste Sustainably*	This Policy asks that new development should demonstrate how the production of waste will be minimised during all stages of the development and how wastes which do arise would be managed in a sustainable way, in accordance with the waste hierarchy. New development should also demonstrate, where relevant, that adequate facilities and space for collection, composting and recycling of waste materials has been made.
Policy EN23	*Minerals Safeguarding*	This Policy states that essential infrastructure that supports the supply of minerals, including Padeswood Cement Works, should not be compromised or would need to be provided elsewhere.

Flintshire County Council Supplementary Planning Guidance Notes

6.3.16 Flintshire County Council has prepared several Supplementary Planning Guidance Notes[19] (SPGN's) which provide detailed guidance on a range of development issues and topics identified within the FLDP, summarised in Table 6.3.

Table 6:3 Supplementary Planning Guidance Notes

Supplementary Planning Guidance Notes (SPGN) No	Supplementary Planning Guidance Notes (SPGN) Title	Summary
SPGN No 3	Landscaping	This SPGN builds on Policy D3 Landscaping of FLDP. As part of the Landscape process, Paragraph 3.2 of the SPGN outlines nine key design objectives that proposals are expected to have achieved. Further, paragraph 4.2 highlights that for large scale developments a Strategic Landscape Assessment is required, which includes site specific character assessments. The SPGN includes

[19] https://www.flintshire.gov.uk/en/Resident/Planning/Supplementary-planning-guidance.aspx

		guidance on Commercial and Industrial developments, and states that external layout together with boundary treatment is an essential part of the design process. Further detail is given within the SPGN on submitting a landscape proposal plan.
SPGN No 4	Trees and Development	The aim of SPGN 4 is to "*promote the retention of trees, highlight their importance in the environment and to set out the approach that the Council will take when dealing with proposals that affect trees on development sites*". It is stated that a Tree Constraints Plan (TCP) should be used based on the surveys undertaken. Key aspects of the SPGN that pertain to this Proposed Development include Root Protection areas, Protection of trees from development, Tree Protection Plans and Proximity of trees to the development.
SPGN No 8	Nature Conservation and Development	SPGN 8 outlines that from the initial stages of a development, the establishment of any and all nature interests on site, and the protection of all nature interests must be considered whether unprotected or protected by legislation. Section 5(i) and 5(ii) relate to nature appraisal and the ideal process to follow. As part of the design process, avoidance, mitigation, compensation enhancement and management are key aspects of the process.
SPGN No 8a	Great Crested newt Mitigation Requirements	SPGN 8a outlines planning policy, guidance and legislation in relation the Great Crested Newts (GCN). It highlights the need for mitigation or compensation to offset any loss of GCN habitat.
SPGN No 21	Environmental Impact Assessments	SPGN 21 details the EIA schedules and their respective processes, what to include, and details on providing notice.
SPGN No: 28	Archaeology	SPGN 28 discusses the importance of archaeological remains, and how best to record and protect them. Specific information is provided on management of resources, planning guidance and development plan policies. The submission of assessments and evaluations of archaeological potential and written schemes of investigation alongside a planning application are discussed. Further detail pertaining to the discovery to archaeological remains during the construction phase is included.

6.4 Material Considerations

Planning Policy Wales

6.4.1 PPW12[20] was published by the Welsh Government in February 2024. PPW12 sets out the land use planning policies for the Welsh Government and is supported by a series of Technical Advice Notes (TANs), Circulars and policy clarification letters which together form the national planning policy for Wales.

6.4.2 The primary objective of PPW12 is to help ensure that the planning system contributes towards the delivery of sustainable development and improves the social, economic, environmental and cultural well-being of Wales, as required by the Planning (Wales) Act 2015[21], the Well-being of Future Generations (Wales) Act 2015[22] and other key legislation.

6.4.3 Chapter 3 of PPW12 covers Strategic and Spatial Choices, and contains information on: Good Design Making Better Places; Sustainable Management of Natural Resources; and Previously Developed Land and Supporting Infrastructure. All of which are relevant to the Proposed Development.

6.4.4 Paragraph 3.55 states:

> *"Previously developed (also referred to as brownfield) land (see definition overleaf) should, wherever possible, be used in preference to greenfield sites where it is suitable for development … Planning authorities should work with landowners to ensure that suitably located previously developed sites are brought forward for development and to secure a coherent approach to their development".*

6.4.5 Chapter 5 of PPW12 discusses Productive and Enterprising Places, covering themes of economic development, energy, and the efficient use of recourses. The document does not directly reference CCS, but does state at paragraph 5.7.2 "*Collectively we will need to concentrate on reducing emissions from fossil fuel sources, whilst driving further renewable generation which delivers value to Wales."*

6.4.6 At page 76 it states:

"Development proposals should look to the long term to consider how they can be flexible to adapt to future employment needs and practices, including responding to relevant future trends, the decarbonisation of our energy system, how people will move around or communicate in the future and safeguard the resources which may be needed by future generations."

6.4.7 It then states that development should prevent problems, such as the generation of carbon emissions, from occurring or getting worse.

[20] https://www.gov.wales/planning-policy-wales

[21] https://www.legislation.gov.uk/anaw/2015/4/contents/enacted

[22] https://www.futuregenerations.wales/about-us/future-generations-act/

6.4.8 Chapter 6 then outlines that "*A Globally Responsive Wales will be promoted by reducing carbon emissions, addressing airborne pollution and managing environmental risks"* and that *"Problems should be prevented from occurring or getting worse. Biodiversity loss should be reversed, pollution reduced, environmental risks addressed, and the overall resilience of ecosystems improved.*" It goes on to state that multiple benefits such as green infrastructure should be secured.

Technical Advice Notes

6.4.9 PPW12 is supplemented by several Technical Advice Notes[23] (TANs). Those which are considered relevant to the Proposed Development are detailed in Table 6.4.

Table 6.4: List of Technical Advice Notes

TAN Reference Number	TAN Title	Summary
TAN 5	Nature Conservation and Planning	TAN 5: Nature Conservation and Planning (2009) provides advice about how the land use planning system should contribute to protecting and enhancing biodiversity and geological conservation. It seeks to demonstrate how local planning authorities, developers and key stakeholders in conservation can work together to deliver more sustainable development that does not result in losses to natural heritage but instead takes opportunities to enhance it.
TAN 11	Noise	TAN 11: Noise (1997) provides advice on how the planning system can be used to minimise noise impact without placing unreasonable restrictions on development. It outlines some of the main considerations which local planning authorities should consider when drawing up development plan policies and when determining planning applications for development which will either generate noise or be exposed to existing noise sources.
TAN 12	Design	TAN 12: Design (2016) provides advice on design considerations and asks for a holistic approach to design, moving away from reliance on prescriptive standards, and encouraging innovation and creativity. Design responses should respond to local context, through the lifetime of the development (from procurement to construction through to completion and eventual use).
TAN 15	Development and Flood Risk	TAN 15: Development and Flood Risk (2004) provides technical guidance which supplements the

[23] https://www.gov.wales/technical-advice-notes

TAN Reference Number	TAN Title	Summary
		policy set out in PPW in relation to development and flooding. At present, a revised TAN is being prepared in response to the effects of climate change. The current TAN 15 applies National Resource Wales' Development Advice Map, to trigger the need for a detailed Flood Consequence Assessment. Whereas the new TAN 15 will utilise the Flood Map for Planning. TAN 15 categorises development based on vulnerability and directs development to certain zoned land based on flood risk.
TAN 18	Transport	TAN 18: Transport (2007) confirms that the integration of land use planning and development of transport infrastructure has a key role to play in addressing the environmental aspects of sustainable development. Paragraph 2.4 indicates that by influencing the location, scale, density and mix of land uses and new development, land use planning can help to reduce the need to travel and length of journeys, whilst making it easier for people to walk, cycle or use public transport.
TAN 23	Economic Development	TAN 23: Economic Development (2014) gives a broad definition of economic development as to include any form of development that would generate income, wealth and jobs. The TAN highlights that economic objectives work in conjunction with social and environmental objectives. Paragraph 1.2.1 states: *"The economic benefits associated with development may be geographically spread out far beyond the area where the development is located. As a consequence it is essential that the planning system recognises, and gives due weight to, the economic benefits associated with new development".*
TAN 24	The Historic Environment	TAN 24: The Historic Environment (2017) provides guidance on how the planning system considers the historic environment (including Conservation Areas and Listed Buildings) during the planning process. Six principles of conservation are set out, which should be used to assess the potential impacts of Proposed Developments on the historic environment. An emphasis is placed on the relationship between the historic environment and climate change.

International Commitments

The Paris Agreement (2016)

6.4.10 The Paris Agreement[24] is an agreement within the United Nations Framework Convention on climate change that seeks to address greenhouse gas emissions mitigation, adaptation and finance. The legally binding international treaty on climate change was adopted by 196 Parties and entered into force on 4 November 2016. Its goal is to substantially reduce global greenhouse gas (GHG) emissions to limit the global temperature increase to 2C, compared to pre-industrial levels, while pursuing efforts to limit the increase even further to 1.5C.

6.4.11 Moving to a low carbon economy is a globally shared goal and will require absolute emission reduction targets. The UK Government's commitment under the Paris Agreement links through to the Committee on Climate Changes' advice to both the UK and Welsh Governments on 'net zero' targets which have now, at both the UK and Welsh Government levels, been translated into new legislative provisions and targets leading to Net Zero by 2050.

6.4.12 The Paris Agreement does not itself represent Government policy in the UK or Wales. However, the purpose of domestic and renewable energy and GHG reduction targets is to meet the UK's commitment in the Paris Agreement.

The UK's Nationally Determined Contribution (NDC) (2022)

6.4.13 In December 2020, the United Kingdom communicated its Nationally Determined Contribution (NDC)[25] to the United Nations Framework Convention on Climate Change in line with Article 4 of the Paris Agreement.

6.4.14 At COP26 in 2021, Parties agreed to revisit and strengthen the 2030 targets in their NDCs as necessary to align with the Paris Agreement temperature goal by the end of 2022.

UK Energy Policy

Energy White Paper – Powering Our Net Zero Future (December 2020)

6.4.15 The Energy White Paper[26] set out the policies and commitments by the Government to put the UK on course to achieve Net-Zero. The White Paper includes support for the development of CCS in four industrial clusters by 2030, two of these by the mid-2020's. This includes an ambition to see 10 $MtCO_2$ captured per year by 2030. The White Paper states that Government will also work with industry to develop 5GW of low carbon hydrogen production capacity by 2030.

6.4.16 The Proposed Development will support the delivery of the key Government policies and commitments on Carbon Capture, Utilisation and Storage (CCUS) and hydrogen set out in the Energy White Paper. It will facilitate the expansion of CCUS at a commercial scale in Wales,

[24] https://unfccc.int/sites/default/files/resource/parisagreement_publication.pdf

[25] https://www.gov.uk/government/publications/the-uks-nationally-determined-contribution-communication-to-the-unfccc

[26] https://assets.publishing.service.gov.uk/media/5fdc61e2d3bf7f3a3bdc8cbf/201216_BEIS_EWP_Command_Paper_Accessible.pdf

helping to foster economic growth and accelerate the ability of the region to meet the Government's Net Zero target.

UK Government's Industrial Decarbonisation Strategy (March 2021)

6.4.17 In March 2021, the government published the Industrial Decarbonisation Strategy (HM Government, 2021)[27] which considers how the full range of the UK's industrial sectors can reflect the net zero target. The indicative roadmap to net zero UK industry includes carbon capture clusters in the next decade.

6.4.18 The Strategy aims to show how the UK can have an industrial sector that is successful but also aligned to Net-Zero preventing the pushing of emissions and business abroad (HM Government, 2021).

Net Zero Strategy: Build Back Greener (2021)

6.4.19 The UK government sets out in its 'Net Zero Strategy: Build Back Greener' (2021)[28] that it aims to be a leader in the 'Green Industrial Revolution', recognising that acting early will drive down costs of the latest clean technology, enabling consumers to reap benefits sooner. One of the key commitments of the Strategy is to *"set the ambition of deploying at least 5 $MtCO_2$/year of engineered removals by 2030, in line with CCC and National Infrastructure Commission assessments".*

6.4.20 The Strategy states that "*growing new industries in low carbon hydrogen alongside CCUS and renewable energy will put our industrial 'SuperPlaces' at the forefront of technological development – accelerating decarbonisation in 'clusters', which account for approximately half of the UK's industrial emissions*". Hynet and North Wales are included in one of the four 'clusters'. The Strategy continues, to state "*following the Phase 1 of the Cluster Sequencing process, the Hynet and East Coast Clusters, will act as economic hubs for green jobs in line with our ambition to capture 20-30 MtCO2 per year by 2030. This puts Teesside and the Humber, Merseyside and North Wales, along with the North East of Scotland as a reserve cluster, among the potential early SuperPlaces which will be transformed over the next decade*".

White Paper – Levelling up the United Kingdom (February 2022)

6.4.21 The White Paper[29] repeats the announcement made in the Net Zero Strategy that the North West/North Wales region is one of the first two industrial clusters where funding to support new investment in CCS will be given and describes the clusters as "*the starting point for a new carbon capture industry*" (Department of Levelling Up, Housing and Communities, 20220, p169).

[27] https://assets.publishing.service.gov.uk/media/6051cd04e90e07527f645f1e/Industrial_Decarbonisation_Strategy_March_2021.pdf

[28] https://assets.publishing.service.gov.uk/media/6194dfa4d3bf7f0555071b1b/net-zero-strategy-beis.pdf

[29] https://www.gov.uk/government/publications/levelling-up-the-united-kingdom

Wales: Climate Change & Energy Legislation & Policy

A Carbon Capture, Utilisation, and Storage network for Wales (March 2021)

6.4.22 In October 2021, the Welsh Government released a report evaluating the role of CCUS in achieving its net zero target. [30]The report outlined different decarbonisation pathways considering varying levels of CCUS uptake, technology needs, CO_2 transport and storage options and costs.

6.4.23 The report suggested industries should first improve energy and resource efficiencies to reduce energy demands, waste and CO_2 emissions. Beyond these initial measures, the report outlines the simplified sector-specific options for industrial decarbonisation in Wales. These include CCUS, fuel switching (to hydrogen) and electrification.

6.4.24 The report recognises CCUS as *"a feasible technical option to support Wales in achieving its statutory emissions reduction targets".*

Climate Change and Energy Targets & Policy: Wales

6.4.25 The Climate Change Committee (CCC) published the 'Progress Report: Reducing Emissions in Wales'[31] in June 2023. The Executive Summary states (page 11):

"With an ambitious target to reach Net Zero greenhouse gas emissions by 2050, action on decarbonisation in Wales must now accelerate. Wales's journey to Net Zero is mapped out by a series of legislated five yearly carbon budgets and decadal interim targets. While the first carbon budget (2016-2020) has been achieved, Wales is not yet in track to meet its targets for the second half of this decade and beyond"

6.4.26 The report also states that the third carbon budget (2026-2030) in terms of its midpoint is only five years away and by then, Wales should have reduced emissions by 39% compared to pre-pandemic (2019) levels. It states that policy action in all sectors across the economy is needed.

6.4.27 Chapter 2 of the report states that Wales must now accelerate action to ensure it is on track to meet its future carbon budgets and Net Zero target.

Net Zero Wales Carbon Budget 2 (2021-25)

6.4.28 The Net Zero Wales Carbon Budget 2[32] released by Welsh Government focuses on how Wales will meet its second carbon budget which spans the years 2021-2025. However, the document also looks beyond this time period and builds the foundations for the third carbon budget and looks towards the target of Net-Zero by 2050.

[30] https://www.gov.wales/sites/default/files/publications/2021-10/a-carbon-capture-utilisation-and-storage-network-for-wales-report.pdf

[31] https://www.theccc.org.uk/wp-content/uploads/2023/06/Progress-Report-Reducing-emissions-in-Wales.pdf

[32] https://www.gov.wales/sites/default/files/publications/2021-10/net-zero-wales-summary-document.pdf

6.4.29 The Plan represents a new phase in its decarbonisation journey with a new net zero target. The plan sets out 123 policies and proposals alongside commitments and action from every corner of Wales.

6.4.30 Policy 3 – The Clean Air Plan, Decarbonisation and Natural Resources Policy states it will "*recognise and proactively manage the interdependency between decarbonisation and managing climate risk*".

Well-being of Future Generations (Wales) Act 2015

6.4.31 The Well-being of Future Generations (Wales) Act (2015)[33] is a statutory instrument which requires public bodies to pursue the economic, social, environment and cultural well-being of Wales in a way which accords with sustainable development principles.

6.4.32 Sustainable development is defined under the act as "*the process of improving the economic, social, environmental and cultural well-being of Wales by taking action, in accordance with the sustainable development principle aimed at achieving the well-being goals*". Achieving sustainable development means that public bodies must act in a manner which seeks to ensure that the needs of the present are met without compromising the ability of future generations to meet their own needs.

6.4.33 There are seven well-being goals defined within the Act, the most applicable to the Proposed Development being "*A Prosperous Wales – An innovative productive and low carbon society which recognises the limits of the global environment and therefore uses resources efficiently and proportionately (including acting on climate change); and which develops a skilled and well educated population in an economy which generates wealth and provides employment opportunities, allowing people to take advantage of the wealth generated through securing decent work"* and *"A Globally Responsible Wales - A nation which, when doing anything to improve the economic, social, environmental and cultural well-being of Wales, take account of whether doing such a thing may make a positive contribution to global well-being"*

Conclusion

6.4.34 It is clear that UK and Welsh policies recognise the importance of decarbonisation to mitigate the effects of climate change and in achieving net zero targets.

6.4.35 The objective of the Proposed Development is to produce the UK's first net zero cement for use in the UK construction industry, by capturing 95% of CO_2 emissions (up to 800,000t per year) from the operational cement works, ensuring that all captured CO_2 meets the specification set by HyNet North West.

6.4.36 In October 2021 HyNet North West along with the East Coast were selected as Track-1 clusters. Following the selection of HyNet North West as a Track 1- cluster, nearby industries have the opportunity , and are being encouraged, to supply CO_2 to HyNet North West in order to meet the ambitious target. The Proposed Development will contribute to the Government's objectives to reduce carbon emissions by 2050, and the interim targets that apply in each carbon budget period before then.

[33] https://www.futuregenerations.wales/about-us/future-generations-act/

7 PLANNING ASSESSMENT OF THE PROPOSED DEVELOPMENT

7.1 Planning Policy Assessment

7.1.1 This section of the PDAS provides an appraisal of how the Proposed Development accords with the relevant local and national planning policies, as set out in section 6 of this report, together with other material planning considerations.

7.1.2 The Proposed Development has been designed and developed in accordance with the policies set out in the Development Plan which includes the Flintshire Local Development Plan (FLDP) 2015-2030[34] and Future Wales: The National Plan 2040[35].

7.1.3 The assessment of the planning performance of the Proposed Development is focussed on the following key matters included in the planning application including the ES:

- The Principle of Development (including climate change considerations);
- Biodiversity;
- Air Quality;
- Landscape and Visual Effects;
- Archaeology and Cultural Heritage;
- Traffic and Transport;
- Noise and Vibration;
- Flood Risk and Surface Water Drainage;
- Land and Soils;
- Major Accidents and Disasters;
- Material Assets and Waste; and,
- Other Policy Considerations.

7.1.4 Each of the matters identified above has been subject to its own separate effects assessment either in the ES or a standalone report submitted with the planning application. This section assesses the conclusions of those effects assessments against the relevant national and local

[34] https://www.flintshire.gov.uk/en/PDFFiles/Planning/Examination-Library-Documents/LDP-Version-8.pdf

[35] https://www.gov.wales/future-wales-national-plan-2040

planning policy and any material considerations. The consideration of the overall planning balance is provided in Section 8.

7.2 The Principle of Development

7.2.1 The need for an effective and progressive response to the urgent threat of climate change is now well established and recognised by the UK and Welsh Governments, as highlighted in the policy documents set out in Section 6.

7.2.2 The Welsh Government has a statutory target to reduce emissions by at least 100% (net zero) in 2050 compared to 1990. There are also interim targets set in law for 2030 (63%) and 2040 (89%), as well as interim carbon budgets. As highlighted in Section 6, progress reports have identified that Wales is not yet on track to meet the current carbon budget and that action must be accelerated to get it back on track for future carbon budgets and the Net Zero target.

7.2.3 In 2021, the Welsh Government recognised that CCS is a feasible technical option to support Wales in achieving its statutory emissions reduction targets, that the technology required is available and that North Wales should utilise the opportunity to access the wider Hynet project being developed in England[36].

7.2.4 Welsh national planning policy, Future Wales, does not specifically discuss CCS as it predates the latest publication from Welsh Government in relation to CCS, however it does still acknowledge the need to decarbonise; one of the 11 Future Wales Outcomes refers to "*a Wales where people live in places which are decarbonised and climate resilient*". Further, it states that one key question during the First Review in determining whether Future Wales has been a success, will be to consider if it has supported decarbonisation. The supporting text to Policy 1 states "*rural areas play a crucial role in helping decarbonise Wales by providing suitable environments for different forms of renewable energy*".

7.2.5 Future Wales Policy 17 sets out robust support for the principle of developing renewable and low-carbon energy from all technologies and at all scales to meet our future energy needs. It states that *"in determining planning applications for renewable and low-carbon energy development, decision-makers must give significant weight to the need to meet Wales' international commitments…"* Future Wales Policy 18 states that low carbon energy projects will be permitted subject to meeting a specific set of criteria, which are considered in more detail in the following subsections. Future Wales Policy 21 sets out that North Wales has been identified as having a role to play in decarbonisation.

7.2.6 There is also no specific policy in the Local Development Plan relevant to CCS, as the majority of the FLDP was drafted prior to the Welsh Government's publication on CCS, however, FLDP Policy STR4 (Principles of Sustainable Development, Design and Placemaking) refers to all development mitigating and adapting to climate change and FLDP Policy STR14 (Climate Change and Environmental Protection) refers to encouraging energy efficient development and low carbon energy generation.

7.2.7 The Proposed Development will capture up to 95% of CO_2 produced by the cement works. This represents an 8% reduction in annual UK emissions from the manufacture of cement (based on

[36] https://www.gov.wales/sites/default/files/publications/2021-10/a-carbon-capture-utilisation-and-storage-network-for-wales-report.pdf

2020 annual emissions data). Thus, it would make a significant contribution to the national and local effort to achieve the climate change emergency targets. The Proposed Development accords with the principle aims of Welsh national planning policy in that it will contribute to reducing carbon emissions by 2050. The Proposed Development also accords with FLDP policies, as the CHP elements would significantly de-carbonise the energy production currently used to fuel the operational cement works.

7.2.8 FLDP Policies STR1 (Strategic Growth) and STR7 (Economic Development, Enterprise and Employment) both refer to the provision of 8,000 – 10,000 jobs over the plan period, with STR7 supporting Flintshire's businesses to grow. FLDP Policy PE5 (Expansion of Existing Employment Uses) states that outside of principal employment areas "*expansion of employment uses will only be permitted where: it is located on land within or abutting the boundary of existing premises; and the resultant scale of development is in keeping with the existing operation, site and its surroundings; and any new Site boundary is logical, utilising existing features wherever possible or incorporating suitable boundary treatment, supplemented by sensitive landscape measures*".

7.2.9 The Proposed Development is expected to generate employment for an additional 54 workers and therefore contribute towards the employment provision in line with FLDP Policies STR1 And STR7. TAN 23 (Economic Development) also stresses that economic benefits should be given weight even when the associated benefits may be geographically spread out. The Proposed Development has been sited sympathetically within the existing Padeswood Cement Works, is similar in scale to the operational cement works and is situated within the existing Site boundary. Landscaping has been incorporated to minimise landscape and visual impacts over time.

7.2.10 It is concluded that there is substantial policy support for the Proposed Development embedded in Future Wales and FLDP. The Proposed Development will have the capacity to capture up to 800,000t of CO_2 emissions annually. Subject to the grant of planning permission, the Proposed Development could be operational by 2029 and will facilitate the timely development of a CCS plant in the North of Wales region, making a significant contribution towards the Welsh Governments carbon reduction targets and a step forward to the achievement of its statutory target of reaching Net Zero by 2050. The Proposed Development will also provide a wide range of economic benefits in the local area, including job creation (estimated to be a maximum of 350 additional jobs during construction and an additional 54 direct jobs during operation). These matters are significant material considerations which also weighs heavily in favour of the Proposed Development.

7.3 Biodiversity

7.3.1 Future Wales Policy 9 (Resilient Ecological Networks and Green Infrastructure) requires development proposals to include green infrastructure assets.

7.3.2 FLDP Policy STR13 (Natural Environment, Green Networks and Infrastructure) requires development to identify, respect, protect, enhance and connect Flintshire's environmental assets. It states that development should: promote opportunities to enhance biodiversity and ensure resilience; and, maintain enhance and contribute to green infrastructure. FLDP Policy EN6 (Sites of Biodiversity Importance) refers to designated sites and provides a hierarchical approach to impact based on significance of the designation. FLDP (Policy EN7 Development Affecting Trees, Woodland and Hedgerows) states that a significant loss of, or harm to, trees, woodlands or hedgerows will not be permitted.

7.3.3 This local policy is further supported by PPW12 Section 6.4 'Biodiversity and Ecological Networks', current legislation and the Conservation and Enhancement of Biodiversity SPG, which stress the importance of the planning system in meeting biodiversity objectives through promoting approaches to development which create new opportunities to enhance biodiversity, prevent biodiversity losses, or compensate for losses where damage is unavoidable.

7.3.4 As set out within Section 5, Design and Access, the most sensitive part of the Site in relation to biodiversity, to the east of the site, has been purposefully avoided. The Proposed Development would be located as close as possible to the operational cement works to minimise the spread of development across the Site, and would instead be constructed over the greenfield area to the southwest which is predominantly in pasture and has been previously disturbed as part of engineering works to establish a cement kiln dust landfill cell, which was subsequently not used. Ancillary development, such has the car park, access road and temporary construction areas have been located within the Padeswood Hall and Padeswood Hall Farm area, which would be demolished as part of the Proposed Development and therefore is located on brownfield land. These locations will result in the least tree and habitat removal across the site.

7.3.5 ES Volume 2, Chapter 5 provides an assessment of the likely effects arising from the Proposed Development upon ecology and biodiversity during the construction and operation phases of the development. The on-site biodiversity conclusions are summarised as follows:

- Whilst the Proposed Development will result in a direct loss of broadleaf and mixed woodland planting, a new area of woodland is proposed to compensate for this loss. Thus, in the long term a negligible impact is concluded;
- The Proposed Development would result in a loss of scrub habitat, however, the new woodland planting would mitigate this effect and, in the long term, a negligible impact is concluded;
- There will be a loss of scattered broadleaved trees, but additional landscape planting around the site will provide sufficient mitigation to result in negligible long term impacts;
- There will be a loss of semi-improved grassland, however this would be mitigated through the creation of enhancements to existing grassland to create semi-improved grassland in the northeast corner of the site. Thus, impacts are concluded to be negligible;
- There would be a loss of tall ruderal vegetation, however it is anticipated that this would recolonise within the replacement semi-improved grassland and therefore impacts are concluded to be negligible;
- No streams or ditches are to be lost as a result of the Proposed Development and therefore, subject to best practice construction measures, impacts are concluded to be negligible; and
- GCN, Bats and Badgers are the protected species found to be potentially impacted upon by the Proposed Development. With proposed mitigation, including new ponds, grassland, bat boxes, sensitive lighting, and potential artificial set creation (if a main badger set requires removal) the long-term impacts are concluded to be negligible.

7.3.6 The Air Quality Assessment (AQA) undertaken as part of the ES Volume 4, Technical Appendix 6.1 (Air Quality Assessment) has concluded that the ammonia emissions and nitrogen and acid deposition from the flue/stack have the potential to exceed the threshold of insignificance at

some designated ecological sites (further details on Air Quality specific policies are referred to in the subsection below). Further ecological assessment, through a Habitat Regulations Screening Assessment, has concluded that the qualifying features of these ecological designated sites will not be affected by the exceedance. It is also important to note that this modelling is inclusive of the emissions from the operational cement works that will in future be emitted via the CCS plant rather than via the existing kiln stack. The assessment therefore includes duplication of some emissions that already occur and, as a result, is likely to overstate the impact of the CCS plant. However, in any event, continuous monitoring during the operational phase will be undertaken as part of the Environmental operating permit and if necessary further mitigation actions would be undertaken to minimise effects where possible.

7.3.7 The Proposed Development is therefore considered to align with FLDP Policy EN6 which states *"any unavoidable harm is minimised by effective mitigation to ensure that there is no reduction in the overall biodiversity value of the area. Where this is not feasible compensation measures designed to create, restore and enhance biodiversity must be provided".* and *"development that results in the restoration enhancement and creation of habitats will be supported especially where this promotes the resilience of ecosystems".*

7.3.8 Overall, whilst there will be temporary loss of habitat, a net benefit to biodiversity will be achieved through the creation of broadleaved woodland, rough neutral grassland, semi-improved grassland, enhanced hedgerows, three GCN ponds and hibernacula refugia. These environmental enhancements were discussed during consultation with Flintshire County Council and Natural Resources Wales as it was concluded that the overall habitat areas lost are to be compensated on a 'like for like' area basis.

7.3.9 The proposed mitigation planting strategy aims to address the balance of habitat and green infrastructure provision across the Site.

7.3.10 Paragraph 6.2.4 of the PPW12 states "*Green infrastructure plays a fundamental role in shaping places and our sense of well-being, and is intrinsic to the quality of the spaces we live, work and play in. The planning system must maximise its contribution to the protection and provision of green infrastructure assets and networks as part of meeting society's wider social and economic objectives and the needs of local communities".* Paragraph 6.2.12 states *"A green infrastructure statement should be submitted with all planning applications. This will be proportionate to the scale and nature of the development proposed and will describe how green infrastructure has been incorporated into the proposal*"

7.3.11 A Green Infrastructure Statement has been prepared and accompanies this planning application. This aligns with FLDP Policy EN2 (Green Infrastructure) which states *"that development must protect, maintain and enhance the existing green infrastructure. Where loss or damage is unavoidable, mitigation and compensation will be required".*

7.3.12 The Proposed Development is therefore also considered to be in accordance with FLDP Policies STR13, EN7, EN6, EN2 and Future Wales Policy 9 as well as the advice/requirements set out within material considerations PPW12 Section 6.4 and the Conservation and Enhancement of Biodiversity SPG.

7.4 Air Quality

7.4.1 FLDP Policy STR14 (Climate Change and Environmental Protection) states that *"The Council will seek to mitigate the effects of climate change and ensure appropriate environmental protection in the County though ensuring that new development has regard to the protection of*

the environment in terms of air, noise and light pollution". FLDP Policy PC2 (General Requirements for Development) states that "*all development should not have a significant adverse impact on the safety and living conditions of nearby residents, other users of nearby land/property, or the community in general, through increased activity, disturbance, noise, dust, vibration, hazard, or the adverse effects of pollution*". There are no policies explicit to air quality within FW, instead reference is made to PPW12 paragraph 6.7.5 on PPW12 which states "*In proposing new development, planning authorities and developers must, - not create areas of poor air quality ….".*

7.4.2 ES Volume 2, Chapter 6 provides an assessment of effects and an AQA of potential local air quality effects associated with the construction and operational phase of the Proposed Development can be found at ES Volume 4, Technical Appendix 6.1 (Air Quality Assessment).

7.4.3 ES Volume 2, Chapter 6 refers to operational effects associated with the flue/stack and the Air Quality Standards (AQS) objectives as set out in the Environment Act (1995) for various particulates. The results of the AQA indicate that with the Proposed Development annual mean concentrations for all considered particulates for human receptors would be below the AQS objectives and at a 'not significant' level. The assessment has highlighted that the ammonia emissions and nitrogen and acid deposition have the potential to exceed the threshold of insignificance at some designated ecological sites, but the ecological assessment has concluded these emissions would have no impact on the qualifying features of those sites (see discussion in subsection 7.3.6 above).

7.4.4 The ES also gives consideration to the construction effects on air quality through generation and resuspension of dust and particulate matter but concludes that with the imposition of effect best practice control measures, through the implementation of a CEMP, (ES Volume 4, Technical Appendix 2.1, Outline Construction Environmental Management Plan), then any residual impacts would be negligible.

7.4.5 The Proposed Development is therefore considered to comply fully with FLDP Policy PC2 with regards to air quality, FLDP Policy STR14 and Paragraph 6.7.5 on PPW12.

7.5 Landscape and Visual Effects

7.5.1 PPW12 sets out key guidance and planning policies for development and achieving good design throughout Wales with reference to landscape and natural spaces. FLDP Policy STR4 (Principles of Sustainable Development, Design and Placemaking) states that development should *"respond to local context and character".* Policy STR13 (Natural Environment, Green Networks and Infrastructure) states that development should *"protect open countryside…"* and *"conserve, protect and enhance the quality and diversity of Flintshire's natural environment including landscape…"*. FLDP Policy PC2 (General Requirements) states that "*All development should harmonise with or enhance the character, local distinctiveness and appearance of the Site, existing building(s) and surrounding landscape/townscape".* This is reinforced in FLDP Policy PC3 (Design) which states "*All development should retain existing landscape and nature conservation features…".* FLDP Policy D1 (Design Quality, Location and Layout) and states *"Development will be permitted only if it respects the scale of surrounding development…it relates well to local topography…"*

7.5.2 FLDP Policy EN4 (Landscape Character) states that "*New development, either individually or cumulatively, must not have a significant adverse impact on the character and appearance of the landscape. Landscaping and other mitigation measures should seek to reduce landscape impact and where possible bring about enhancement".*

7.5.3 Section 6.3 of PPW12 refers to 'Landscape' and states that "*all landscapes of Wales are valued for their intrinsic contribution to a sense of place, and local authorities should protect and enhance their special characteristics [para 6.3.3]…Planning authorities should provide for the conservation and, where appropriate, enhancement of local landscapes [para 6.3.12]*".

7.5.4 A Landscape and Visual Impact Assessment (LVIA) has been undertaken and is submitted at ES Volume 2, Chapter 9. The LVIA comprises a description of the existing baseline conditions, an assessment of potential landscape and visual effects and recommendations for mitigation measures. The assessment incorporates the results of a desk study, field study and evaluations including viewpoint appraisal, zone of theoretical visibility and photomontages.

Landscape Effects

7.5.5 The LVIA concludes that the Proposed Development would result in a moderate adverse impact on the landscape character through the introduction of new large-scale structures to an undeveloped area of the site but highlights that the location of the Proposed Development within the Site means that it would be reasonably well contained by surrounding vegetation which already encloses the cement works and would not be incongruous with the wider area..

7.5.6 The assessment considers that "*whilst there would be a change in landscape use it would not be introducing new or contrasting elements into the landscape*". The Proposed Development has been sited within the existing Padeswood Cement Works landholding in a location to minimise the loss of existing landscape and nature conservation features if the Proposed Developed was to be located elsewhere and thus is considered to accord with FLDP Policy PC3. Proposed mitigation measures include new woodland, grassland and pond areas and a detailed landscaping scheme is to be agreed with Flintshire County Council through condition. These would reduce the overall effects on the landscape character of the Site. These enhancements would have a beneficial impact on landscape character and accord with FLDP Policy EN4.

7.5.7 As the Proposed Development has been sited alongside the existing industrial land uses, minimising the spread of built development across the site, it is considered to respect the local context and character of the landscape and to protect the quality of the landscape through co-locating industrial developments. The Proposed Development is therefore considered to accord with FLDP Policies STR4, STR13, PC2 and D1.

Visual Effects

7.5.8 FLDP Policy STR4 (Principles of Sustainable Development, Design and Placemaking) refers to development *"contributing to the well-being of communities including safeguarding amenity"*. FLDP Policy PC2 (General Requirements for Development) states that development should *"not have a significant adverse impact on the safety and living conditions of nearby residents"*. FLDP Policy PC3 (Design) states that development should *"protect the living conditions of nearby occupants from any harmful effects of new development including overlooking, harm to outlook…"*

7.5.9 The LVIA highlights that views from all visual receptor groups are already influenced by the operational cement works and the prominence in views of the existing kiln tower. Several receptors have been concluded to have 'significant' visual effects, including Padeswood Drive, Pen-yr-allt, Bannel Lane, Spon Green and various surrounding PROWs. Given the extent of existing and proposed vegetation planting, ground level views of the Proposed Development are restricted, however, once the structures reach 20m in height there is some potential for visibility. The LVIA does highlight that, in these views, the Proposed Development would be

seen as a visual extension to the operational cement works and the Proposed Development would not be an incongruous feature. Thus, it is considered that the Proposed Development is in accordance with FLDP Policies STR4, PC2 and PC3.

7.5.10 Public Right of Ways (PRoW) 301/56 passes through the site within the location of the Proposed Development and PRoW Buckley 301/55 passes adjacent to the western site boundary. As part of the Proposed Development, PROW 301/56 would be permanently diverted through the creation of a new stretch of PROW along the former railway embankment to the south of the site, connecting PROW 301/55 to PROW 408/74/50. FLDP Policy STR5 (Transport and Accessibility) refers to the provision of walking and cycling routes; the Proposed Development has ensured that the PROW is diverted instead of lost. Thus, the Proposed Development is considered to accord with FLDP Policy STR5.

Assessment of Construction Effects

7.5.11 Construction effects of the Proposed Development would be direct and short-term. Construction activity would have a temporary and limited impact on the local landscape character as well as visual effects. Construction effects on both landscape and visual receptors are considered to be no greater than in year one of operation. The same conclusions in respect of compliance with landscape and visual policies are therefore considered appropriate for construction effects.

7.6 Archaeology and Cultural Heritage

7.6.1 PPW12 Chapter 6 'Distinctive and Natural Places' provides guidance in relation to the historic environment, it states "*the planning system must take into account the Welsh Government's objectives to protect, conserve, promote or enhance the historic environment as a resource for the general well-being of present and future generations*" (para 6.1.5). It also states "*it is important that the planning system looks to protect, conserve and enhance the significance of historic assets…any change that impacts on an historic asset or its setting should be managed in a sensitive and sustainable way*" (para 6.1.7). With regards to archaeology PPW12 states "*the conservation of archaeological remains and their setting is a material consideration in determining planning applications, whether those remains are a scheduled monument or not…* " (para 6.1.23) and stresses that the preference for nationally important archaeological remains is physical protection in situ, but that for less significant archaeological remains, "*planning authorities will need to weigh the relative importance of the archaeological remains and their settings against other factors, including the need for the Proposed Development*" (para 6.1.25).

7.6.2 FLDP Policy EN8 (Built Environment and Listed Buildings) seeks to preserve the County's buildings and features of special architectural and historic importance and their settings. At criterion b it also states that *"Development should preserve Scheduled Ancient Monuments and their settings and where appropriate the preservation of the archaeological remains, having regard to the intrinsic importance of the remains and the need for the Proposed Development".* FLDP Policy PC3 (Design) states *"all new development should protect and enhance the townscape, architectural, historic and cultural built environment".* FLDP Policy STR13 (Natural Environment, Green Networks and Infrastructure) states that development should *"conserve, protect and enhance the local distinctiveness and quality of Flintshire's built and historic environment including listed buildings, conservation areas, registered historic parks, gardens and landscapes, scheduled ancient monuments and locally important historic assets"*

7.6.3 ES Volume 2, Chapter 8 provides an assessment of cultural heritage to consider the effects of the Proposed Development on the significance of identified historic interests and archaeological potential within the Site.

7.6.4 There are no designated assets which lie within the Site. However, there are 14 non-designated heritage assets located within the Site, which include an area of Medieval ridge and furrow, Post-Medieval Padeswood Hall and Farm and the Modern cement works and football field. A technical assessment has been undertaken of the heritage significance of Padeswood Hall and Farm buildings, provided at ES Volume 4, Appendix 8.3 (Heritage Significance Technical Note); it is concluded that Padeswood Hall Farm was generally of low significance (with low to medium architectural significance), with other better examples of listed Georgian villas in the locality, and Padeswood Hall Farm buildings were concluded to be of low significance. The ES concludes that with an archaeological watching brief and preservation by record or photographic survey, all impacts on the non-designated heritage assets within the site would be 'not significant'.

7.6.5 The assessment identifies that there is a high potential for below ground archaeological remains within the footprint of the Proposed Development site, however, due to the past construction of the operational cement works and residential housing within the wider Site these previous activities have likely resulted in at least partial truncation of any potential archaeological remains in areas in intrusive groundworks. An archaeological watching brief in areas of proposed groundworks would allow the preservation by record of archaeological deposits if found. The impacts and mitigation are considered to be commensurate with the non-designated status, and the benefits of the scheme considered to outweigh any harm (discussed further in Section 8), as allowed through the provisions of PPW12.

7.6.6 Within the wider Study Area lies 28 Schedules Monuments, Five Conservation Areas, 240 listed buildings comprising 11 Grade I listed, 19 Grade II* listed and 210 Grade II listed, and nine registered parks and gardens. The ES considered there was potential for impact on the setting of six of these designated assets, including St John the Baptists Church (Grade II* listed building), Hartsheath Registered Park and Garden, Plas Teg Registered Park and Garden and Wat's Dyke (which consists of three scheduled monuments) and thus assessed these in more detail. That assessment concluded that these assets may experience a minor adverse impact on their settings, given the Proposed Development is an extension to an existing industrial site which is already highly visible in the immediate locality and any new development will be viewed within that context.

7.6.7 In respect of how this complies with the policy context, Policy EN8 requires the setting of buildings of historic importance to be preserved and historic parks and gardens to be protected and conserved. In this instance, the effect of the Proposed Development, when viewed against the context of the adjacent existing cement works, are not considered to alter the existing setting of the buildings, or impact the park and gardens to an extent which would warrant refusal of the application.

7.7 Traffic and Transport

7.7.1 Policy STR5 (Transport and Accessibility) of the FDLP states that new development should "*ensure that the local highway network either has, or can be upgraded, to provide capacity to accommodate sustainable levels of development*". Policy PC2 General Requirements for Development states that *"all developments should maximise sustainable travel choice by having safe and convenient access by foot, cycle, public transport and vehicles"* and should *"not have an unacceptable effect on the highway network or highways safety as a result of*

problems arising from traffic generation, inadequate and poorly located parking spaces, servicing and manoeuvring". Policy PC5 Transport and Accessibility states that *"new development proposals must be supported by appropriate transport infrastructure"* and sets out a series of criteria which will be required depending on the nature, scale, location and siting of the Proposed Development, these include: sustainable modes of travel; safe and efficient use of the highway network; mitigation where 'significant' effects are unavoidable; and, appropriate levels of parking, servicing and manoeuvring.

7.7.2 ES Volume 2, Chapter 11 provides an assessment of likely effects arising from traffic and transport aspects of the Proposed Development during the construction and operation phases. A Transport Statement has been prepared to meet the requirements of FLDP Policy STR5 and PC2; the report can be found at ES Volume 4, Appendix 11.1 (Transport Statement).

Construction Traffic Impacts

7.7.3 During construction the existing site entrance will be utilised, with some relatively minor alterations, as shown in planning drawing RSK/663575/D01 Visibility Splays, which accompanies the planning application.

7.7.4 The site currently has parking provision for 180 vehicles; an additional 256 parking spaces will be provided across the site to accommodate the additional construction vehicles, contractor vehicles, staff and visitors. These spaces will be retained during the operational phase. In addition, an area to the east of the carpark will be utilised for temporary additional parking and laydown areas during the construction phase.

7.7.5 It is anticipated that the construction phase of the Proposed Development would be undertaken over a 30-month period. Standard working hours shall be Monday to Friday (07:30 – 18:00). It is anticipated that the maximum construction vehicle movements will be during deliveries of construction materials and movement of workers with 41 vehicle movements per day. All construction movements will take a direct route to the Site from the east via the (A550 and A5118), a small proportion of HGV's will take an alternative route to avoid the 14"6 height limit on the A5118 located to the east of the Site. HGVs will travel to the Site from the west via the (A494, A541 and A5118).

7.7.6 Based on the assessment criteria, the level of impact of the construction HGV peak period would be negligible/slight and therefore it is considered to accord with FLDP Policies STR5, PC2 and PC5.

Operational Traffic Impacts

7.7.7 During the operational phase of the Proposed Development it is anticipated that 54 additional employees will be on-site. The operation of the facility will not require a high intensity of staff on-site at any one time as it relies on shift work. Once the Proposed Development is operational, a small increase in traffic associated with the movement of staff to and from the Site is anticipated, although most movements are anticipated to be outside of the typical network peak. This increase in staff vehicle movements would represent a minor increase in traffic flows on the relevant highway and local road network when compared to the existing movements associated with the operational cement works.

7.7.8 The Site is reasonably well located and benefits from a network of local PRoW routes in the vicinity of the Site alongside some footway provision on the A5118. The local bus stops on the A5118 can be accessed on foot and Penyffordd Railway Station can be accessed using a local PRoW route. The local bus stop offers an hourly service to the surrounding areas. The Site is

within 20-minutes walking distance of two railway stations which offer services to a number of locations. However, it is recognised that worker shift patterns will span across 24-hour periods, which may limit the sustainable modes transport workers can use. Additional car parking is proposed to accommodate the additional staff movements to Site although it is recommended that a car-sharing scheme is encouraged for out of hours work. Car sharing will reduce the number of single occupancy trips to and from the Site when public transport, walking and cycling are not viable modes of travel. Provision within the site has also been made for EV charging points and cycle parking, in accordance with the prescribed standards. Thus, the Proposed Development is considered to meet the relevant requirements of FLDP Policies PC2 and PC5.

7.7.9 The results of the TS demonstrate that the Proposed Development will not have any 'significant' adverse impacts in highway terms. Thus, the development proposal is considered acceptable in terms of highway planning and thus accords with FLDP Policies STR5 and PC2.

7.7.10 In conclusion, the Proposed Development is in an appropriate and accessible location. It is served by safe access, relevant parking provision is made and it is considered that the traffic generated by the development will have no material impact on highway conditions. As such, it is considered that there are no highway or transportation issues that should prevent the proposal from gaining planning permission. The proposal is compliant with all relevant policies of the FDLP and reflects the general principles set out in PPW12 and TAN 18 (Transport)[37] .

7.8 Noise and Vibration

7.8.1 FLDP Policy STR14 (Climate Change and Environmental Protection) states that the council will ensure *"new development has regard to the protection of the environment in terms of …noise…".*

7.8.2 FLDP Policies PC2 (General Requirements) and PC3 (Design) have similar provisions, with FLDP Policy PC2 stating that all development should *"not have a significant adverse impact on the safety and living conditions of nearby residents, other users of nearby land/property, or the community in general, through increased activity, disturbance, noise…"*

7.8.3 FLDP Policy EN18 (Pollution and Nuisance) states that *"new development which would create an increased risk of noise, vibration…will only be permitted if: it would not unacceptably harm general amenity or living conditions; and it would not impose significant restrictions on the use or development of surrounding land".*

7.8.4 ES Volume 2, Chapter 10: Noise and vibration concludes that during construction, with the imposition of mitigation in the form of temporary earth bunds or acoustic fencing, there would be a minor temporary adverse impact. The need for temporary mitigation only relates to impacts from certain construction activities which will occur for a limited time period with the potential to impact only a limited number of on-site properties, and Dykes Farm, to the south of the Site. Mitigation measures identified would alleviate these impacts. All other noise and vibration impacts during the construction phase are considered to accord with the relevant guidance which ensures amenity to neighbouring occupiers is protected.

[37] https://www.gov.wales/sites/default/files/publications/2018-09/tan18-transport.pdf

7.8.5 An assessment of operational effects has been undertaken against prevailing background sound levels. The only properties predicted to experience a potential increase in noise levels are Dyke Farm and Well House Farm with an increase of +3dB and +4dB above the prevailing background sounds respectively. In relation to this impact, the noise assessment concludes "*In the context of the Site, the existing soundscape is largely dominated by the existing cement works. Therefore, the character of noise within the current soundscape will not change with consideration to the Proposed Development as no new character of noise will be introduced*".

7.8.6 It is therefore considered that the general amenity and living conditions of adjacent occupiers will be maintained and thus the Proposed Development is considered to accord with FLDP Policies STR14, PC2, PC3 and EN18.

7.9 Flood Risk and Surface Water Drainage

Flood Risk

7.9.1 Flood Risk is referred to throughout PPW12 in relation to combatting the challenge and mitigating risks. FLDP Policy PC2 (General Requirements for Development) states that *"all development should not result in or be susceptible to problems related to foul and surface water drainage…either on or off site".* FLDP Policy EN14 (Flood Risk) states that "*Development which would seek to reduce the impact and frequency of flood risk to areas at risk of flooding will be generally supported a, the design and character of the works is appropriate to the locality; b. the works do not adversely impact on interests of acknowledged nature conservation and recreation importance and c. the works do not increase flood risk elsewhere…."* FLDP Policy EN15 Water Resources states that development affecting water resources *"will only be permitted if: it would not have a significant adverse impact on the capacity and flow of groundwater, surface water…; it would not pose an unacceptable risk to the quality of groundwater, surface water…".*

7.9.2 A site-specific Flood Consequences Assessment (FCA) has been undertaken and submitted to accompany the planning application. The aim of the FCA is to assess flood risk associated with the Proposed Development and to recommend mitigation measures where appropriate. The FCA complies with PPW12 and TAN15, which provides more detailed guidance, and demonstrates that flood risk from all sources has been considered in the Proposed Development.

7.9.3 TAN 15 sets out an acceptability test which requires preference to be given to development located outside Flood Zones C1 and at the lowest risk of flooding from all sources. The Site lies within Flood Zone A and therefore meets this requirement.

7.9.4 The FCA concludes that the development is at low risk from river source or tidal flooding, is not in an area at risk of reservoir flooding, and is unlikely to be vulnerable to flooding as a result of climate change. There are areas of surface water flooding shown on the Natural Resources Wales maps around the location of the Proposed Development, however, an engineered drainage layout will be implemented to address this, and therefore the risk is considered to be low. The site does not lie within an area considered to be at risk of groundwater flooding. The Proposed Development is therefore considered to be in accordance with FLDP Policies PC2, EN14 and EN15.

Sustainable Water Drainage Strategy

7.9.5 Section 6.6 of PPW12 relates to Water Quality and Flood Risk with paragraph 6.6.5 stating that the planning system should *"ensure sustainable drainage systems are an integral part of*

design approaches for new development". Paragraph 6.6.18 states "*the provision of SuDs must be considered as an integral part of design of new development*". FLDP Policy STR13 (Natural Environment, Green Networks and Infrastructure) requires development to "*support measures to minimise the consequences of climate change*" and FLDP Policy STR14 (Climate Change and Environmental Protection) refers to "*adopting a sustainable approach to water resource management including supply, surface water run-off*". FLDP Policy PC3 (Design) requires development to "*incorporate Sustainable Urban Drainage Schemes to bring about multiple benefits as an integral part of the development*".

7.9.6 A Surface Water Drainage Strategy has been prepared to support the planning application. This defines the principles of how surface water will be appropriately managed in order to not increase the risk of flooding on-site, or elsewhere, as a result of the Proposed Development.

7.9.7 The existing surface water drainage runoff discharges to the private onsite sewer network and is then directed towards the balancing ponds located within the southern area of the Site and then discharged to onsite watercourses.

7.9.8 In accordance with the SuDS Statutory Guidance[38], which outlines that the first choice of surface water disposal should be to discharge to an adequate soakaway or infiltration system, it is proposed to enhance the existing drainage pond to the southwest of the site with the provision of additional attenuation volume. Measures will be put in place to ensure that any contamination is filtered out prior to reaching the pond. In addition, two soakaways are proposed to accommodate run off from the car parking area to the north.

7.9.9 The sustainable drainage measures proposed are considered to be fully compliant with the requirements of FLDP Policies STR13, SR14, PC3 as well as the guidance set out in PPW12.

7.10 Land and Soils

Contamination

7.10.1 An assessment of Land and Soils is provided in ES Volume 2, Chapter 12. In respect of contamination, this assessment considered that the potential for contamination is largely limited to the construction phase of the development.,. Given the geological units and topsoil receptors on site are classed as being of low sensitivity, the magnitude of effect on these by this potential contamination was concluded to be minor. An outline CEMP has been submitted within the planning application, identifying best practice measures which will be adhered to throughout the construction phase; this will be worked up to full CEMP once a Principal Contractor has been appointed. Thus, with additional mitigation measures, the effect on land and soil from construction works was assessed as minor adverse to negligible which is considered to be 'not significant'.

7.10.2 During the operational phase of the Proposed Development there is the potential to have an effect due to incorrect storage and handling of materials/oils/chemicals (including refuelling) which may result in contamination affecting geological units or topsoil. However, the operational cement works is controlled under an Environmental Permit issued by Natural Resources Wales and an extension of this permit will be sought to include the Proposed Development which will ensure that materials will be handled appropriately to reduce the risk of

[38] https://www.gov.wales/sites/default/files/publications/2019-06/statutory-guidance.pdf

impacts during operation. On this basis the ES concluded that there would be no 'significant' impacts.

7.10.3 FLDP Policy PC2 (General Requirements) states "*Development shall not result in or be susceptible to problems related to foul and surface water drainage, land stability, contamination, flooding, or pollution of light, air and water, either on or off site".* FLDP Policy EN15 (Water Resources) states that *"development will only be permitted if it would not pose an unacceptable risk to the quality of groundwater…"* Given the mitigation measures to be adopted as set out within the outline CEMP, and additional controls through the environmental permit, the Proposed Development is considered to accord with both of these policies.

Minerals

7.10.4 The Site does not lie within a mineral resource safeguarding area, however, the Padeswood Cement Works is designated under the 'Mineral Safeguarding Area' policy and referenced within Policy EN23 (Mineral Safeguarding) which states *"non-mineral development within Mineral Safeguarding Areas…will only be permitted where it can be demonstrated that essential infrastructure that supports the supply of minerals, including…Padeswood Cement Works…would not be compromised or would be provided elsewhere"*. Given that the Proposed Development will support the future of the operational cement works, by decreasing it's CO_2 levels, and making it a more sustainable operation, it is considered to be fully in accordance with this policy.

Highly productive soils/land

7.10.5 The potential effects of the construction phase of the Proposed Development on Land and Soils were assessed. The assessment concluded that the sensitivity of the mineral resource is considered as minor adverse, which is considered to be 'not significant', therefore no further monitoring is required. A Coal Mining Risk Assessment was undertaken in 2023. The report concluded that there were no recorded plans for future underground coal mining, therefore no additional mitigation is proposed. There are no specific policies for consideration.

7.11 Major Accidents and Disasters

7.11.1 FLDP Policy PC2 (General Requirements) sets out that all development should *"not have a significant adverse impact on the safety and living conditions of nearby residents, other users of nearby land/property, or the community in general, through increased activity, disturbance, noise, dust, vibration, hazard, or the adverse effects of pollution"*. FLDP Policy EN18 (Pollution and Nuisance) reiterates this, it states that *"new development which would create an increased risk of …hazard will only be permitted if: it would not unacceptably harm general amenity or living conditions; and it would not impose significant restrictions on the use or development of surrounding land".*

7.11.2 ES Volume 2, Chapter 13 assess the potential for 'significant' effects from major accidents or disasters during the construction and operation of the Proposed Development.

7.11.3 The operational cement works comprise a large and complex network of kilns, crushers, conveyors, mills, storage and packing plants. The ongoing operation of the existing cement works means there is the potential for hazards to occur through, for example, the risk of fire from malfunction of the kiln. As the two developments are linked, an accident with the existing cement works could impact on the infrastructure of the Proposed Development.

7.11.4 However, it is important to note that the operational cement works is already subject to a structured framework of risk management and safety legislation which mandate mitigation measures and other safety procedures. These measures and procedures are in operation at all times and as a result mean there is little chance of a major accident occurring.

7.11.5 For the operational phase the existing health, safety and environmental management systems will be extended to include the Proposed Development. These management systems will outline the approach to safety and environmental management during operation and will include spill response and safe evacuation plans. Safety systems/process will also be installed prior to the Proposed Development becoming operational including emergency shutdown valves, gas detection and alarm systems, pipeline safety systems and pressure relief systems.

7.11.6 The only hazard identified that may give rise to a major accident or disaster during the construction phase, is the risk of disturbing unidentified, unexploded ordinance. Therefore, an unexplored ordnance survey will be conducted, prior to the construction phase commencing. Management of any other potential hazards during the construction phase will be implemented in accordance with the outline CEMP, which will be upgraded to a full CEMP upon appointment of the Principal Contractor.

7.11.7 The assessment concludes that through the implementation of safe design and proposed mitigation measures, no 'significant' effects are expected as a result of the Proposed Development. Thus the Proposed Development is considered to be in accordance with FLDP Policies PC2 and EN18.

7.12 Material Assets and Waste

7.12.1 FLDP Policy STR4 (Principles of Sustainable Development, Design and Placemaking) states development should manage waste sustainably. FLDP Policy D1 (Design Quality, Location and Layout) refers to development only being permitted where it *"minimises the generation of waste"*. FLDP Policy EN19 (Managing Waste Sustainably) expands on these policies and states "*Proposals for new development should a) demonstrate how the production of waste will be minimised during all stages of the development and how wastes which do arise would be managed in a sustainable way, in accordance with the waste hierarchy, b) demonstrate, where relevant, that adequate facilities and space collection, composting and recycling of waste materials has been made".*

7.12.2 ES Volume 2, Chapter 14 reports on the outcome of the assessment of likely 'significant' effects arising from the Proposed Development upon material assets and waste during the construction and the operational phase of the Proposed Development.

7.12.3 The Proposed Development will require significant quantities of material and without mitigation has the potential to generate substantial amount of waste during site preparation and construction phases.

7.12.4 During construction, the effects of waste generation will be controlled through the implementation of an Outline Site Waste Management Plan (OSWMP) which accompanies the planning application, and seeks to minimise waste at the detailed design phase and prioritise recycled or reclaimed materials. The OSWMP outlines key principles to minimise the generation of waste during the construction phase. It details:

- The reuse of materials (where practicable);

- Segregation of waste to minimise cross-contamination;
- Calculating quantities of construction waste generated and setting minimisation/recycling targets;
- The development of registers, audits and monitoring programmes; and,
- Key roles and responsibilities.

7.12.5 Regular inspections and audits of waste management records and onsite waste activities will be undertaken to ensure the measures outlined in the OSWMP and relevant legislation are complied with. Inspections and audits will be undertaken at regular intervals and all records/audits will be retained.

7.12.6 During the operational phase, little additional waste to what is currently being produced by the operational cement works is expected to leave the Site. The storage, management and disposal of waste will be controlled under the Site's Environmental Permit, which will be extended to cover the Proposed Development.

7.12.7 With the above control measures in place, no 'significant' effects are predicted and thus the Proposed Development is considered to accord with FLDP Policies STR4, D1 and EN19.

7.13 Other Policy Considerations

Airport Safeguarding

7.13.1 The Site lies within the Hawarden Airport safeguarding area. FLDP Policy PC8 (Airport Safeguarding Zone) states that *"development will not be permitted which would prejudice the safe and efficient operations of Hawarden Airport".*

7.13.2 Consultation with Airbus, the operators of Harwarden Airport, has been undertaken with an Instrument Flight Procedure Safeguarding Assessment having been undertaken. The assessment concluded that the only element of the Proposed Development predicted to have an impact would be one of the temporary crane structures during the construction phase.

7.13.3 Given that the exact location of the temporary crane structures cannot be determined until planning permission is granted and a Principal Construction Contractor is commissioned, Airbus have agreed that the imposition of a planning condition to undertake a further Instrument Flight Procedure Safeguarding Assessment once the crane locations and heights are confirmed, and if necessary agree mitigation, is an acceptable solution which will ensure the safe and efficient operation of the Airport. Thus, it is considered that the Proposed Development is in accordance with FLDP Policy PC8.

Open Space and Recreation

7.13.4 Within the site lie two former sports pitches: a sub-standard cricket pitch and a football pitch. A derelict club house and changing/toilet facility is also present to the south of the pitches. The pitches are in a redundant state and it is understood that they were last regularly used nearly 10 years ago and have not been maintained.. These areas are now proposed to provide landscape and biodiversity mitigation for the Proposed Development.

7.13.5 FLDP Policy STR13 (Natural Environment, Green Networks and Infrastructure) states that *"development should protect playing fields and open space from development"*. Given the

former playing fields are already disused and in disrepair, and there is no intention to bring them back into use, it is not considered that these are relevant playing fields for the purpose of STR13. Further, as the Proposed Development will not result in any built development on those fields and they will be retained and subject to landscape and biodiversity planting, it is considered that the Proposed Development is in accordance with FLDP Policy STR13.

8 PLANNING BALANCE AND CONCLUSIONS

8.1 The Planning Balance

8.1.1 The fundamental test to be applied in the decision-making process is whether, on balance, the Proposed Development is in accordance with the aims and objectives of the Development Plan (Future Wales and Flintshire Local Development Plan) and other material considerations, including PPW12.

8.1.2 The main issues in addressing the planning balance are considered to be:

- Accordance with the Development Plan;
- Material considerations including:
  - Any residual 'significant' effects of the Proposed Development; and
  - The benefits of the scheme in respect of greenhouse gas emissions reduction and the extent to which this contributes to meeting Welsh and UK policies and goals to decarbonise industries and meet Wales's international carbon reduction commitments and a statutory target of net zero emissions by 2050.

8.2 Accordance with the Development Plan

8.2.1 Future Wales sets out that the challenges of the climate emergency demand urgent action to reduce carbon emissions and the planning system must help Wales lead the way in promoting and delivering a competitive, sustainable, decarbonised society. Page 13 of Future Wales states that "*The Natural Resources Policy identifies the key priorities, risks and opportunities to achieve the sustainable management and natural resources, including addressing the climate emergency and reversing biodiversity decline….Policy Wales outlines how the planning system should contribute towards these goals and Future Wales builds on this policy by setting out specific policies that…. Facilitate the decarbonisation of the economy, including energy and transport choices, and promote the principles of a circular economy*". Future Wales Policy 1 drives the delivery of Future Wales Outcomes and ensures Future Wales policies and the planning system in general are committed to their achievement. Key issues, including decarbonisation are core elements of Policy 1 and are common threads underpinning all Future Wales policies.

8.2.2 The policy provisions in Future Wales require consideration of the delivery of decarbonisation and tackling the climate change emergency. Future Wales Policy 21 establishes a role for North Wales in the decarbonisation of society and supports the realisation of new infrastructure projects. Furthermore Future Wales at page 14 states "*Future Wales supports a low carbon economy and the decarbonisation of industry, and the growth of sustainable and renewable energy*"

8.2.3 The Future Wales Outcomes 11 states "*The challenges of the climate emergency demand urgent action on carbon emissions and the planning system must help Wales lead the way in promoting and delivering a competitive, sustainable decarbonised society"* it goes onto state *"Decarbonisation commitments and renewable energy targets will be treated as opportunities to build a more resilient and equitable low-carbon economy, develop clean and efficient transport infrastructure, improve public health and generate skilled jobs in new sectors. New homes will be energy efficient and will help communities adapt to the changing climate"*

8.2.4 Section 7 above provides a review of the Proposed Development against all Local Development Plan policies and concludes that, whilst some degree of impact will be generated, the iterative design and mitigation process ensures compliance with all relevant policies.

8.2.5 It has therefore been demonstrated that the Proposed Development is fully in accordance with the National and Local Development Plan.

8.3 Material Considerations

Residual 'significant' effects of the Proposed Development

8.3.1 Primary mitigation was included the design and layout of the Proposed Development, thus resulting in minimised effects. The EIA undertaken for the Proposed Development, reported in the ES, concludes the following residual 'significant' effects:

- **Climate:** The assessment concludes that there is a 'significant' beneficial impact in relation to the "*contribution of global warming and climate change impacting on natural and human systems*" with annual emission savings predicted to be 565 ktCO_2e, approximately equivalent to 34% of Flintshire Local Authority proportional emissions reported in 2021, and represents an 8% reduction in UK emissions from the manufacture of cement (based upon 2020 data).

- **Landscape and Visual:** The assessment concludes there is a residual 'significant' adverse impacts on the landscape due to the moderate adverse level of effect. The following receptors are also concluded to have a 'significant' visual impact:

  - Padeswood Drive West;
  - Pen-yr-allt;
  - Bannel Lane;
  - Spon Green;
  - PROW Buckly 301/55 and 301/56; and
  - PROW Leeswood 408/73 and 408/75.

  Primary mitigation measures have been incorporated into the design of the Proposed Development, and whilst these do minimise landscape and visual effects, due to the size and scale of the Proposed Development, some 'significant' impacts remain. The assessment does highlight that in all instances the Proposed Development would be viewed within the context of the operational Padeswood Cement Works and would not be an incongruous feature.

8.3.2 Overall, the ES Chapters concluded there is a 'significant' beneficial residual effect in relation to Climate and only residual adverse 'significant' effects in relation to Landscape and Visual. These relatively limited adverse impacts are largely due to the Proposed Development's co-location with the operational cement works and the iterative design process with embedded mitigation has been applied to ensure impacts have been minimised.

Benefits of the Proposed Development

8.3.3 Tackling climate change is a key priority for the planning system. Paragraph 3.30 of the PPW states "*the Welsh Government declared a climate emergency in order to co-ordinate action nationally and locally to help combat the threats of climate change. The planning system plays a key role in tackling the climate emergency through the decarbonisation of the energy system and the sustainable management of natural resources."*

8.3.4 The Proposed Development is a key component of the HyNet industrial cluster, a pioneering initiative in the North West of the UK aimed at accelerating industrial decarbonisation. The Proposed Development aims to capture and store up to 800,000 tons of CO_2 annually, and in doing so the development will not only contribute to reducing the environmental impact of cement production but also support the creation of low-carbon hydrogen, furthering the decarbonisation of the region's heavy industry. The Proposed Development will act as an exemplar for sustainable cement production across the UK and will support the transition of the construction industry to a net zero future, positively contributing to the UK's net zero targets.

8.3.5 These benefits align strongly with the targets and goals of the UK Government and Wales. The Environment (Wales) Act 2016[39] sets a legal target of reducing greenhouse gas emissions in Wales by at least 80% in 2050. In 2019 the Climate Change Act 2008 was updated to set a net zero binding target for 2050.

8.3.6 It also meets the UK Government's Ten Point Plan for a Green Industrial Revolution and specifically its commitment to deploy CCUS in industrial cluster zones. Following the selection of HyNet North West as a Track 1 cluster, nearby industries with provision for industrial grade carbon capture are required to supply CO_2 to HyNet North West to meet the ambitious target of capturing and storing 20-30Mt of CO_2 per year by 2030. A bid process for new carbon capture projects to contribute to the cluster was undertaken in 2022, from which the Proposed Development was ultimately selected to connect to the HyNet North West track one Cluster.

[39] https://www.legislation.gov.uk/anaw/2016/3/contents/enacted

8.4 Conclusion

8.4.1 It has been demonstrated that the Proposed Development accords with the local and national Development Plan. There is a substantial need for this type of development and the benefits weigh significantly in its favour. These benefits include (amongst others) the considerable public benefit to meeting the urgent need to decarbonise the industry sector, which has been presented in the policy frameworks and broader strategies and goals of the UK Government, Welsh Government and local area.

8.4.2 While the effects assessment undertaken by the ES Chapters has concluded there are some residual 'significant' adverse effects in respect of landscape, visual and noise, it is considered that these are ultimately acceptable in light of the broader policy framework, local policy wording and the 'significant' climate benefits. This is because these effects are largely temporary and localised. They occur within an environment which already has industrial effects from the existing cement plant. The Proposed Development has been sited and designed to minimise effects as much as possible at source, but another location which entirely avoids the effects on these receptors is not feasible given the Proposed Development needs to be adjacent to and service the existing cement plant.

8.4.3 For the reasons outlined in this PDAS, it is considered that the Proposed Development is entirely consistent with the relevant planning polices in the local and national Development Plan. The selected site is preferable as it can not only accommodate the Proposed Carbon Capture Storage Project but benefits from being adjacent to the operational cement works which is producing the carbon dioxide emissions.

8.4.4 The planning policy context and material considerations clearly demonstrate the substantial need and support for this type of development at a local, national and UK level; all of which weighs significantly in favour of the Proposed Development.

8.4.5 Therefore, it is concluded that the benefits of the scheme demonstrably outweigh the limited impacts and with full accordance with the National and Local Development Plan it is considered that planning permission should be granted by Welsh Ministers.

References

Climate Change Committee (2023). *Progress Report: Reducing emissions in Wales*. Available at: https://www.theccc.org.uk/wp-content/uploads/2023/06/Progress-Report-Reducing-emissions-in-Wales.pdf

Flintshire County Council (2023). *Flintshire Local Development Plan 2015 - 2030*. Available at: https://www.flintshire.gov.uk/en/PDFFiles/Planning/Examination-Library-Documents/LDP-Version-8.pdf

Flintshire County Council. *Planning Application Procedures – Design and Access Statements (DAS)*. Available at: https://www.flintshire.gov.uk/en/PDFFiles/Planning/Design-and-Access-Statements.pdf

Flintshire County Council. *Supplementary Planning Guidance Notes*. Available at: https://www.flintshire.gov.uk/en/Resident/Planning/Supplementary-planning-guidance.aspx

Future Wales. 2021. *Future Wales: The National Plan. 2040*. Available at: https://www.gov.wales/future-wales-national-plan-2040-0

HM Government (1990). *Town and Country Planning Act 1990*. Available at: https://www.legislation.gov.uk/ukpga/1990/8/contents

HM Government (2004). *Planning and Compulsory Purchase Act 2004*. Available at: https://www.legislation.gov.uk/ukpga/2004/5/contents

HM Government (2015). *Planning (Wales) Act 2015*. Available at: https://www.legislation.gov.uk/anaw/2015/4/contents/enacted

HM Government (2016). *The Developments of National Significance (Specified Criteria and Prescribed Secondary Consents) (Wales) Regulations 2016.* Available at: https://www.legislation.gov.uk/wsi/2016/53/contents/made

HM Government (2016). *The Town and Country Planning (Development Management Procedure) (Wales) (Amendment) Order 2016*. Available at: https://www.legislation.gov.uk/wsi/2016/59/made

HM Government (2017). *Town and Country Planning (Environmental Impact Assessment) Regulations 2017*. Available at: https://www.legislation.gov.uk/wsi/2017/567/contents/made

HM Government (2019). *The Climate Change Act 2008 (2050 Target Amendment) Order 2019*. Available at: https://www.legislation.gov.uk/ukdsi/2019/9780111187654

HM Government (2020). *Powering our Net Zero Future*. Available at: https://assets.publishing.service.gov.uk/media/5fdc61e2d3bf7f3a3bdc8cbf/201216_BEIS_EWP_Command_Paper_Accessible.pdf

HM Government (2020). *The Ten Point Plan for a Green Industrial Revolution*. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/936567/10_POINT_PLAN_BOOKLET.pdf

HM Government (2021). Industrial Decarbonisation Strategy. Available at: https://assets.publishing.service.gov.uk/media/6051cd04e90e07527f645f1e/Industrial_Decarbonisation_Strategy_March_2021.pdf

HM Government (2021). *Net Zero Strategy: Build Back Greener*. Available at: https://assets.publishing.service.gov.uk/media/6194dfa4d3bf7f0555071b1b/net-zero-strategy-beis.pdf

HM Government (2021). *The Environment (Wales) Act 2016 (Amendment of 2050 Emissions Target) Regulations 2021*. Available at: https://www.legislation.gov.uk/id/wsi/2021/333

HM Government (2022). *Levelling Up the United Kingdom*. Available at: https://www.gov.uk/government/publications/levelling-up-the-united-kingdom

HM Government (2022). *The UK's Nationally Determined Contribution communication to the UNFCCC (updated September 2022).* Available at: https://www.gov.uk/government/publications/the-uks-nationally-determined-contribution-communication-to-the-unfccc

Institute of Environmental Management and Assessment (2020). *Major Accidents and Disasters in EIA: A Primer*. Available at: https://www.iema.net/resources/blog/2020/09/23/iema-major-accidents-and-disasters-in-eia-primer

UNFCCC (2018). *The Paris Agreement*. Available at: https://unfccc.int/documents/184656

Welsh Government (2007). *Planning Policy Wales Technical Advice Note 18: Transport*. Available at: https://www.gov.wales/sites/default/files/publications/2018-09/tan18-transport.pdf

Welsh Government (2015). *Well-being of Future Generations (Wales) Act 2015*. Available at: https://www.futuregenerations.wales/about-us/future-generations-act/

Welsh Government (2016). *Technical Advice Note 12: Design*. Available at: https://www.gov.wales/technical-advice-note-tan-12-design

Welsh Government (2016). *The Developments of National Significance (Wales) Regulations 2016*. Available at: https://www.legislation.gov.uk/wsi/2016/56/contents

Welsh Government (2017). *Design and Access Statements in Wales*. Available at: https://www.gov.wales/sites/default/files/publications/2018-09/design-and-access-statements.pdf

Welsh Government (2021). *A Carbon Capture, Utilisation, & Storage Network for Wales*. Available at: https://www.gov.wales/sites/default/files/publications/2021-10/a-carbon-capture-utilisation-and-storage-network-for-wales-report.pdf

Welsh Government (2021). *Net Zero Wales Carbon Budget 2 (2021-2025)*. Available at: https://www.gov.wales/sites/default/files/publications/2021-10/net-zero-wales-summary-document.pdf

Welsh Government (2021). *Planning Policy Wales Technical Advice Note 15: development, flooding and coastal erosion*. Available at: https://www.gov.wales/technical-advice-note-tan-15-development-flooding-and-coastal-erosion

Welsh Government (2024). *Planning Policy Wales*. Edition 12. Available at: https://www.gov.wales/planning-policy-wales

Welsh Government technical advice notes. Available at: https://www.gov.wales/technical-advice-notes

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APPENDIX 2: LIST OF APPLICATION DRAWINGS

Drawing Title	Drawing Number	Scale
Location Plan	Rev01	1:10,000 @A3
CCS Block Plan	215000-00190-000-PI-PLN-00002 rev C1	1:400 @A0
Control Centre Block Plan	2022-34-CC-AL-100 rev B	1:250 @A1
Control Centre Ground Floor	2022-34-CC-AL-200 rev B	1:100 @A1
Control Centre First Floor	2022-34-CC-AL-201 rev B	1:100 @A1
Control Centre Roof Plan	2022-34-CC-AL-202 rev A	1:100 @A1
Control Building Elevations 01	2022-34-CC-AL-300 rev C	1:100 @A1
Control Building Elevations 02	2022-34-CC-AL-301 rev B	1:100 @A1
Control Building Sections 01	2022-34-CC-AL-400 rev A	1:100 @A1
Control Building Sections 02	2022-34-CC-AL-401 rev A	1:100 @A1
Control Building Sections 03	2022-34-CC-AL-402 rev A	1:100 @A1
CCS Block Plan Ground Level	2022-34-CCS-AL100 rev B	1:500@A0
CCS Block Plan Roof Level	2022-34-CCS-AL-101 rev B	1:500 @A0
CCS Site Section North/South 01-01	2022-34-CCS-AL-200 rev B	1:250 @A0
CCS Site Southern Elevation	2022-34-CCS-AL-201 rev B	1:250 @A0

Drawing Title	Drawing Number	Scale
CCS Site Western Elevation 03-03	2022-34-CCS-AL-202 rev B	1:250 @A0
CCS Site Eastern Elevation 04-04	2022-34-CCS-AL-203 rev B	1:250 @A0
CCS Site Sectional North Elevation 05-05	2022-34-CCS-AL-204 rev B	1:250 @A0
CCS Western Elevation (Off Site) 06-06	2022-34-CCS-AL-205 rev B	1:250 @A0
CCS Site Terrain Sections X-X & Y-Y	2022-34-CCS-AL-206 rev B	1:1000 @A0
CCS Plant Structures CHP & Steam Turbine House Floor Plan	CCS-CHP-AL-100 rev B	Various @A1
CCS Block Plan Roof Level	CCS-CHP-AL-101 rev B	Various @A1
CCS Plant Structures CHP and Steam Turbine House-South and East Elevations	CCS-CHP-AL-200 rev B	Various @A1
CCS Plant Structures CHP and Steam Turbine House-North and West Elevations	CCS-CHP-AL-201 rev B	Various @A1
CCS Plant Structures. Compressor House Ground Floor and Roof Plan	CCS-COMP-AL-100 rev B	Various @A1
CCS Plant Structures. Compressor House Elevations	CCS-COMP-AL-200 rev B	1:100 @A1
CCS Plant Structures Local Equipment Room 01 & 02 Plans and Elevations	CCS-LER-AL-100 rev C	1:100 @A1

Drawing Title	Drawing Number	Scale
CCS Plant Structures Electrical Sub Station Floor Plans	CCS-SS-AL-100 rev B	Various @A1
CCS Plant Structures Electrical Sub Station Floor and Roof Plan	CCS-SS-AL-101 rev B	Various @A1
CCS Plant Structures Electrical Sub Station Elevations	CCS-SS-AL-200 rev C	1:100 @A1
3D Visualisation 01 South East View	2022-34-CC-AL-900	Not to Scale (illustrative purposes only)
3D Visualisation 02 North East View	2022-34-CC-AL-901	Not to Scale (illustrative purposes only)
3D Visualisation 03 South West View	2022-34-CC-AL-902	Not to Scale (illustrative purposes only)
3D VIsualisation 04 North West View	2022-34-CC-AL-903	Not to Scale (illustrative purposes only)
3D Visualisation 05 Aerial View	2022-34-CC-AL-904	Not to Scale (illustrative purposes only
3D Visualisation 06 Aerial View	2022-34-CC-AL-905	Not to Scale (illustrative purposes only
3D Visualisation 07 Aerial View	2022-34-CC-AL-906	Not to Scale (illustrative purposes only
3D Visualisation 08 Aerial View	2022-34-CC-AL 907	Not to Scale (illustrative purposes only

Drawing Title	Drawing Number	Scale
Swept Path Analysis-FTA Articulated Vehicle	RSK-663575/ATR01 rev A	1:1000 @A3
Swept Path Analysis – AIL	RSK/663575/ATR02 rev A	1:1000 @A3
Visibility Splays	RSK/663575/D01	1:0000 @A3
CCS Site Layout	2022-34-SMP AL 100 rev F	1:1250 @ A0
CCS Site Layout	2022-34-SMP AL 101 rev G	1:1000 @A0
Car Park General Arrangement	2022-34-SMP AL 102 rev D	1:250 @A1

APPENDIX 3: DEVELOPMENT PLAN POLICIES

Policy Number	Policy Title	Policy Text
Policy STR1	Strategic Growth	In order to meet Flintshire's economic ambition between 2015 and 2030, the Plan will make provision for: I. 8,000 – 10,000 new jobs; II. 124.97 hectares of employment land; III. 7,870 new homes to meet a housing requirement of 6,950 of which 2,265 will be affordable. The focus of this development will be at sustainable employment locations and in accordance with the sustainable settlement hierarchy and spatial distribution strategy.
Policy STR4	Principles of Sustainable Development, Design and Placemaking	I. To promote and create new sustainable places, all development will be designed to a high standard in line with the sustainable placemaking design principles and should achieve local distinctiveness, be inclusive and accessible, and mitigate and adapt to climate change. II. To achieve this, all development should: III. Be designed to be adaptable, safe and accessible, to respond to climate change, and for housing, adapt to changing needs over time; IV. Respond to local context and character, respect and enhance the natural, built and historic environment, and be appropriate in scale, density, mix, and layout; V. Be accessible and connected, allowing ease of movement; VI. Make the best use of land, materials and resources; VII. Contribute to the well-being of communities, including safeguarding amenity, the public realm, provision of open space and recreation, landscaping and parking provision in residential contexts; VIII. Incorporate new, and connect to existing green infrastructure, promoting biodiversity; IX. Incorporate where possible on-site energy efficiency and renewable energy generation; X. Ensure there is capacity and availability of infrastructure to serve new development; XI. Manage water and waste sustainably; XII. Ensure that it supports and sustains the long term well being of the Welsh language.

Policy Number	Policy Title	Policy Text
Policy STR5	Transport and Accessibility	Sustainable economic growth and development can only be delivered by the maintenance and enhancement of an integrated, accessible, usable, safe and reliable transport network. The development of Flintshire's transport infrastructure therefore underpins the Council's economic ambition and in turn, informs the provision of a sustainable pattern of development. Where appropriate new development and associated transport infrastructure should therefore: I. Facilitate accessibility to employment, homes, services, and facilities by locating development in places with access to integrated transport infrastructure, thereby reducing the need to travel; II. Promote the implementation of an integrated transport solution in Flintshire, involving road, rail, bus, park and ride / share and active travel improvements; III. Promote road and rail improvements to support Flintshire's sub-regional role as a strategic gateway and hub; IV. Ensure that the local highway network either has, or can be upgraded, to provide capacity to accommodate sustainable levels of development; V. Facilitate improvements to the quality, attractiveness and availability of public transport options; VI. Provide walking and cycling routes, linking in with active travel networks and green infrastructure networks; VII. Adopt a sustainable approach to the design, function and layout of new development, including providing appropriate levels of parking; VIII. Support the movement of freight by rail or water.
Policy STR7	Economic Development, Enterprise and Employment	In order to sustain Flintshire's role as a sub-regional economic hub, the Plan will support this by: I. Facilitating the delivery of jobs from key strategic sites at Northern Gateway, Deeside, and Warren Hall, Broughton; II. Providing a range of general employment sites to enable a range of businesses to start-up, invest, innovate, expand and grow, benefitting from Flintshire's strategic location and positive quality of life; III. Emphasising Deeside and its area of influence as the economic focus for Flintshire's long term economic ambition;

Policy Number	Policy Title	Policy Text
		IV. Providing the opportunity to realise the creation of 8-10,000 jobs in key sectors, over the plan period; V. Supporting the role of Flintshire's main towns as Main Service Centres, providing a range of employment, retail, leisure development, and services and facilities that are accessible to the wider communities they serve; VI. Supporting development related to the provision of higher/further education facilities which offer vocational skills training and direct links to key employers; VII. In rural areas, recognise the continued contribution agriculture makes to the rural economy, whilst also supporting wider rural enterprise, tourism and diversification; VIII. Supporting the widespread provision of high speed broadband infrastructure across Flintshire, as well as consistent telecommunications connectivity.
Policy STR13	Natural Environment, Green Networks and Infrastructure	Environmental networks can, and do, have a variety of roles in protecting and enhancing biodiversity, defining the landscape setting of places, defining the transition from urban to countryside, and facilitating well-being through amenity, recreation and active leisure. The key is to balance these sometimes conflicting roles, achieving a sustainable balance. Development should identify, respect, protect, enhance and connect Flintshire's environmental assets, to create a multifunctional network of natural and historic resources. Development should: I. Protect open countryside and the undeveloped coastline; II. Protect the open character and appearance of green wedges; III. Conserve, protect and enhance the quality and diversity of Flintshire's natural environment including landscape, biodiversity, the Dee Estuary and the Clwydian Range and Dee Valley AONB; IV. Promote opportunities to enhance biodiversity and ensure resilience; V. Maintain, enhance, and contribute to green infrastructure; VI. Create and protect green spaces and open space / play environments that encourage and support good health, well-being, and equality; VII. Conserve, protect and enhance the local distinctiveness and quality of Flintshire's built and

Policy Number	Policy Title	Policy Text
		historic environment including listed buildings, conservation areas, registered historic parks, gardens and landscapes, scheduled ancient monuments and other locally important historic assets; VIII. Make financial contributions where appropriate, to facilitate and maintain the favourable conservation status of key environmental assets; IX. Support measures to minimise the consequences of climate change; X. Protect playing fields and open space from development; and XI. Ensure adequate new open space and playing fields are provided as part of new housing development.
Policy STR14	Climate Change and Environmental Protection	The Council will seek to mitigate the effects of climate change and ensure appropriate environmental protection in the County through: I. Ensuring new development is sustainably located and designed so as to reduce the need for travel by private car; II. Encouraging the use and development of appropriate or suitable brownfield land; III. Adopting a sustainable approach to water resource management including supply, surface water run-off and waste water treatment; IV. Directing development away from flood risk areas, assessing the implications of development in areas at risk of flooding and ensuring that new development does not increase the risk of flooding elsewhere; V. Encouraging energy efficient development, environmentally acceptable renewable and zero / low carbon energy generation and combined heat and power and communal / district heating networks; VI. Ensuring that new development has regard to the protection of the environment in terms of air, noise and light pollution, unstable and contaminated land and former landfill sites; VII. Designing development to be adaptable and resilient to future effects of climate change.
Policy PC2	General Requirements for Development	a) All development should: b) harmonise with or enhance the character, local distinctiveness and appearance of the Site, existing building(s) and surrounding landscape/ townscape;

Policy Number	Policy Title	Policy Text
		c) not have a significant adverse impact on the safety and living conditions of nearby residents, other users of nearby land/property, or the community in general, through increased activity, disturbance, noise, dust, vibration, hazard, or the adverse effects of pollution; d) take account of personal and community safety and security in its design and layout; e) maximise sustainable travel choice by having safe and convenient access by foot, cycle, public transport and vehicles; f) not have an unacceptable effect on the highway network or highway safety as a result of problems arising from traffic generation, inadequate and poorly located parking spaces, servicing and manoeuvring; g) not result in or be susceptible to problems related to foul and surface water drainage, land stability, contamination, flooding, or pollution of light, air and water, either on or off site.
Policy PC3	Design	All new development should: a) be of a high quality, distinctive and inclusive design which respects and enhances the Site and its surroundings in terms of its siting, layout, scale, height, design, density, use of materials and landscaping, and creates a sense of place; b) retain existing landscape and nature conservation features and incorporate opportunities to enhance biodiversity and ecological connectivity; c) ensure that new materials are appropriate, durable and sympathetic to the character and context of the Site; d) protect and enhance the townscape, architectural, historic and cultural built environment; e) incorporate suitable provision of space about dwellings, amenity space, landscaping and planting; f) create attractive, accessible and safe and healthy places with natural surveillance, visibility and sensitive lighting; g) incorporate Sustainable Urban Drainage Schemes to bring about multiple benefits as an integral part of the development. h) protect the living conditions of nearby occupiers from any harmful effects of new development including overlooking, harm to outlook, increased activity/disturbance/noise.

Policy Number	Policy Title	Policy Text
Policy PC5	Transport and Accessibility	New development proposals must be supported by appropriate transport infrastructure, and depending on the nature, scale, location and siting of the proposal, will be required to: a) Incorporate good access to the more sustainable modes of travel, firstly by walking and cycling, secondly by public transport, then by low emission private vehicle and finally by private motor vehicle; b) not compromise the safe, effective and efficient use of the highway network and not have an adverse impact on highway safety or create unacceptable levels of traffic generation; c) where significant adverse effects upon the transport network arising from the Proposed Development are unavoidable, they must be mitigated by, for example, improvements to transport infrastructure and traffic management; d) provide appropriate levels of parking, servicing and manoeuvring space and in non-residential development, a minimum of 10% of parking spaces to have electric vehicle charging points; e) create well designed people orientated streets and make provision for people with restricted mobility including those with characteristics as defined by the Equality Act 2010; f) safeguard, enhance and expand the active travel network, particularly by means of improving connectivity to and from the Proposed Development.
Policy PC8	Airport Safeguarding Zone	Development will not be permitted which would prejudice the safe and efficient operation of Hawarden Airport.
Policy PE5	Expansion of Existing Employment Uses	Outside allocated sites or Principal Employment Areas the expansion of employment uses will be permitted only where: a) it is located on land within or abutting the boundary of existing premises; and b) the resultant scale of development is in keeping with the existing operation, site and its surroundings; and c) any new Site boundary is logical, utilising existing features wherever possible, or incorporates suitable boundary treatment, supplemented by sensitive landscaping measures.
Policy D1	Design Quality, Location and Layout	All Development must incorporate good standards of design. Development will be permitted only if:

Policy Number	Policy Title	Policy Text
		a. it respects the scale of surrounding development, its location, siting, and layout make the best use of land, minimise the need to travel, and provide a safe and attractive environment; b. it is of the highest net density appropriate to its setting and function; c. it relates well to local topography, aspect, microclimate, street pattern, orientation and views; d. it creates positive and attractive building alignments and frontages; e. adequate provision is made for space around buildings, setting of buildings, imaginative parking and landscaping solutions; f. maximises the efficient use of resources, minimises the use of non renewable resources and minimises the generation of waste and pollution; and g. it is accompanied by design information commensurate with the scale and type of development proposed.
Policy EN2	Green Infrastructure	Development proposals will be required to protect, maintain and enhance the extent, quality and connectivity of the green infrastructure network, including designated and non-designated green spaces (as shown on the proposals maps and listed in the table below), and where appropriate: a) create new green infrastructure linkages from the Proposed Development to the existing local network; b) fill in gaps in the existing network to improve connectivity. Where the loss or damage of existing green infrastructure is unavoidable, appropriate mitigation and compensation will be required.
Policy EN4	Landscape Character	New development, either individually or cumulatively, must not have a significant adverse impact on the character and appearance of the landscape. Landscaping and other mitigation measures should seek to reduce landscape impact and where possible bring about enhancement.
Policy EN6	Sites of Biodiversity Importance	Development will not be permitted that would result in an adverse effect on the integrity of sites of international nature conservation importance. Proposals where adverse effects on-site integrity cannot be ruled out would not be supported. Development likely to impact the special features of a Nationally Designated Site will only be granted in exceptional circumstances where appropriate compensation can be provided.

Policy Number	Policy Title	Policy Text
		Development proposals that would have a significant adverse effect on locally designated sites or site with other biodiversity and / or geological interest, including priority species, will only be permitted where: a) it can be demonstrated that the need for the development outweighs the biodiversity or geological importance of the Site; and b) it can be demonstrated that the development cannot reasonably be located elsewhere; and c) any unavoidable harm is minimised by effective mitigation to ensure that there is no reduction in the overall biodiversity value of the area. Where this is not feasible compensation measures designed to create, restore and enhance biodiversity must be provided. d) Development that results in the restoration, enhancement and creation of habitats will be supported especially where this promotes the resilience of ecosystems.
Policy EN7	Development Affecting Trees, Woodland and Hedgerows	Development proposals that will result in significant loss of, or harm to, trees, woodlands or hedgerows of biodiversity, historic, and amenity value will not be permitted. Where the impact of development affecting trees, woodlands or hedgerows is considered acceptable, development will only be permitted where: a) the development maximises their retention through sensitive design measures; and b) where the removal of trees is considered necessary, suitable replacements shall be provided elsewhere within the Site; and c) it results in a net benefit in biodiversity.
Policy EN12	New Development and Renewable and Low Carbon Energy Technology	New development will be required to maximize the potential for renewable or low carbon energy technology to meet the energy needs of the proposal. Residential development sites of 100 units or more and non-residential developments with a floorspace of 1000 sqm or more, will be required to submit an Energy Assessment to determine the feasibility of incorporating low carbon or renewable energy technology or connecting to nearby renewable or low carbon energy sources and heat networks.
Policy EN13	Renewable and Low Carbon Energy Deployment	Renewable or low carbon energy generation development may be permitted for:

Policy Number	Policy Title	Policy Text
		a) Solar PV farms (less than 10 MW) within the Solar Indicative Local Search Areas identified on the proposals map; b) small scale and/or community-based proposals (less than 5MW) for wind, solar, biomass, energy from waste, anaerobic digestion and hydropower in appropriate locations; subject to satisfying the relevant policy tests below. All renewable or low carbon energy proposals will be permitted provided that: I. the development does not prejudice the purpose of the ILSAs to maximise opportunities for large scale solar PV development; II. the siting, design, layout, type of installation and materials used do not have a significant adverse effect on the character and features of the proposed location; III. there would not be unacceptable loss of public amenity or accessibility to the area; IV. the impact of the development upon agriculture, forestry, recreation and other land uses is minimised to permit existing uses to continue unhindered; V. there would be no individual or cumulative significant adverse effect on the landscape, particularly the AONB and its setting; VI. any associated ancillary buildings or structures are sensitively sited and designed to minimize their impact on the character and quality of the locality; VII. in sensitive areas where above ground connections will have an unacceptable adverse effect on the landscape, connection lines and pipes should be located underground; VIII. adequate provision has been made in the scheme for the restoration and aftercare of the Site on the cessation of use. In the case of wind energy proposals: I. the turbines are appropriately designed so as to avoid, or mitigate against, unacceptable environmental impacts, including noise, light reflection and shadow flicker; II. sufficient steps are taken to avoid or, where possible, to mitigate electro-magnetic interference to any existing transmitting or receiving systems. Proposals on land not identified within the Indicative Local Search Areas may still be considered, dependent on the

Policy Number	Policy Title	Policy Text
		technology proposed, its scale, location, and degree of compliance with the above criteria, particularly where proposals would have a demonstrably positive community or economic benefit.
Policy EN14	Flood Risk	In order to avoid the risk of flooding, development will not be permitted: a) in areas at risk of fluvial, pluvial, coastal and reservoir flooding, unless it can be demonstrated that the development can be justified in line with national guidance and is supported by a technical assessment that verifies that the new development is designed to alleviate the threat and consequences of flooding; b) where it would lead to an increase in the risk of flooding on the Site or elsewhere from fluvial, pluvial, coastal or increased surface water run-off from the Site; c) where it would have a detrimental effect on the integrity of existing flood risk management assets: or d) where it would impede access to existing and proposed flood risk management assets for maintenance and emergency purposes.
Policy EN15	Water Resources	Development affecting water resources will only be permitted if: a) it would not have a significant adverse impact on the capacity and flow of groundwater, surface water, or coastal water systems; b) it would not pose an unacceptable risk to the quality of groundwater, surface water, or coastal water; and c) it would have access to adequate water supply, sewerage and sewage treatment facilities which either already exist, or will be provided in time to serve the development, without detriment to existing abstractions, water quality, fisheries, amenity or nature conservation; and d) there is no adverse effect on the integrity of the River Dee and Bala Lake SAC in particular through the treatment of waste water. To ensure no adverse effect on the integrity of the River Dee and Bala Lake SAC, development creating waste water discharges will be required to demonstrate there is no increase in phosphorus levels in the SAC. This can be achieved through implementation of mitigation measures

Policy Number	Policy Title	Policy Text
		and associated supplementary planning guidance. Mitigation will involve, either: I. Delivery of measures specified in the Dee Catchment Phosphorus Reduction Strategy (DCPRS), which will require: I. Developer contributions/community infrastructure levy funds to deliver measures identified within the DCPRS to reduce phosphorus levels within the catchment. II. Phasing of development to meet the delivery milestones within the DCPRS, and delaying development if milestones have not been met; OR 2. Using alternative mitigation approaches to those mentioned in 1. above. Where further evidence demonstrates that adverse effects on the integrity of the River Dee and Bala Lake SAC can be avoided using alternative mitigation, these must be agreed with the Council, in consultation with Natural Resources Wales.
Policy EN18	Pollution and Nuisance	New development which is sensitive to the effects of existing noise, vibration, odour, dust, light or other pollution or nuisance, will be permitted only if it can be demonstrated that appropriate measures can be taken to mitigate any potential adverse effects. New development which would create an increased risk of noise, vibration, odour, dust, light or other pollution or hazard will only be permitted if: a) it would not unacceptably harm general amenity or living conditions; and b) it would not impose significant restrictions on the use or development of surrounding land. If new external lighting is proposed, particularly in or near to the AONB, this should be considered as part of an overall landscaping scheme and kept to a minimum to avoid light pollution.
Policy EN19	Managing Waste Sustainably	Proposals for new development should: a) demonstrate how the production of waste will be minimised during all stages of the development and how wastes which do arise would be managed in a sustainable way, in accordance with the waste hierarchy. b) demonstrate, where relevant, that adequate facilities and space for collection, composting and recycling of waste materials has been made.

Policy Number	Policy Title	Policy Text
Policy EN23	Minerals Safeguarding	Non-mineral development within Mineral Safeguarding Areas as defined on the proposals map will only be permitted where it can be demonstrated that: a) the mineral underlying the Site does not merit extraction, or b) the need for the non-mineral development outweighs the need to protect the resource, or c) the mineral can be satisfactorily extracted prior to the non-mineral development, or d) the development is of a temporary nature or can be removed within the timescales within which the mineral is likely to be needed, and e) essential infrastructure that supports the supply of minerals, including Mostyn Docks and Padeswood Cement Works (as shown on the proposals maps), would not be compromised or would be provided elsewhere. All applications for development, with the exception of householder applications, in these areas shall be supported by a Mineral Safeguarding Assessment. Proposals for non-mineral development on-sites of 4ha or more, which are underlain by Category 1 sand and gravel shall be supported by a Prior Extraction Assessment.