

HEOLDDU SOLAR FARM ENVIRONMENTAL IMPACT ASSESSMENT SCOPING REPORT

Request for Scoping Direction under Town and Country Planning
(Environmental Impact Assessment) (Wales) Regulations 2017

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REPORT

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1 INTRODUCTION

1.1 Introduction

- 1.1.1 This Scoping Report has been prepared by RPS on behalf of Heolddu Solar Park Limited (the Applicant) in relation to the proposed Heolddu Solar Farm located near Ferryside, Carmarthenshire, hereafter referred to as the 'Proposed Development'. A Proposed Site Location Plan is at Appendix 1.1.
- 1.1.2 The Applicant proposes to submit an application for development consent to Planning and Environment Decisions Wales (PEDW). The application will be accompanied by an Environmental Statement (ES) prepared in accordance with the Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017, as amended (the EIA Regulations), and other required documents.
- 1.1.3 This Scoping Report sets out the proposed content, methodologies and key issues to be included within the Environmental Impact Assessment (EIA) process and the resulting ES to be submitted with the application. The purpose of this document is to obtain a Scoping Direction from PEDW (on behalf of the Welsh Ministers) and, in doing so, this Scoping Report provides information for statutory consultees and the Welsh Ministers to agree the scope of the ES and what the Applicant intends to assess within the ES.

1.2 The applicant

- 1.2.1 Heolddu Solar Park Limited (the Applicant) is a registered company of Qualitas Energy ('QE'). QE has been leading the drive of renewable energy, energy transition, and sustainable infrastructure development in Europe for over 18 years. QE consists of a team of over 690 professionals who work together, sharing objectives and a commitment to sustainability. In total, 1.1 million homes have been supplied with clean energy through QE electricity generation, and it has 18GW in its energy asset portfolio in operation and development.
- 1.2.2 QE is a leading fund manager focused on renewable energy, energy transition and sustainable energy infrastructure. Its mission is to drive the change towards a decarbonized economy through focusing its investments into energy transition and sustainability-related assets. Since its inception in 2007, QE has invested c. EUR 12 billion and managed 5 different funds. QE's team delivers cross all the relevant aspects of the value chain including, development, construction, financing, operations, and energy management.
- 1.2.3 To-date, QE has an operational output of 585 MW of solar with a further 6.1 GW in development. With offices in London, Bristol and Edinburgh as well as over 20 staff in the UK, QE is committed to accelerating the energy transition in the United Kingdom. As well as solar, QE is committed to delivering wind energy infrastructure and renewable natural gas with two renewable biomethane gas generating facilities and one gas injection hub under construction in England. With a pipeline of renewable biomethane gas projects, QE is expected to become the leading biomethane and green CO2 producer in the UK.

1.3 Statutory framework and purpose of the environmental statement

Statutory Framework

- 1.3.1 The indicative scale and size of the Proposed Development being greater than 10MW means the future application will be classed as a Development of National Significance (DNS) to be determined by the Welsh Ministers and submitted to PEDW who appoint an Inspector to examine the application and determine the planning merits, national priorities and the benefits the Proposed Development is likely to bring if approved.
- 1.3.2 As stated in PEDW's DNS Procedural Guidance document (2024), the statutory basis for the DNS process is provided by the Planning (Wales) Act 2015, which amends the Town and County Planning

Act 1990 ('the Act'), and the Developments of National Significance (Wales) Regulations 2016 (as amended) and subsequent Regulations. 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, because of their potential benefits and impacts.

- 1.3.3 As per the statutory requirements set out in the Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017, referred to herein as the 'EIA Regulations', if significant environmental effects are likely to arise from implementation of a proposed development, then an EIA is required to be submitted along with the application. The Project falls under Section (3) 'Energy Industry' (a) 'Industrial installations for the production of electricity, steam and hot water (of paragraph 2 of Schedule 2. As the Proposed Development exceeds the area threshold of 0.5 ha listed within Column 2 of Schedule 2, paragraph (3) (a) and based on current available information, the Applicant has elected to carry out an EIA and an ES will be submitted to accompany the planning application.

Purpose of EIA

- 1.3.4 EIA is the process of identifying and assessing the significance of effects likely to arise from a proposed development. This requires consideration of the likely changes to the environment, where these arise as a consequence of a proposed development, through comparison with the existing and likely future baseline conditions in the absence of that proposed development.

Purpose of scoping

- 1.3.5 The process of identifying the matters to consider within an ES (establishing the scope of the assessment) is known as scoping. Scoping is not a mandatory requirement under the EIA Regulations. However, it is recognised that through the scoping exercise, the key environmental matters are identified at an early stage, which permits subsequent work to concentrate on those environmental topics for which significant effects may arise as a result of a proposed development.

Purpose of this scoping report

- 1.3.6 This document sets out details of the Proposed Development, the proposed EIA methodology and the proposed scope of technical assessments. It invites comments from PEDW and its consultees regarding the scope of works. The intention of this scoping exercise is to gain agreement from all key parties regarding the proposed methodology and scope of assessment.
- 1.3.7 This Scoping Report has been informed by the following:
- Desk-top studies, site visits and surveys.
 - Review of relevant websites, such as those provided by statutory consultees.
 - Local planning policy, Planning Policy Wales and Technical Advice Notes.
 - The EIA Regulations and EIA good practice guidance.
 - Experience of other similar developments.

Public consultation

- 1.3.8 An important part of the Applicant's planning process is engaging with local communities to provide information on the Proposed Development and gather local feedback to improve the proposals. The Applicant is committed to building a relationship with the community near the Heolddu Solar Farm Site and more broadly across Wales. To ensure that this happens there will be extensive consultation on the Proposed Development.
- 1.3.9 The enclosed Consultation Plan at Appendix 1.2 confirms the proposed key project milestones which include:

- Late 2024 / early 2025 – pre-application engagement and EIA Scoping Request.
- Early 2025 – informal consultation including project website launch, stakeholder outreach, consultation leaflet and consultation event, community benefit workshop and media relations.
- Mid 2025 – Statutory Pre-Application Consultation including formal notification of full draft DNS planning application hosted on project website, consultation event, community benefit workshop and further media relations.
- Late 2025 – application submission. Concurrent stakeholder meetings, including community benefit organisations.

1.3.10 The ES will include a summary of the pre-application public consultation carried out.

2 THE SITE AND THE PROPOSED DEVELOPMENT

2.1 The Site and its surroundings

2.1.1 The Application Site (the “Site”) extends to 90.5 hectares (ha) and is located wholly within the administrative boundary of Carmarthenshire County Council. The Site is set within a rural, farmed landscape 1km to the east of Ferryside. Kidwelly is 4km to the south. Smaller settlements within a 5km radius of the Site include the villages of Llandyfaelog, Broadway, Llansaint, Saint Ishmael and Broadlay.

2.1.2 The Site comprises:

- Solar Area West
- Solar Area East
- Underground cable route connecting the two Areas
- Offsite parcels for ecology mitigation and/or enhancement if required.

2.1.3 Solar Area West extends to 55 hectares and is south-westerly facing, whilst Solar Area East extends to 25 hectares and is south-easterly facing (see Figure 2.1) – these are the areas proposed for the solar farm itself. Additionally, off-site mitigation and enhancement land comprises a 3-hectare parcel located to the north of Carmarthen Road (north of Solar Area East) and a 7-hectare parcel located immediately south of Carmarthen Road (north of Solar Area West). The underground cable route covers 0.5 hectares.

2.1.4 Solar Area West consists of fifteen fields (1-15), mainly flat and separated from each other by mature hedgerows which also form the Site boundaries. There is a small woodland within the fields. The land is well screened from the surrounding landscape and views by existing mature boundary vegetation. 57% of this land has been consented for solar development in 2015: the Bryncoch Solar Farm planning permission (W/32171) (see Figure 2.1 below for spatial extent of the permission). This lapsed due to grid connection issues but is considered still relevant in terms of the acceptability in principle of the location in environmental and planning terms.

2.1.5 Solar Area East consists of eleven fields (16-26) some of which, due to the surrounding topography and their hillside location, are more visible in the landscape than Solar Area West.

Figure 2.1: Consented Bryncoch Solar Farm shown in yellow and overlap fields as hatched.



2.1.6 Six residential properties are located within 300m of Solar Area West and Solar Area East, the nearest being Maes Mawr Farm, which is immediately north of Solar Area West. Pembrey Airport is located 5km to the south of the Site.

2.1.7 Figure 2.2 and Figure 2.3 below provide views from within Solar Area West. Figure 2.4 and Figure 2.5 provide views from within Solar Area East.

Figure 2.2: View from centre of Solar Area West looking east (Field 8)



Figure 2.3: View from centre of Solar Area West looking north (Field 7)



Figure 2.4: View from south of Solar Area East looking north (Field 19)



Figure 2.5: View from the south of Solar Area East looking north (Field 17 and Field 19 beyond first field)



- 2.1.8 In terms of site access, both Solar Area East and Solar Area West have access gates between field boundaries, allowing easy internal access and both are accessed from Carmarthen Road off the A484. Solar Area West can be accessed via a gate in the field boundary located on a junction 3km along Carmarthen Road from Ferryside. An additional access to Solar Area West can be achieved immediately west of the crossroads along the northern boundary. Solar Area East can be accessed via a gate in the field boundary located 1.5km along Carmarthen Road from the A484 to Llandyfaelog. It is anticipated that both accesses from the road may require small sections of hedgerow removal to ensure that appropriate sightlines can be achieved. Hedgerow loss required to accommodate the Proposed Development will be kept to a minimum with all internal trees and hedgerows retained. Where any removal is required, replacement planting will be secured through a Landscape Strategy to be secured by planning condition.
- 2.1.9 There is a single Public Right of Way (PRoW) crossing the centre of Solar Area West, running broadly in an east-west direction, along the existing field boundary (62/12/1). It is anticipated that this will be accommodated within the Proposed Development layout, and it is not intended that a permanent diversion or stopping up will be necessary. Controls will be in place during construction to manage the continued use of this route which will be secured in a Construction Environmental Management Plan (CEMP) or similar management plan. Opportunities for enhancement of this section of the PRoW will also be explored.
- 2.1.10 Please see Appendix 1.1 which show the Site's location and red line boundary.

2.2 Project description

2.2.1. The Applicant proposes to develop a solar photovoltaic electricity generating station (or 'solar farm') with an installed generation capacity of circa 40 MW and associated ancillary development, including a 132kV substation, with landscape and environmental enhancements.

2.2.2. The project description is as follows:

Proposed development of a solar farm, including associated ancillary infrastructure and development, temporary laydown areas and landscape and environmental enhancements on land at Maes Mawr and Treforris Fawr Farm, Ferryside, Carmarthenshire.

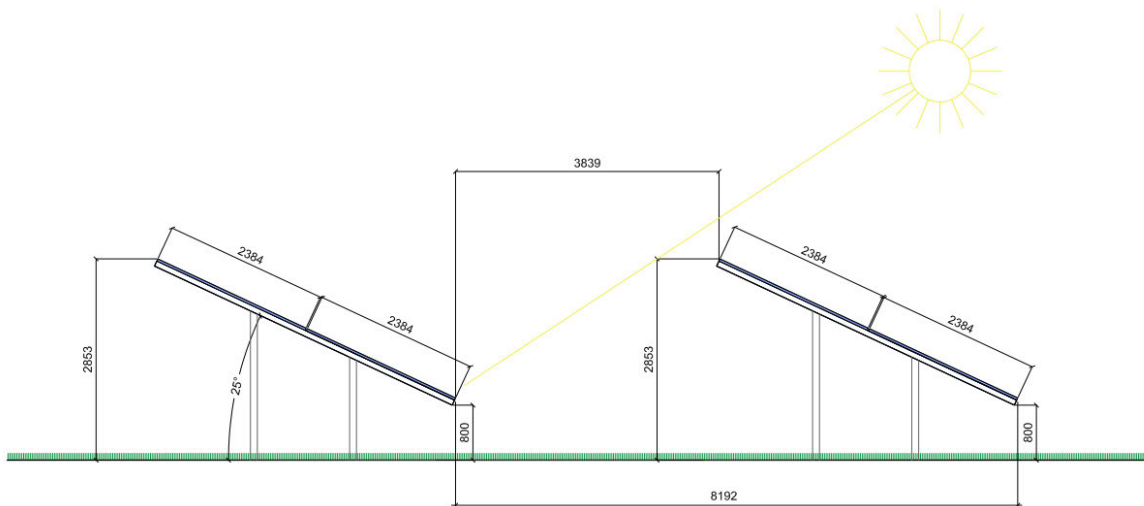
2.2.3. The main components of the Proposed Development are:

- Solar panels and frames.
- Central Inverters.
- Transformers.

- Cabling.
- Substations with communications tower.
- Internal access roads.
- Fencing.
- Landscape and wildlife enhancements.

- 2.2.4. It is anticipated that the Point of Connection (PoC) will be at the existing 132kV pylon located in the north-east of Solar Area East (Field 21). Underground cables will be laid between Solar Area West and Solar Area East to connect Solar Area West to the PoC. It is anticipated that the cable route will be laid via surface dug trenches and backfilled along the public highway as shown in Appendix 1.1.
- 2.2.5. It is estimated that annually, the electricity generated would be enough to power approximately 10,770 homes¹, resulting in an approximate saving of 9,961 tonnes of CO₂². This would be enough to power almost all the homes in Kidwelly and St Ishmael, Trimsaran, St Clears and Carmarthen put together. It should be noted that the figures stated may change once more detailed assessment has been undertaken.
- 2.2.6. During construction and decommissioning temporary site compounds will be required to host staff facilities, take deliveries of components and store plant and equipment securely while not in use. These compounds will be sited within the Solar Area East and Solar Area West – no additional land is necessary to accommodate site compounds.
- 2.2.7. Solar panels, also known as photovoltaics (PV), are made up of cells, which convert the light energy from daylight into electrical energy. The solar panels will ‘over sail’ the land which they occupy, arranged in series of squares up to a height of 1 m for east/west panels and a series of rows, typically tilted southwards at an angle of 10-25 degrees. The PV panels will be traditional static south facing fixed tilt structures hosting panels up to 2.85m tall. The panels have an anti-reflective coating to ensure maximum absorption of solar radiation and reduction of reflections. An indicative solar panel cross section is shown at Figure 2.6 below.

Figure 2.6 Indicative Solar Panel Cross Section



¹ Year one output has been calculated by multiplying the proposed development’s generation capacity (40 MW), by total hours in a year (8,766 accounting for leap years), then applying a capacity factor for solar PV schemes operating in the UK on an unchanged configuration basis (11.06% (average of 2012-2023 data)) (DESNZ, 2024). Year one output was then divided by 3,600 kWh, (annual electricity consumption for an average UK household) (DESNZ, 2023), providing an estimated number of homes powered per annum.

² This saving is calculated by multiplying estimated total output in year 1 (38,769 MWh), by the UK’s current grid average factor, inclusive of Well-to-tank (WTT), and WTT transmission and distribution (T&D) (DESNZ, 2024).

- 2.2.8. Solar panels will be mounted upon support frame uprights which will then be pile (push) driven into the ground. Some limited excavation will be required for the substation platform as well as for the central inverters and transformers' foundations.
- 2.2.9. The majority of the cabling associated with the Proposed Development will be laid underground via surface dug trenches of approximately 1 m deep and 50cm wide and backfilled.
- 2.2.10. At this stage the technical requirements are being clarified and assessed but the proposal is likely to include a 132 kV DNO substation, which would comprise an open compound with support stanchions and cabling. The substation's main structural elements can be painted in a warm, muted mid-tone neutral shade and its perimeter landscaped (if appropriate) to ensure it is visually recessive within the landscape. The substation design will be confirmed by the Distribution Network Operator (DNO) and will comprise the DNO substation and a further Customer Substation. The substations will sit within a circa 22m wide and x 67 m long area which will include hardstanding for the placement of the electrical components and a 15m high communications tower. It will be enclosed within a 3 m tall security fence, painted in a shade of moss green and composed of an open steel mesh panel. Approx. 3.5 m high control room buildings will also be located in the substation compound area.
- 2.2.11. The solar panels will be designed to accommodate grazing beneath and between the rows of panels, providing an efficient dual use of land for renewable energy generation and agriculture. The solar farm will be enclosed by 2 m tall post and wire 'deer' fencing with 3 m tall security cameras in selected locations for security purposes.
- 2.2.12. Temporary construction compounds will be accommodated on-site with one temporary construction compound located in each of Solar Area West and Solar Area East. The construction period for the Proposed Development remains to be confirmed but will be between 8 to 12 months.
- 2.2.13. The Proposed Development would be a temporary and reversible use, unlike housing for example, with all above ground infrastructure removed from Site at the end of the installation's operational life (approximately 40 years). The methods used in construction (limited concrete) mean that remediation works following the removal of the panels and associated infrastructure are relatively minor and will return the Site to its previous agricultural use.
- 2.2.14. An Indicative Proposed Concept Layout Plan has been prepared and will be subject to technical assessment to inform the evolution of the design to arrive at a final Proposed Layout Plan. The Indicative Proposed Concept Layout Plan is included at Appendix 2.1.

3 GENERAL APPROACH TO EIA

3.1 Information required

3.1.1. Although there is no statutory provision as to the form of an ES, it must contain the information specified in Regulation 17(3), including any relevant information specified in Schedule 4 of the EIA Regulations, as set out below:

1. A description of the development including in particular:
 - a. A description of the location of the development;
 - b. A description of the physical characteristics of the whole development, including, where relevant, requisite demolition works, and the land-use requirements during the construction and operational phases;
 - c. A description of the main characteristics and the operational phase of the development (in particular any production process), for instance, energy demand and energy used, nature and quantity of the minerals and natural resources (including water, land, soil and biodiversity) used;
 - d. An estimate, by type and quantity, of expected residues and emissions (such as water, air, soils and sub soil pollution, noise, vibration, light, heat, radiation and quantities and types of waste produced during the construction and operation phases;
2. A description of the reasonable alternatives (for example in terms of development design, technology, location, size and scale) studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen opinion, including a comparison of the environmental effects;
3. A description of the relevant aspects of the current state of the environment (baseline scenario) and an outline of the likely evolution thereof without implementation of the development as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental information and scientific knowledge;
4. A description of the factors specified in regulation 4(2) likely to be significantly affected by the development; population, human health, biodiversity (for example fauna and flora), land, (for example land take), soil (for example organic matter, erosion, compaction, sealing), water (for example hydromorphological changes, quantity and quality), air, climate (for example greenhouse gas emissions, impacts relevant to adaptation), material assets, cultural heritage, including archaeological aspects, and landscape;
5. A description of the likely significant effects of the development on the environment resulting from, inter alia:
 - a. The construction and existence of the development, including, where relevant, demolition works;
 - b. The use of natural resources, in particular land, soil, water and biodiversity, considering as far as possible the sustainable availability of these resources;
 - c. The emission of pollutants, noise, vibration, light, heat and radiation, the creation of nuisances, and the disposal and recovery of waste;
 - d. The risks to human health, cultural heritage or the environment (for example due to accidents or disasters);

- e. The cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources;
- f. The impact of the project on climate (for example the nature and magnitude of greenhouse gas emissions) and the vulnerability of the project to climate change;
- g. The technologies and the substances used.

3.1.2. The description of the likely significant effects on the factors specified in regulation 4(2) should cover the direct effects and any indirect, secondary, cumulative, transboundary, short-term, medium-term and long-term, permanent and temporary, positive and negative effects of the development:

1. A description of the forecasting methods or evidence, used to identify and assess the significant effects on the environment, including details of difficulties (for example technical deficiencies or lack of knowledge) encountered compiling the required information and the main uncertainties involved.
2. A description of the measures envisaged to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects on the environment and, where appropriate, of any proposed monitoring arrangements (for example the preparation of a post-project analysis). That description should explain the extent, to which significant adverse effects on the environment are avoided, prevented, reduced or offset, and should cover both the construction and operational phases.
3. A description of the expected significant adverse effects of the development on the environment deriving from the vulnerability of the development to risks of major accidents and/or disasters which are relevant to the project concerned. Relevant information available and obtained through risk assessments pursuant to EU legislation such as Directive 2012/18/EU(c) of the European Parliament and of the Council or Council Directive 2009/71/Euratom(d) or UK environmental assessments may be used for this purpose provided that the requirements of this Directive are met. Where appropriate, this description should include measures envisaged to prevent or mitigate the significant adverse effects of such events on the environment and details of the preparedness for and proposed response to such emergencies.
4. A non-technical summary of the information provided under paragraphs 1 to 8.
5. A reference list detailing the sources used for the descriptions and assessments included in the environmental statement.

3.1.3. The information supplied in the ES will provide a clear understanding of the likely significant effects of the project upon the environment. The following sections outline the overall approach to EIA in order to meet these legal requirements.

3.2 Structure of the Environmental Statement (ES)

3.2.1 The ES will be structured logically, enabling all relevant environmental information to be found quickly and easily. The ES will describe the EIA process and its findings, and will include the following sections:

- Non-Technical Summary (as a stand-alone document)
- Written Statement
- Figures
- Appendices

3.3 EIA Methodology

Relevant EIA guidance

3.3.1 The EIA process will take into account relevant government or institute guidance, including:

- Welsh Office Circular 11/99: Environmental Impact Assessment.
- Highways Agency et al. (2008) Design Manual for Roads and Bridges, Volume 11, Section 2, Part 5. HA 205/08.
- Institute of Environmental Management and Assessment (2004) Guidelines for Environmental Impact Assessment.
- Institute of Environmental Management and Assessment (2011) The State of Environmental Impact Assessment Practice in the UK. Special Report.
- Institute of Environmental Management and Assessment (2015a) Environmental Impact Assessment: Guide to Shaping Quality Development.
- Institute of Environmental Management and Assessment (2015b) Climate Change Resilience and Adaptation.
- Institute of Environmental Management and Assessment (2016) Environmental Impact Assessment: Guide to Delivering Quality Development.
- Institute of Environmental Management and Assessment (2017) Environmental Impact Assessment: Assessing Greenhouse Gas Emissions and Evaluating their Significance.
- Institute of Environmental Management and Assessment (2017) Health in Environmental Impact Assessment: A Primer for a Proportional Approach.

3.3.2 Other topic-specific specialist methodologies and good practice guidelines will be drawn upon as necessary and have been stated in topic sections.

Key elements of the general approach

3.3.3 The assessment of each environmental topic will form a separate chapter of the ES. For each environmental topic, the following will be addressed:

- Methodology and assessment criteria.
- Description of the environmental baseline (existing conditions).
- Identification of likely effects.
- Evaluation and assessment of the significance of identified effects, taking into account any measures designed to reduce or avoid environmental effects which form part of the project and to which the developer is committed.
- Identification of any further mitigation measures envisaged to avoid, reduce and, if possible, remedy adverse effects (in addition to those measures that form part of the project).

Methodology and assessment criteria

3.3.4 Each topic chapter will provide details of the methodology for baseline data collection and the approach to the assessment of effects. Details of the proposed approach for each topic chapter are provided in Sections 5 - 7 of this Scoping Report. Each identified environmental topic will be considered by a specialist in that area. The identification and evaluation of effects will consider relevant topic-specific guidance where available.

Description of the environmental baseline

- 3.3.5 The existing and likely future environmental conditions in the absence of the project are known as 'baseline conditions'. Each topic-based chapter will include a description of the current (baseline) environmental conditions. The baseline conditions at the Site and within the study area form the basis of the assessment, enabling the likely significant effects to be identified through a comparison with the baseline conditions.
- 3.3.6 The baseline for the assessment of environmental effects will primarily be drawn from existing conditions during the main period of the EIA work. Consideration will also be given to any likely changes between the time of survey and the future baseline for the construction and operation of the project. In some cases, these changes may include the construction or operation of other planned developments in the area. Where such developments are built and operational at the time of writing and data collection, these will be considered to form part of the baseline environment. Where sufficient and robust information is available, such as expected traffic growth figures, other future developments will be considered as part of the future baseline conditions. In all other cases, planned future developments will be considered within the assessment of cumulative effects.
- 3.3.7 The consideration of future baseline conditions will also take into account the likely effects of climate change, as far as these are known at the time of writing. This will be based on information available from the UK Climate Projections project (UKCP18), which provides information on plausible changes in climate for the UK (Environment Agency and Met Office, 2018) and on published documents such as the UK Climate Change Risk Assessment 2017 (Committee on Climate Change, 2016).

Assessment of effects

- 3.3.8 The EIA Regulations require the identification of the likely significant environmental effects of the project. Each topic chapter will take into account both the sensitivity of receptors affected and the magnitude of the likely impact in determining the significance of the effect.

Sensitivity and importance of receptors

- 3.3.9 Receptors are defined as the physical resource or user group that would be affected by a proposed development. The baseline studies will identify potential environmental receptors for each topic and will evaluate their sensitivity to the proposed development. The sensitivity or importance of a receptor may depend, for example, on its frequency or extent of occurrence at an international, national, regional or local level.

Magnitude of impact

- 3.3.10 Impacts are defined as the physical changes to the environment attributable to the project. For each topic, the likely environmental impacts will be identified. The magnitude of the impact will be described using defined criteria within each topic chapter.
- 3.3.11 The categorisation of the impact magnitude may take into account the following four factors:
- Extent
 - Duration
 - Frequency
 - Reversibility
- 3.3.12 Impacts will be defined as either adverse or beneficial. Depending on discipline, they may also be described as:
- Direct: Arise from activities associated with the project. These tend to be either spatially or temporally concurrent.

- Indirect: Impacts on the environment which are not a direct result of the project, often produced away from the project site or as a result of a complex pathway.

3.3.13 Impacts will be divided into those occurring during the construction phase and those occurring during operation. Where appropriate, some chapters may refer to these as temporary and permanent impacts.

Significance of effects

3.3.14 Effect is the term used to express the consequence of an impact (expressed as the 'significance of effect'), which is determined by correlating the magnitude of the impact to the sensitivity of the receptor or resource.

3.3.15 The magnitude of an impact does not directly translate into significance of effect. For example, a significant effect may arise as a result of a relatively modest impact on a resource of national value, or a large impact on a resource of local value. In broad terms, therefore, the significance of the effect can depend on both the impact magnitude and the sensitivity or importance of the receptor.

3.3.16 Levels of significance that will be used in the assessment include, in descending order:

- Substantial
- Major
- Moderate
- Minor
- Neutral

3.3.17 Where an effect is described as 'neutral' this means that there is either no effect or that the significance of any effect is considered to be negligible. All other levels of significance will apply to both adverse and beneficial effects. These significance levels will be defined separately for each topic within the methodology sections. In all cases, the judgement made as to significance will be that of the author of the relevant chapter with reference to appropriate standards/guidelines where relevant.

Cumulative effects

3.3.18 The cumulative effects of the proposed development in conjunction with other proposed schemes will be considered. The cumulative effects assessment will consider any developments that are formally in the planning system at the time of submission. Developments that are built and operational at the time of assessment will be considered as part of the baseline.

3.3.19 It is proposed that the ES will consider the following cumulative schemes:

Table 3.1: Identified Cumulative Schemes

Project	Status
DNS CAS-03094-T7D9G0 – Green GEN Towy Teifi Grid Connection Distance: approximately 40km north	EIA Scoping Direction issued by PEDW.
DNS CAS-02917-K8D5Z2 – Bryn Cadwgan Energy Park Distance: approximately 45km north-east	EIA Scoping Direction issued by PEDW.
DNS/3227364 – Tycroes Solar Farm Distance: approximately 18km east	Consented but unimplemented.

DNS/3213164 – Llangennech Solar Farm Distance: approximately 15km south-east	Consented but unimplemented.
S/36948 – Pentre Awel Wellbeing and Life Sciences Village Distance: approximately 15km south-east	Phase 1 under construction
Nantycaws Circular Economy Park Distance: approximately 9.5km north-east	Pre-Application Stage
Carmarthen West Strategic Site Distance: approximately 10km north-east	Part-implemented adopted LDP allocations and draft RLDP allocation.
Towy-Usk connection route Distance: approximately 3km north-east	Pre-Application Stage
PL/08221 – Proposed replacement dwelling and extension of domestic curtilage, Golygfa, Kidwelly, SA17 5AR. Distance: approximately 270m east of Solar Area West (immediately south of proposed cable route).	Consented but unimplemented.

3.3.20 The Applicant submitted a pre-application advice request to Carmarthenshire County Council in December 2024 which included the list of cumulative developments above to be agreed. Accordingly, the cumulative schemes to be considered in the ES will be agreed with Carmarthenshire County Council prior to this list being finalised.

Mitigation measures

3.3.21 The EIA Regulations require that where significant effects are identified 'a description of any features of the proposed development, or measures envisaged in order to avoid, prevent or reduce or, if possible, offset likely significant adverse effects on the environment' should be included in the ES.

3.3.22 The development of mitigation measures is part of an iterative EIA process. Therefore, measures will be developed throughout the EIA process in response to the findings of initial assessments. The project that forms the subject of the planning application will include a range of measures designed to reduce or prevent significant adverse environmental effects arising, where practicable. In some cases, these measures may result in enhancement of environmental conditions. The assessment of effects will therefore take into account all measures that form part of the project and to which the Applicant are committed.

3.3.23 The topic chapters will therefore take into account all measures that form part of the Proposed Development, including:

- Measures included as part of the project design (sometimes referred to as primary mitigation).
- Measures to be adopted during construction to avoid and minimise environmental effects, such as pollution control measures. These measures would be implemented through the Code of Construction Practice.
- Measures required as a result of legislative requirements.

3.3.24 Where required, further mitigation measures will be identified within topic chapters. These are measures that could further prevent, reduce and, where possible, offset any residual adverse effects on the environment.

3.3.25 In some cases, monitoring measures may be appropriate, for example, to ensure that proposed planting becomes established. Where appropriate, monitoring measures will be set out.

Summary tables

3.3.26 Tables will be used to summarise the effects of the project for each environmental topic.

4 SCOPE OF ASSESSMENT

4.1 Work undertaken to date

- 4.1.1 The Site selection and layout design exercises have been informed by a combination of desk-based assessment to identify any opportunities or constraints together with the findings of survey work undertaken to-date. Environmental constraints have been given particular regard and prioritised wherever practicable when selecting the Site for development. Where environmental constraints remain, the design of the development itself within the Site will respond to these constraints in order to minimise impacts as far as possible. The following studies have been undertaken or are currently ongoing in relation to the proposed development.
- 4.1.2 Topographical surveys of the Site were completed in November 2024 and have informed the Proposed Concept Layout Plan.
- 4.1.3 Surveys are underway to confirm the Agricultural Land Classification (ALC) value of the Site and the extent of any BMV. The methodology for the ALC survey has been verified by the Welsh Government Land Quality Advice Service. The outcome of the survey will inform the design of the Proposed Development.
- 4.1.4 An early Zone of Theoretical Visibility (ZTV) was prepared based upon a maximum capacity layout to inform the selection of candidate viewpoint locations and to identify the areas of the Site that are most visible in order to inform the early design of the Proposed Development.
- 4.1.5 A Written Scheme of Investigation for Geophysical Survey was approved by the archaeological advisor at Heneb Development Management – Dyfed Region on 8 November 2024. The geophysical survey was completed in November 2024 and will be shared with Heneb in order to confirm any requirements for further evaluation.
- 4.1.6 A Phase 1 Ecological Walkover Survey was undertaken in December 2024 which will inform the required scope of the Phase 2 surveys to be undertaken in 2025. The Phase 1 Survey will be updated during the optimal survey window in 2025 to validate the December 2024 findings and will be presented in a Preliminary Ecological Appraisal (PEA) report. Wintering bird surveys commenced in November 2024 and will continue until early March 2025.
- 4.1.7 A Noise Impact Assessment is currently under preparation. Early findings emerging from the baseline noise monitoring are being considered in order to ensure the selection of appropriate equipment, as well as to inform the spatial arrangement of infrastructure on the Site. A decision has been made by the design team to reject string inverters and opt for a centralised inverter solution. This choice reduces noise impacts through increasing the distances between the inverters and the limited number of nearby noise sensitive receptors and significantly reducing the overall number of inverters in the scheme. Initial high-level modelling has been undertaken that has informed the choice of the centralised inverter technology.
- 4.1.8 Early transport appraisal exercises have been undertaken to identify the most appropriate access points to each parcel, and to model the visibility splays for construction and maintenance vehicles accessing the Site. An early review of construction compound options has also been undertaken.
- 4.1.9 A walkover and arboricultural appraisal (BS5837:2012 standard) was completed in December 2024. Appendix 4.4 presents the Tree Survey Report which has been prepared to inform feasibility and design options. A full Arboricultural Impact Assessment will be undertaken as a stand-alone assessment to accompany the planning application.

4.2 Topics scoped out of assessment

4.2.1 Taking into account the findings of the above studies, together with our knowledge of the Site and surrounding area, it is proposed that the following topics are not included in the scope of the ES:

- Planning policy context.
- Population.
- Human Health.
- Transport.
- Land (for example land take).
- Air.
- Material Assets.
- Risk of Major Accidents.
- Ground Conditions.
- Noise and Vibration.
- Hydrology, Hydrogeology and Flood Risk.
- Historic Environment.
- Glint and Glare.
- Residential Visual Amenity.
- Climate Change.

Planning policy context

4.2.2 The ES will provide an overview of relevant legislative and planning policy context within each topic chapter. The assessment will have regard to national and local policy documents, where relevant. However, it is not proposed to include a separate chapter on Planning Policy Context in the ES. The draft guidance on EIA from the Department for Communities and Local Government 'EIA: A Guide to Good Practice and Procedures' (DCLG 2006) (paragraph 155) states that there is no requirement to provide chapters on planning and sustainability in Environmental Statements. A separate Planning Statement will be submitted with the planning application and the environmental topic chapters within the ES will each set out the policy context relevant to that topic.

4.2.3 Planning policy therefore is proposed to be scoped out of the ES.

Population and Human Health

4.2.4 The construction phase will have a temporary effect on employment provision through the creation of construction jobs. This is unlikely, however, to result in a significant change in population as workers are unlikely to relocate to an area on a permanent basis. Therefore, a minor beneficial effect is therefore anticipated for a temporary period. This would not be significant in EIA terms.

4.2.5 The direct human health effects of the Proposed Development are limited, the Proposed Development will displace primary fossil fuel derived electricity, and the consequent Greenhouse Gases and other pollutants released during fossil fuel combustion and would result in a beneficial effect on human health. This would not be significant in EIA terms.

4.2.6 Population and human health are therefore proposed to be scoped out of the ES.

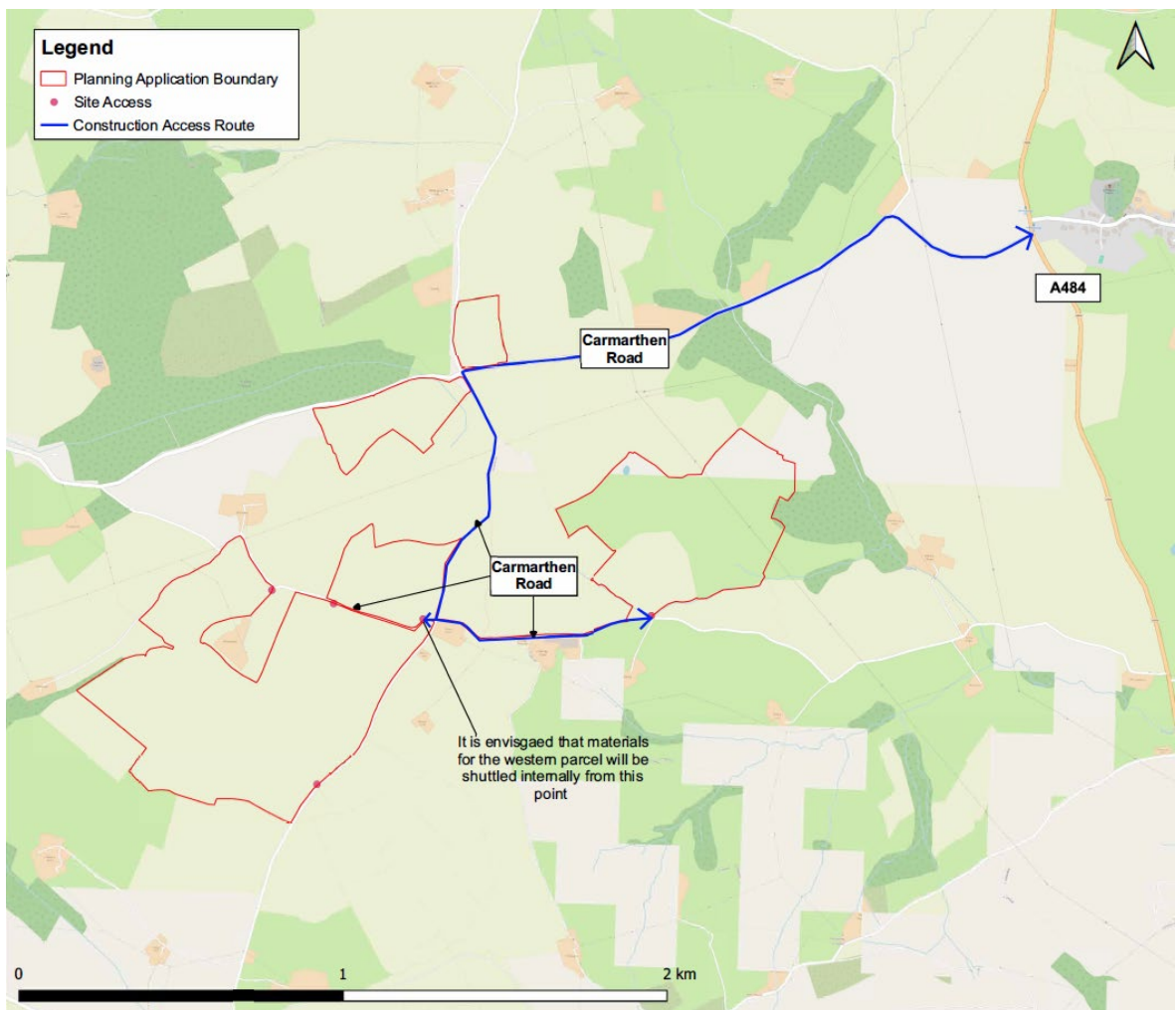
Transport

- 4.2.7 Appropriate construction traffic management and mitigation measures will be set out and secured within an Outline Construction Traffic Management Plan (CTMP) which will be prepared to accompany the planning application (and secured by planning condition). The construction period is to be confirmed but is estimated to take between 8 to 12 months. It is expected that construction hours will be between 07:30 and 18:00 hours Monday to Friday and 08:00 and 13:00 hours on Saturday.

- 4.2.8 Over the duration of the 8-to-12-month construction period, there will be an average of eight HGV deliveries (16 two-way movements) per day. Even at the most intense period of construction it is expected that there will be no more than 15 HGV deliveries (30 two-way movements) per day. Even if such numbers of daily movements were to be generated, these would be balanced by other days on which fewer HGV movements than the daily average would be generated.

- 4.2.9 The construction period is temporary, and the Site is not located in a specifically sensitive area. It is therefore considered the impact of construction traffic on the surrounding population and highway network would not be significant. It is envisaged that the main construction route will be from the northeast via the A484 and Carmarthen Road, as shown on Figure 4.1. Carmarthen Road provides access to a small number of residential properties, farms and agricultural fields, thus there are already large vehicles routing along it. The residential properties are typically set back from the highway with screening formed by the hedgerow which typically lines both sides of the carriageway. It is considered that there are no sensitive receptors along Carmarthen Road and the access route.

Figure 4.1: Construction Access Route



- 4.2.10 An investigation of Personal Injury Accident data on the main construction route has been undertaken using Crashmap. Personal Injury accidents for the latest available five-year period (January 2019 to December 2023) have been assessed for the main construction route.
- 4.2.11 The data shows that there were two slight injury accidents recorded during this period, with both injury accidents occurring at the A484 / Carmarthen Road junction in 2021 and 2022.
- 4.2.12 Having analysed the Personal Injury Accident data, there are no clusters which would highlight any potential deficiency in the design of the highway network. It is therefore considered that the adjoining highway network currently operates with no significant highway safety issues which could be exacerbated by the Proposed Development.
- 4.2.13 Once operational, the solar farm will be operated remotely and only require between 3-5 visits per month for maintenance, monitoring and cleaning of the panels and Site.
- 4.2.14 The suggested changes in traffic flows (during operation) in the vicinity of the Site represent a negligible change in traffic flows, similarly the Site is not located in a specifically sensitive location. On this basis, these predicted increases are well below the 'Guidelines for the Environmental Assessment of Road Traffic' which suggest two broad rules that can be used as a screening process to identify the appropriate extent of the assessment area. These are:
- Rule 1 – Include highway links where traffic flows would increase by more than 30% (or the number of new HGVs would increase by more than 30%); and
 - Rule 2 – Include any other specifically sensitive areas where traffic flows would increase by 10% or more.
- 4.2.15 Therefore, the operational traffic generated by the Proposed Development would have a negligible influence on the surrounding population and highway network.
- 4.2.16 It is therefore considered that transport, both construction and operational can be scoped out of the ES and adequately addressed through the submission of separate standalone technical reports, such as an Access Strategy and Transport Assessment, which will accompany the planning application. The Access Strategy and Transport Assessment will assess the highway geometries and layouts of the access route along with its existing traffic volumes and road safety records and will determine any traffic management and mitigation measures that may be required such that the construction vehicles would not result in any material impacts upon road users, the operation of the highway and highway safety. A detailed CTMP detailing the delivery routes, construction routes, construction compounds and any associated parking or management of construction traffic will also be prepared prior to the construction of the Proposed Development (and secured by planning condition). It is also proposed that details of the operational traffic movements and any onsite parking and turning spaces will be provided as part of the planning application.

Land (for example land take)

- 4.2.17 The Site comprises pastoral agricultural land which will be developed for the production of renewable energy. The Site will be designed to be capable of enabling sheep grazing during its operational life, and therefore it is anticipated that energy and agriculture will remain in a co-use across the Site. The Proposed Development is temporary and reversable, and the Site will be restored following decommissioning.
- 4.2.18 Solar farms have been found to boost the diversity and abundance of certain plants, invertebrates and birds, compared to that on farmland, if solar panels are integrated with vegetation. Careful management of grazing regimes and planting proposals, together with a reduction in the use of

pesticides and fertilisers has been shown to improve the quality of land over the lifetime of solar farm developments.

- 4.2.19 Overall, the land will not be irreversibly developed and will remain in agricultural use as grazing of sheep will be possible whilst the solar arrays are in place and as such no likely significant lasting adverse effects on the quality of the land is expected.
- 4.2.20 Land is therefore proposed to be scoped out of the ES.

Air

- 4.2.21 At this stage, the operation of the Proposed Development is not anticipated to result in any direct emissions to air (e.g. as a result of emissions from combustion plant or other combustion sources) and thus local air quality impacts associated with the Proposed Development are not anticipated.
- 4.2.22 The number of HGV movements during the construction of the Proposed Development will not exceed the traffic criteria detailed in the Institute of Air Quality Management (IAQM) (UK) Planning Guidance. As such the change in the volume of traffic on the surrounding road network will not have any significant effect on air quality as experienced by the nearest receptors located in the vicinity of the Site. Additionally, a CTMP will demonstrate that construction materials can be transported by environmentally friendly means; identify construction deliveries that could be reduced, re-timed or consolidated, particularly during peak periods; and encourage use of modern, low emission vehicles. Good practice dust control measures as recommended by the IAQM will be implemented through a CEMP which will accompany the planning application.
- 4.2.23 As described above, the increase in local traffic volumes once the Proposed Development is operational will be minimal. Therefore, the effects from operational traffic-related air pollutants are anticipated to be not significant.
- 4.2.24 Air is therefore proposed to be scoped out of the ES on the basis that all potential impacts and effects will be temporary in nature and will be fully addressed through the implementation of appropriate management plans.

Material assets

- 4.2.25 The EIA Regulations refer to 'material assets', including architectural and archaeological heritage. The phrase 'material assets' has a broad scope, which may include assets of human or natural origin, valued for socio-economic or heritage reasons.
- 4.2.26 Material assets are in practice considered across a range of topic areas within an ES, in particular the cultural heritage desk-based assessment. This topic is proposed to be considered as part of a standalone assessment and therefore, no separate consideration of material assets is considered necessary.
- 4.2.27 Material assets is therefore proposed to be scoped out of the ES.

Risk of major accidents and disasters

- 4.2.28 Solar photovoltaic technology is a benign form of electricity generation with very low risk of accident or disaster and will not have a significant environmental effect in this regard. The solar farm will be

enclosed by appropriately designed security fencing and monitored by CCTV, which will lower the risk of unauthorised access and accidents.

4.2.29 Each topic chapter will include a consideration of the impact of major accidents and disasters on that topic.

4.2.30 Risk of major accidents and disasters is therefore proposed to be scoped out of the ES.

Ground conditions

4.2.31 BGS records indicate that Solar Area West is located on outcropping bedrock of the Milford Haven Group typically comprising hard red marls and red/green sandstones. Solar Area East is located primarily on the bedrock of the Milford Haven Group again comprising hard red marls and red/green sandstones with localised cover of Glacial Till in the south.

4.2.32 A review of the Carmarthenshire County Council Local Plan 2006 – 2021 shows that the Site is not within a Mineral Safeguarding Area (MSA) and therefore it is concluded that there is no further requirement for minerals assessment. The Mining Remediation Authority does not indicate the Site to be within a Development High-Risk Area or Coal Mining Reporting Area and therefore, no further assessment is required on these aspects either.

4.2.33 The Applicant proposes to undertake a Geoenvironmental Desktop Study (GDTS) which will be included as a technical appendix to the ES. The GDTS will consider the baseline environment of the Site in relation to ground conditions and will provide an assessment of issues relating to soils and groundwater, contamination and geology. Groundwater (and surface water) will be considered within the context of potential pollution issues and the potential impact of the Proposed Development on existing groundwater (and surface water) abstractions within the study area. Geology will be assessed in terms of potential impact on identified mineral safeguarding areas and designated geological conservation sites listed by the Joint Nature Conservation Committee (JNCC) in the Geological Conservation Review (GCR).

4.2.34 Recommendations set out in the GDTS to prevent any adverse impacts arising as a result of the Proposed Development on the Site and the surrounding area will be incorporated into management plans as appropriate which will be secured as part of the planning permission if granted.

4.2.35 It is therefore proposed that ground conditions is scoped out of the ES.

Noise and vibration

Baseline Environment

4.2.36 The existing noise environment at the nearest noise-sensitive receptors is very quiet, and governed by natural sources, such as birdsong and wind-induced vegetation movement, with some contributions arising from road traffic on the local and regional road network.

4.2.37 A baseline noise survey at the Site has revealed that typical L_{A90} background sound levels across the site range from 26 to 28 dB during the day and 20 to 24 dB, during the night-time/early morning period. These figures have been derived from a modal distribution analysis of 15-minute logs measured continuously between 7 November 2024 and 12 November 2024.

Temporary Effects during Construction

4.2.38 The Proposed Development will result in noise and vibration generation during the construction stage.

4.2.39 The Site and its environs are rural and sparsely populated; however, there are three identified residential properties located within 30 metres of the Site boundary including a bungalow which is subject to planning permission for a proposed two-storey replacement property (PL/08221). These properties are anticipated to represent the key acoustic constraints to the Proposed Development

and as such, the eventual layout will not introduce significant plant and consequent construction concentrations in these areas.

- 4.2.40 It is envisaged that noise and vibration generated during the construction stage will be limited to the daytime working hours stated within a CEMP that will accompany the Application (and be secured by planning condition). With reference to British Standard (BS) 5228 Part 1, it is expected that a daytime construction noise limit of 65 dB LAeq,10hour would apply at the nearest human receptors. Due to the nature of the emerging design, low intensity of construction activity associated with solar farm construction and separation distances involved, it is highly unlikely that this limit would be exceeded by construction noise from the works. On this basis, no significant effects are expected to arise at noise sensitive receptors during the construction phase and this noise aspect can be scoped out.
- 4.2.41 It is anticipated that construction hours would be limited to 0730 to 1800hrs Monday to Friday; 0800 to 1300 on Saturdays; with no working on Sundays or bank holidays. Any working outside of these times would be subject to written, prior approval from the LPA. With respect to the minimisation of acoustic disruption arising from construction activity, the following controls would be employed:
- Effective co-ordination and time management of construction operations to avoid noise and vibration nuisance to surrounding uses.
 - Early and helpful communications with the surrounding receptors and Parish Council, who will be contacted 4 weeks in advance of the construction phase, to assist reducing potential for and in managing any complaints arising during the demolition and construction works of.
 - Undertaking of all works in accordance with Best Practice Measures (BPM) as stipulated in the Control of Pollution Act 1974.
- 4.2.42 Typically, adopting Best Practicable Means (BPM) would reduce overall construction noise levels by approximately 5 dB.
- 4.2.43 Whilst traffic movements during the construction are expected to be very low in the context of the existing traffic baseline, management of deliveries and removal of material off-site will still be as follows:
- Ensuring that construction traffic is parked off the public highway.
 - No idling engines, when vehicles are awaiting loading/unloading.
 - Controlling the discharge of trucks from Site to avoid congestion.
 - Implementing traffic management systems at the entrance to the Site at all times to control the traffic into the Site.
- 4.2.44 Should any non-routine activities be identified that would make it impracticable to work to the target criterion, provisions would be set out in advance (BPM) and with the agreement of the LPA, to reduce and control the effect

Effects during Operation

- 1.2 The Proposed Development will generate noise from the inverter and transformer stations during its operation; however, the design being developed is responding to the acoustic constraints of the area to ensure that separation distances to any inverter stations are maximised, with plant selection being made on an acoustically appropriate basis, to ensure that acoustic amenity is adequately protected. The scheme design is running in tandem with the scoping process and has already resulted in a move away from string inverter technology to a centralised inverter strategy, which minimises the number of noise sources and has enabled their appropriate placement, alongside a selection of acoustically appropriate candidate plant, based on known, existing technology and mitigation packages. It is important to note that currently available candidate plant data is used, as the sector will evolve and provide new, quieter technologies as the planning and implementation process progresses.

- 2.2 Initial predictions have shown that this approach will ensure that noise impacts will be low, with rating noise levels being maintained at a level of no greater than the prevailing background sound level, when assessed in accordance with the BS4142:2014+A1:2019 methodology, with the highest predicted specific noise level at any receptor being 20 dB, reducing to 11 dB at greater separation distances.
- 3.2 Consequently, the Proposed Development can and will be specified to avoid any significant adverse effects with regards to noise during operation, with preliminary predictions identifying no greater than a Low Impact in BS4142-terms at any identified receptor.

Conclusions

- 4.2.45 Subject to the control measures to be committed to in the CEMP, and acoustic specifications incorporated into the design, which can all be secured via appropriate planning controls, no significant effects due to noise or vibration are anticipated at any noise-sensitive receptors as a result of the Proposed Development.
- 4.2.46 It is therefore considered that noise and vibration can be scoped out of the ES.

Hydrology, Hydrogeology and Flood Risk

Baseline Environment

- 4.2.47 The Site lies wholly within Flood Zone A according to the Natural Resources Wales (NRW) Development Advice Map meaning that the Site is not at risk of flooding from rivers or the sea. The emerging NRW Flood Map for Planning also identifies the Site as being located within Flood Zone 1 and represents the most up-to-date source of flood risk information. There are small areas of surface water flooding identified within the Site associated with small watercourses.
- 4.2.48 OS mapping shows the presence of an unnamed ordinary watercourse through the southern section of the Solar Area East. The watercourse outfalls into the Nant Morlais approximately 380m east of the Site. The Nant Morlais then flows southeast for 1.2km before joining the Gwendraeth Fach which continues south/southwest for approximately 7km where it becomes the Gwendraeth Fawr and discharges into Carmarthen Bay (SPA). Due to environmental conditions and the distance between the Proposed Development and designated site, the SPA is assessed to be located outside the Proposed Development's zone of hydraulic influence. Therefore, hydrological impacts from the Proposed Development to the designated site will be undiscernible.
- 4.2.49 Another unnamed ordinary watercourse is present through the western section of the Solar Area West. The watercourse flows in a westerly direction before joining another unnamed watercourse and flowing north for approximately 1km where it joins a tributary of the River Towy. This tributary flows in a westerly direction before reaching the River Towy where it flows south and eventually discharges into Carmarthen Bay (SPA) some 6.5km downstream of the Site.
- 4.2.50 Superficial deposits of Devensian Till are found in the Solar Area East near the unnamed watercourse. These deposits are classified as Secondary (undifferentiated) aquifers, these formations have varying characteristics in different locations.
- 4.2.51 Bedrock deposits beneath these superficial deposits and underlying the solar area west are Argillaceous rocks and sandstone belonging to the Milford Haven Group. The bedrock is classified as a Secondary A aquifer, these formations are formed of permeable layers capable of supporting water supplies at a local scale, in some cases forming an important source of base flow to rivers.

Assessment Methodology

- 4.2.52 A Flood Consequences Assessment (FCA) will be prepared and included as a technical appendix to the ES to provide an assessment of the impact of the Proposed Development on flood risk and

hydrology receptors, taking into account the impacts of climate change on peak river flows and peak rainfall intensity.

- 4.2.53 A Conceptual Drainage Design will also be prepared which will incorporate sustainable drainage features and pay careful consideration to the areas of surface water flooding. The drainage strategy will ensure surface water runoff arising from new impermeable areas is attenuated and discharged at the greenfield runoff rate to prevent an increase in flood risk downstream. This will allow drainage features and setbacks to be incorporated into the design of the Proposed Development.
- 4.2.54 The Geoenvironmental Desktop Study (DTS) will also further inform the baseline environment in regards to hydrogeology. Recommendations set out in the DTS to prevent any adverse impacts arising as a result of the Proposed Development on the Site and the surrounding area will be incorporated into management plans as appropriate which will be secured as part of the ES.
- 4.2.55 Consultation with CCC and NRW is to be undertaken as part of the preparation of the FCA and Conceptual Drainage design to obtain Site specific flood risk and water quality information to inform the design and mitigation at the Site. During this consultation, any relevant permits will be obtained, including Sustainable Urban Drainage Systems (SuDS) Approval Body (SAB) approval of the drainage concept and any relevant consents such as land drainage if required.

Construction phase embedded mitigation

- 4.2.56 Construction phase mitigation would be implemented through the CEMP. To prevent impacts to hydrology, hydrogeology and flood risk receptors during the construction phase, all construction work would be undertaken in accordance with the CEMP and good practice documentation such as:
- Control of Water Pollution from Construction Sites – Guidance for Consultants and Contractors CIRIA (C532; 2001).
 - CIRIA – SuDS Manual (C753; 2015a).
 - CIRIA (C741; 2015b) Environmental good practice on site guide.
 - Prevent surface water being affected during earthwork operations. No discharge to surface watercourses would occur without permission from NRW (SuDS Manual).
 - Wheel washers and dust suppression measures to be used as appropriate to prevent the migration of pollutants (SuDS Manual).
 - Regular cleaning of roads of any construction waste and dirt to be carried out (SuDS Manual).
 - A construction method statement to be submitted for approval by the responsible planning authority (SuDS Manual).

Operational phase embedded mitigation

- 4.2.57 The operational phase mitigation will also be undertaken in accordance with relevant local and national policy and will be subject to the approval of relevant bodies.
- 4.2.58 The Conceptual Drainage Strategy will be subject to approval from CCC and will detail measures in relation to flood risk and pollution prevention during operation. Appropriate levels of pollution treatment of flows prior to discharge to prevent pollution to hydrology and hydrogeology receptors and the restriction of surface water flows from the Site to the greenfield runoff rate to prevent an increase in flood risk as a result of development. The drainage strategy will also include an outline SuDS maintenance plan to ensure routine inspection, management and maintenance of the Proposed Development's SuDS features to ensure optimum performance and prevent risk of failure arising from poor maintenance.

Summary

- 4.2.59 Through the incorporation of the mitigation measures discussed above and production of supporting documents, it is considered the development will have minimal impact on hydrology, hydrogeology and flood risk and can therefore be scoped out of the ES.

Cultural Heritage

Introduction

- 4.2.60 Cultural Heritage encompasses buried archaeological remains; historic buildings, structures and monuments; and historic landscapes. The reasons why the cultural heritage topic is proposed to be scoped out of the EIA are presented, and the suggested approach for addressing the cultural heritage constraints, through appropriate assessment and investigation, is detailed.

Baseline Conditions

Baseline sources

- 4.2.61 Initial desk-based research has been undertaken. This exercise reviewed information from a number of heritage databases and reports encompassing the Site and the surrounding area, comprising:

- the Cadw list of designated historic assets.
- Heneb: Dyfed Historic Environment Record (HER) data, obtained in November 2024.
- Carmarthenshire Conservation Areas.
- Historic maps (including Tithe and Ordnance Survey).
- The Royal Commission on the Ancient and Historical Monuments of Wales (RCAHMW) data.
- The Cultural Heritage Desk-Based Assessment (CgMs 2015) for previously consented solar farm at Bryncoch (planning application ref. W/32171) which included part of the Site area³.

- 4.2.62 For the purposes of this chapter, a 1km 'study area' around the Site was utilised for the assessment of potential impacts upon buried archaeological remains and the historic landscape. A 5km 'settings study area' was used to consider the cultural heritage resource which may be affected as a result of change within the setting of historic assets.

- 4.2.63 This section is supported by the following appendices:

- a gazetteer of historic assets, presented in Appendix 4.1.
- Figures 4.1 and 4.2, included in Appendix 4.2.
- Geophysical Survey Written Scheme of Investigation (Appendix 4.3).

Built heritage

- 4.2.64 There are no built heritage, designated or not designated, historic assets within the Site (Appendix 4.2, Fig. 4.1).

- Within the settings study area the following designated historic assets (built heritage) can be found (Appendix 4.1):
 - 71 Listed Buildings, including three Grade I, seven Grade II* and 61 Grade II Listed Buildings. These historic assets represent predominantly domestic structures, but also

³ https://planning-carmarthenshire.msaproxy.net/PublicAccess_Live/Document/ViewDocument?id=8CA3B2630B7B11E5B0A8001CC0FE604C

include religious buildings, defensive features (i.e. Llansteffan and Kidwelly castles) and features associated with industry and transport.

- Three Conservation Areas: Llansteffan, Kidwelly and Llansaint.
- Llechdwnni, Grade II Registered Park and Garden.

4.2.65 Only one built heritage designated historic asset is situated within 1km of the Site, the Grade II Listed 'Iscoed', a large late Georgian country house situated with views overlooking Carmarthen Bay, located approximately 700m to the north of the Site (Appendix 4.2, Fig. 4.1: C).

Archaeology

4.2.66 There are no designated historic assets of archaeological interest (Scheduled Monuments) within the Site (Appendix 4.2, Fig. 4.1).

4.2.67 Within the settings study area, 24 Scheduled Monuments are located, comprising prehistoric barrows, standing stones and burial chambers, medieval remains (largely associated with castles) and post-medieval features associated with agricultural or industrial activity (Appendix 4.1).

4.2.68 Of these, two Scheduled Monuments are located within the 1km study area, including the Round Barrow 330m SW of Mynydd-Uchaf, approximately 110m south-east of the Site (Appendix 4.2, Fig. 4.1: A), and Is-Coed Standing Stone, approximately 710m to the north-west (Appendix 4.2, Fig. 4.1: B).

4.2.69 The initial research has highlighted the potential for as yet unrecorded buried archaeological remains within the Site and in its wider environs. It should be noted however that no intrusive archaeological investigations have been previously carried out within the study area, with only previous desk-based assessments recorded by the HER (Appendix 4.2, Fig. 4.2: P1-P2).

4.2.70 While no prehistoric remains are recorded on the HER as surviving within the Site, 20 sites associated with Bronze Age funerary or ritual activity are recorded within the study area, represented by standing stones and round barrows (Appendix 4.2, Fig. 4.2: 1-3; Appendix 4.1). It should be noted however that the majority of these sites have been identified on the basis of place-name evidence rather than recorded archaeological remains. However, due to the presence of abovementioned Scheduled barrow 110m south-east of the Site (Appendix 4.2, Fig. 4.1: A, Fig. 4.2: 1), there is potential for Bronze Age activity within this landscape.

4.2.71 The only other asset of prehistoric date within the study area is a putative Iron Age hillfort approximately 200m to the north (Appendix 4.2, Fig. 4.2: 8) although the HER provides only an approximate location and records the earthwork enclosure as destroyed. There are no other Iron Age remains within the surrounding area, and the potential for as yet unrecorded similar remains within the Site is considered to be low.

4.2.72 There are no Roman period remains recorded in the HER within the study area, and the potential for surviving and as yet unrecorded remains within the Site is considered to be low.

4.2.73 The evidence for medieval activity within the study area is sparse and limited to place-name evidence likely indicative of agricultural land use in the medieval period, rather than settlement.

4.2.74 The majority of the sites recorded on the HER and lying within the study area relate to post-medieval and later activity (Appendix 4.2, Fig. 4.2; Appendix 4.1). This includes post-medieval farmsteads and cottages, as well as infrastructure (roads, milestones, bridges), quarries and agricultural remains. Within the Site, this is represented by place-name evidence, including for a potential former dwelling (which, however, is not depicted on tithe or Ordnance Survey maps) and a quarry (within the laydown area; Appendix 4.2, Fig. 4.2: 4). Several farmsteads and a cottage are recorded adjacent to and near to the Site boundaries (Appendix 4.2, Fig. 4.2: 5-7), but the review of historic tithe and Ordnance Survey maps indicates that the Site comprised enclosed agricultural fields. As such, there is considered to be a high potential for the presence of agricultural remains within the

Site associated with post-medieval and later activity, such as the infilled ditches of former field boundaries.

Historic Landscape

- 4.2.75 Two areas of Registered Historic Landscape (RHL) lie within the 1km study area (Appendix 4.2, Fig. 4.1):
- Tywi Valley RHL, which encompasses the western part of the Site.
 - Taf and Tywi Estuary RHL extends to c. 740m to the south-west of the Site.
- 4.2.76 Heneb: Dyfed Archaeology (formerly Dyfed Archaeological Trust) has examined the historic character of RHL areas and Historic Landscape Characterisation of the RHL is available online and via HER.
- 4.2.77 The Site falls outside any of the mapped character areas of Tywi Valley, with the nearest recorded area, Croesyceilog – Cwmffrwd, located approximately 290m to the south of the main Site area (and adjacent to the north-west to the Option Solar Area West). This is characterised by enclosed medium-sized fields of improved pasture, with scattered farmsteads, and linear settlement along main roads, outside Carmarthen to the north.
- 4.2.78 Although the Site is over 700m north of the defined Taf and Tywi Estuary RHL, the historic landscape characterisation includes the southernmost part of the Site within the Allt Hilltop character area. This character area is defined by enclosed fairly large fields, bounded by banks and hedges, perhaps originating in the 16th century, with a settlement pattern of dispersed farms, but with evidence for archaeological features in the form of round barrows and possible standing stones.

Assessment Methodology

Consultation

- 4.2.79 A Written Scheme of Investigation for Geophysical Survey (Terradat 2024; Appendix 4.3) was approved by the archaeological advisor at Heneb Development Management – Dyfed Region on 8 November 2024. The geophysical survey was completed in November 2024 and a report discussing the results will be available in due course.
- 4.2.80 No further consultations with the archaeological advisors at Heneb Development Management – Dyfed Region or Cadw have been undertaken to date. A Written Scheme of Investigation for a Historic Environment Desk-Based Assessment will be submitted to the archaeological advisors for approval. Further consultations will take place during the course of the ongoing survey work, to confirm the scope of work necessary to inform the assessment as well as any required additional surveys and mitigation.

Historic Environment Desk-Based Assessment

- 4.2.81 A detailed historic environment desk-based assessment, discussing the historic assets which may be affected by the Proposed Development, will be prepared. The assessment will be prepared in line with the current legislative and planning policy context, and with reference to relevant guidance including Conservation Principles (Cadw 2011), Setting of Historic Assets in Wales (Cadw 2017a), Heritage Impact Assessment in Wales (Cadw 2017b), Principles of Cultural Heritage Impact Assessment in the UK (IEMA, IHBC, ClfA 2021), and Standard and guidance for historic environment desk-based assessment (Chartered Institute for Archaeologists 2020).
- 4.2.82 It will be informed by archaeological and historical information from publicly accessible sources, including:
- Cadw, for statutory designated historic assets (including Listed Buildings, Scheduled Monuments, Registered Parks and Gardens, Registered Historic Landscapes, Battlefields and World Heritage Sites).

- Heneb HER (Dyfed), for details of recorded historic assets, previous archaeological works, findspots, and historic landscape characterisation data.
- Royal Commission on the Ancient and Historical Monuments of Wales (RCAHMW) for further details of recorded assets and previous archaeological works.
- Historic maps and other documentary sources relevant to understanding historic land use and development.
- the BGS Online record of geological information.
- Lidar imagery of the Site.
- Relevant grey literature reports.
- Welsh Government Historic Aerial Photography, for historic aerial photography collections (sent digitally).
- A site and study area walkover.
- Carmarthenshire Conservation Areas and other relevant online sources.

4.2.83 This assessment will investigate the potential extent and the historic value of buried archaeological remains within the Site which may be affected by the Proposed Development and will present the results of the examination of further data including aerial photographic records, historic mapping, Lidar imagery and the results of the geophysical survey.

4.2.84 The assessment will incorporate a detailed built heritage and historic landscape assessment. This will comprise a 'settings assessment' of the key designated (and any non-designated) historic assets in proximity of the Site. This will also comprise an assessment of the historic landscape character of the Site and assess impacts on the Registered Historic Landscapes. The results of the assessment will inform the need for, and scope of, any mitigation measures. At current stage, it is not proposed that ASIDOHL 2 Assessment (Cadw et al. 2007) will be undertaken, as the Site is not within the key areas of the Tywi Valley RHL, and only forms a small part of the wider character area that has been identified as forming part of the Taf and Tywi Estuary landscape (though outside its Registered Historic Landscape boundary). Rather, the effects of change within and in the setting of the RHL will be covered within the desk-based assessment.

4.2.85 The baseline assessment work described above will culminate in an understanding of the historic values of any assets within the Site and environs. An understanding of the proposed development (the impact of change to the baseline environment) alongside the understanding of significance and importance will allow for an impact assessment to be undertaken. This will include a discussion on any potential cumulative impacts but it should be noted that significant effects in this respect are not anticipated, based on review of the proposed development and the cumulative developments, as listed above.

Geophysical survey

4.2.86 To further clarify the archaeological potential within the Site, a geophysical survey was completed within the Site in November 2024, in line with the approved WSI (Terradat 2024, Appendix 4.3). The report will be provided in due course, which will inform the desk-based assessment and further consultations. The magnetic gradiometer is the primary survey method, and the key objective of the geophysical survey is to locate and describe any detectable archaeological features present. The survey will provide context and insight as a standalone document and facilitate the subsequent fieldwork phase by indicating the detected features' location, character, extent, and potential significance.

Further investigations

4.2.87 The results of the desk-based assessment and the geophysical survey will then inform the need for and scope of any additional investigations which may be required to ensure the potential archaeological remains are investigated and recorded at an appropriate stage in the development process, in line with the requirements of the national and local planning policies requiring the

protection of archaeological remains. Further investigations will also be deployed as required, and the need for and scope of any such surveys will be discussed through consultation with the archaeological advisor at Heneb Development Management – Dyfed Region.

Not Significant Effects

Buried archaeological remains

- 4.2.88 Known and potential buried archaeological remains are anticipated to be present within the Site. However, the minimal nature of ground disturbing activities associated with the construction and decommissioning of the Proposed Development means that significant effects on the archaeological interest (significance) of any potentially surviving remains is highly unlikely.
- 4.2.89 The below ground impacts associated within the Proposed Development are generally limited and would derive from ground disturbance associated with the excavation of cable trenches, limited foundations for equipment, substation, as well as groundworks for access tracks and construction compound. The impacts from piling for the installation of the solar arrays would be more limited still, the size and frequency of the driven piles and cable runs for the solar arrays being so slight that even if their location were to coincide exactly with buried remains there would be no or negligible material loss of archaeological interest.
- 4.2.90 Furthermore, mitigation through detailed design (avoidance) can allow for any especially sensitive buried archaeological remains (such as human remains) to be safeguarded completely from any disturbance. Other complimentary techniques involve ballast footings (such as concrete shoes) to avoid piling completely.
- 4.2.91 The potential extent and heritage significance of buried archaeological remains is being investigated by additional desk-based research and the results of the geophysical survey. These will inform the need for inform the need for any further surveys (such as trial trenching) so that any sensitive remains can be safeguarded.
- 4.2.92 Therefore, while all investigations and assessments will follow industry good practice and professional guidelines and reports on this work will form part of the application for development consent, the assessment of buried archaeological remains can be scoped out of the EIA, as significant effects are very unlikely.

Built heritage, Scheduled Monuments and historic landscape

- 4.2.93 The potential effects upon the designated historic assets during the construction and decommissioning phases of the Proposed Development would derive from the presence of machinery, fencing, construction compounds, as well as increased noise and traffic. Construction operations are temporary by nature, and the impacts associated with these works would be temporary and limited and would not cause significant effects to those designated historic assets.
- 4.2.94 The change of character and land-use of agricultural land parcels within the setting of designated historic assets (historic buildings, structures and monuments, gardens and Registered Historic Landscapes) during the operation phase of the development is also not sufficient to cause significant effects to their historic values.
- 4.2.95 Based on the initial assessment of maps and aerial imagery, topography, intervening vegetation, Zone of Theoretical Visibility (ZTV; as prepared for the Landscape and Visual Impact Assessment; Chapter 5), and character of the designated historic assets, it is recognised that the vast majority of the assets within the setting study area do not share any intervisibility or historical relationship with the Site and would in no way be affected by the Proposed Development. Whilst there may be some distant visibility of the Proposed Development from a number of assets in the wider landscape, beyond 1km of the Site, it is recognised that beyond a certain distance, solar PV arrays lose definition and assume a 'washed-over' appearance, and are perceived as blocks of faded colour within an established agricultural landscape. As such, it can be stated with confidence that assets beyond this distance would not be adversely affected. The detailed assessment of this matter will be explored through further assessment, site visits and information available through further LVIA.

Consultation with the advisors at Cadw and Heneb Development Management – Dyfed Region will be carried out to inform the selection of designated historic assets for detailed assessment.

- 4.2.96 The Proposed Development would change the character of land parcels lying within the setting of a number of designated historic assets. However, the fundamental agrarian nature of the setting of these designated historic assets would be unchanged, and the historic field boundaries within the Site would be retained. For the vast majority of designated historic assets, it is views towards them that are the critical components of their experience, especially views from up close. The form of the Proposed Development and its distance from the majority of the historic assets means that no important views of them would be lost or obscured. As such, key experiences of the buildings and monuments will be unaltered.
- 4.2.97 The historic landscape character of the majority of Site has not been recognised as of particular importance. The Site falls within the wider surroundings of the mapped character areas of the Tywi Valley RHL, the key components of which would be unlikely to be affected due to distance. The southernmost part of the Site extends into the Allt Hilltop character area of the Raf and Tywi Estuary RHL, however the Site forms only a small part of the wider area, and the identified characteristics, such as the field pattern and field boundaries, would be retained.
- 4.2.98 Therefore, any impacts on the historic landscape, Scheduled Monuments and built heritage are unlikely to result in a significant adverse effect in EIA terms, and this element of the topic can be scoped out of the EIA. As per the assessment of buried archaeological remains, the assessment of impacts on ‘setting matters’ and the historic landscape will follow industry good practice and professional guidelines and reports on this work will form part of the application for development consent, with options to incorporate appropriate mitigation through design measures for any sensitive assets.

Summary

- 4.2.99 Based on the assessment presented above, it is highly likely that the Proposed Development can be accommodated without significant environmental effects on the cultural heritage resource, based on the assumption that the methodology described above is followed, and provided appropriate and proportionate mitigation measures are implemented alongside good design. At this stage it is wholly reasonable to assume that this will be possible. In addition, it should be noted that no significant effects have been identified in the course of the planning application for the Bryncoch Solar Farm (ref. W/32171), which has an overlap with a large part of the western part of the Site, with planning consent granted (including a condition for archaeological recording).
- 4.2.100 As such, significant effects related to designated and non-designated historic assets are considered to be unlikely and, in accordance with the EIA Regulations, it is appropriate to scope the cultural heritage resource topic out of the EIA.
- 4.2.101 However, and for the avoidance of any doubt, the desk-based assessment report, incorporating impact assessment, results of the geophysical survey, as well as the results of any additional surveys which may be required, will be submitted to support the planning application.

Glint and Glare

- 4.2.102 It is proposed to scope glint and glare out of the ES as a chapter with a standalone glint and glare assessment to be undertaken and included as an appendix to the Landscape and Visual chapter.

Introduction

- 4.2.103 This section of the Scoping Report sets out the approach to the assessment of possible effects of glint and glare from the Proposed Development upon road safety, residential amenity, and aviation

activity. It is proposed to scope glint and glare out of the ES as a chapter with a standalone glint and glare assessment to be undertaken⁴ and included as an appendix to the landscape chapter.

4.2.104 A glint and glare report was produced⁵ for the previously consented Bryncoch Solar Park development. This concluded that the impact of glint and glare to Ferryside and other surrounding areas is likely to be negligible.

4.2.105 Solar PV panels are specifically designed to absorb light rather than reflect it. Light reflecting from solar PV panels results in the loss of energy output. Solar PV panels are dark in colour due to their anti-reflective coatings and are manufactured with low-iron, ultra-clear glass with specialised coatings and textures to enable maximum absorption. The combination of these factors significantly increases the electrical energy production of the panels and significantly reduces reflected rays at the same time.

Potential effects

4.2.106 Potential effects at the identified receptors include:

- Glint – a momentary flash of bright light typically received by moving receptors or from moving reflectors.
- Glare – a continuous source of bright light typically received by static receptors or from large reflective surfaces.

4.2.107 The impact significance will be determined considering the visibility of the solar reflection including the level of screening (existing or proposed), the sensitivity of the receptor, location of origin of the solar glare, time and duration of any reflection, location of the Sun at the time a solar reflection is possible, and solar reflection intensity (aviation only).

Legislation and policy

4.2.108 There are no specific government guidelines setting out a particular methodological approach to delivering a glint and glare assessment.

4.2.109 The glint and glare assessment will be carried out in accordance with the principles contained within the following appropriate policy and legislation:

- National Policy Statement for Renewable Energy Infrastructure (EN-3, January 2024).
- Planning Policy Wales (February 2024).
- Guidance for Renewable and Low Carbon Energy (specifically regarding the consideration of solar farms, paragraph 013), 14 August 2023.
- UK Solar PV Strategy.
- The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017.
- The Overarching National Policy Statement for Energy (EN-1, January 2024).

Guidance

4.2.110 Guidelines exist in the UK (produced by the Civil Aviation Authority) and in the USA (produced by the Federal Aviation Administration) with respect to solar developments and aviation activity. The UK CAA guidance is relatively high-level and does not prescribe a formal methodology. Pager Power (the consultant) has however produced guidance for glint and glare and solar photovoltaic

⁴ By Pager Power.

⁵ By Green Energy UK Direct Ltd.

developments, which was published in early 2017, with the fourth edition published in 2022. This methodology defines a comprehensive process for determining the impact upon road safety, residential amenity and aviation activity.

- 4.2.111 Pager Power's approach is to undertake geometric reflection calculations and, where a solar reflection is predicted, consider the screening (existing and/or proposed) between the receptor and the reflecting solar panels. The scenario in which a solar reflection can occur for all receptors is then identified and discussed, and a comparison is made against the available solar panel reflection studies to determine the overall impact.
- 4.2.112 The available studies have measured the intensity of reflections from solar panels with respect to other naturally occurring and manmade surfaces. The results show that the reflections produced are of intensity similar to or less than those produced from still water and significantly less than reflections from glass and steel

Study area and baseline context

Study area – roads and dwellings

- 4.2.113 There is no formal guidance with regard to the maximum distance at which glint and glare should be assessed. From a technical perspective, there is no maximum distance for potential reflections. The significance of a reflection, however, decreases with distance because the proportion of an observer's field of vision that is taken up by the reflecting area diminishes as the separation distance increases. Terrain and shielding by vegetation are also more likely to obstruct an observer's view at longer distances.
- 4.2.114 The above parameters and extensive experience over a significant number of glint and glare assessments undertaken show that consideration of receptors within 1km of panel areas is appropriate for glint and glare effects on roads and dwellings. The panels are fixed south facing and solar reflections at ground level towards the north at this latitude are highly unlikely. It is likely that the roads and dwellings to the north of the Site will not be materially impacted and therefore, they will not be considered within the assessment.
- 4.2.115 Potential receptors are identified based on mapping and aerial photography of the region. The initial judgement is made based on a high-level consideration of aerial photography and mapping i.e. receptors are excluded if it is clear from the outset that no visibility would be possible. A more detailed assessment is made if the modelling reveals a reflection would be geometrically possible.

Study area – aviation

- 4.2.116 Glint and glare analysis is often undertaken for solar developments that are near large aerodromes. The most common concerns are:
1. Potential reflections towards an Air Traffic Control (ATC) tower.
 2. Potential reflections towards approaching pilots of powered aircraft for the final two miles of the approach.
- 4.2.117 With regard to Point 2, these reflections are typically evaluated in the context of:
- Whether they are in a pilot's primary horizontal field of view (50° either side of the direction of travel).
 - The intensity of the solar reflection.
- 4.2.118 There is no formal distance within which aviation effects must be modelled. However, in practice, concerns are most often raised for developments within 10km of a licensed airport. Requests for modelling at ranges of 10-20km are far less common. Assessment of aviation effects for

developments over 20km away is a very unusual requirement. Therefore, any airfields or airports within 10 km of the solar panel boundary will be considered.

- 4.2.119 Pembrey West Wales Airport is an unlicensed airport located approximately 5.5km from the Proposed Development with a single runway (04/22). It is understood that there is an ATC Tower present at this airport, located approximately 0.34km north-east of runway threshold 04. The runway approach paths and the ATC Tower will be considered within the glint and glare assessment at a high-level without technical modelling due to the distance from the Proposed Development.

Summary of baseline context

- 4.2.120 The baseline context is presented with respect to possible glint and glare effects only. The Proposed Development is rurally located with:

- National, regional, and local roads located within 1km of the Site area.
- A number of dwellings located within 1km of the Site area.
- One unlicensed aerodrome (Pembrey West Wales Airport) located within 10km of the Site area.

Outline Scope of Assessment

- 4.2.121 A 'Solar Photovoltaic Glint and Glare Assessment' will comprise a technical appendix to the ES chapter, considering the effect of the solar panel areas upon receptors identified in this document. The assessment will include the detailed modelling of the solar panels relative to surrounding roads and dwellings with potential views of the Site, and the high-level assessment of approach paths and the ATC Tower at Pembrey West Wales Airport (without technical modelling).

Assessment Methodology

- 4.2.122 The glint and glare assessment methodology has been derived from the information provided to Pager Power through consultation with stakeholders, assessment experience, and by reviewing the available guidance and studies. The methodology for ground-level and aviation glint and glare assessments is as follows:

- Identify the key receptors in the area surrounding the Proposed Development.
- Consider direct solar reflections from the Proposed Development towards the identified receptors by undertaking geometric calculations.
- Consider the visibility of the panels from the receptor's location. If the solar photovoltaic (PV) panels are not visible from the receptor then no reflection can occur.
- Based on the results of the geometric calculations, determine whether a reflection can occur, and if so, at what time it will occur.
- Consider both the solar reflection from the Proposed Development and the location of the direct sunlight with respect to the receptor's position.
- Consider the solar reflection with respect to the published studies and guidance - including intensity calculations where appropriate for aviation receptors.
- Determine whether a significant detrimental impact is expected in line with Pager Power's standard process and recommended methodology.

Conclusion

- 4.2.123 A desktop review of the available imagery and site plans has been completed.
- 4.2.124 Any predicted impacts towards the ground-based infrastructure (roads and dwellings) can likely be solved with relatively simple mitigation strategies – the most common being the provision of

screening (e.g. hedgerow planting) at the panel boundaries to obstruct views of potentially reflecting panels. Where views of reflecting panels are obstructed, no effects can be experienced. Other solutions such as layout modification can be considered but are rarely required in practice for glint and glare effects on ground-based receptors from fixed solar panels.

- 4.2.125 The runway approach paths and the ATC Tower at Pembrey West Wales Airport will be considered within the glint and glare assessment at a high-level without technical modelling. This is considered to be appropriate given the type of aerodrome (unlicensed general aviation) and the distance to the Proposed Development (greater than 5km). Based on the above, it is proposed that an assessment of the impact of glint and glare on identified receptors will be included as a technical appendix to the ES chapter.

Residential Visual Amenity Assessment (RVAA)

- 4.2.126 We do not propose to undertake a Residential Visual Amenity Assessment (RVAA) or an assessment of likely night-time effects. Notwithstanding this, the LVIA will include a number of Representative Viewpoints located on public rights of way (PRoW) which are in proximity to and representative of available views from a number of residential properties (refer to Table 5.2 below). These Representative Viewpoints will be assessed as part of the LVIA.
- 4.2.127 Figure 5302-RPS-XX-XX-DR-L-9003-ZTV and Residential Receptors, Appendix 5.1, gives an indication of residential properties within a 1 km radius of the Proposed Development and that fall within the ZTV (figure 5302-RPS-XX-XX-DR-L-9001, appendix 5.1) that may be affected.
- 4.2.128 The Landscape Institute has provided guidance on residential visual amenity in Landscape Institute Technical Guidance Note 2/19 Residential Visual Amenity Assessment (LI TGN 2/19).
- 4.2.129 Views of the Proposed Development would neither overwhelm existing properties within the study area, nor render these properties so “unattractive a place to live that planning permission should be refused” (Inspector Kingaby, Burnthouse Farm Wind Farm, APP/D0515/A/10/2123739, Inspector’s Report, paragraph 119) (also at paragraph A1.6 of LI TGN 2/19). Inspector Kingaby noted that “There needs to be a degree of harm over and above identified substantial effect to take a case into the category of refusal in the public interest. Changing the outlook from a property is not sufficient” (Inspector’s Report, paragraph 120) (also at paragraph A1.7, LI TGN 2/19). The Inspector, in the Langham Wind Farm decision, noted that “The planning system controls development in the public interest, and not in the private interest. The preservation of open views is a private interest” (Langham Wind Farm Appeal Decision APP/D2510/A/10/2130539) (also at LI TGN 2/19, paragraph A1.11).
- 4.2.130 The closest residential properties within the ZTV of the Proposed Development are situated along the C2075 and C2074, between approximately 20 m and 362 m to the Site. These include Golygfa Bungalow (which is subject to planning permission PL/08221), Pen-Yr-heol, Nonarn House, Maes-Yr-Awel and Glastir. These properties, for the most part, have an aspect facing away from the Proposed Development and / or have substantial garden vegetation that would limit views. Where there are properties with open aspects that face the Site, including Maes-Yr-Awel, on-site mitigation will be proposed to help mitigate potential views. Further to the south on higher ground, residential properties with open elevated views towards the Site include Parcgwyn. Whilst the property faces the Site, located at some 1 km to the south, it is the Applicant’s position that the residential property falls beyond the anticipated buffer zone where significant effects would occur. Views of the Proposed Development from Parcgwyn are therefore not anticipated to be significant in EIA terms and therefore not resulting in the need for an RVAA.
- 4.2.131 **Table 4.1** below give details of residential receptors that fall within the 1 km RVAA study area and ZTV for the Proposed Development.
- 4.2.132 Landscape Institute TGN 02/2019: Residential Visual Amenity Assessment (RVAA) does not explicitly give a defined study area suitable for an RVAA. Based on the low-level nature of the Proposed Development, the limited number of residential properties in proximity to the Site with potential views of the Proposed Development are based on RVAA studies done previously for

comparable schemes, at this stage it is considered that a study area of 1 km from the outer edge of the Site, in all directions, would be appropriate.

Table 4.1: Residential Receptors

Property Reference	Approximate Distance to Proposed Development	Primary Direction of View	View towards Proposed Development (Y/N)	Comments
P1 (Golygfa Bungalow)	300 m (at its' nearest point)	North	N	Single storey property subject to planning application for redevelopment. Primary view is north and not towards Proposed Development. Limited side elevation windows.
P2 (Nonam House)	40 m	Northwest	Y	Single storey property. Primary view towards Proposed Development. Tall evergreen hedgerow to property boundary screens possible views.
P3 (Unknown)	40 m	Northwest	Y	Single storey property in proximity to Proposed Development. Primary view towards Proposed Development, open with limited screening vegetation. Additional on-site mitigation to the eastern boundary adjacent to the road and property may be required. This would be in the form of hedgerow and tree planting, managed to a suitable height to mitigate potential views. Mitigation would be designed as part of an ongoing iterative design process in the form of a landscape strategy plan. The mitigation and management of this would be secured through condition in the form of a detailed planting scheme and Landscape and Ecology Management Plan (LEMP).
P4 (Bryncoch)	90 m	Northeast	N	Single storey property. Primary view is northeast and not towards Proposed Development. Limited side elevation windows towards site. Vegetation to property boundaries further limit potential views.
P5 (Caeglas)	820 m	North	N	Two storey property. Primary view to the north away from

				Proposed Development. Limited side elevation windows allowing views to site. Mature hedgerow to property boundary further limits potential views, particularly from ground floor. No further on-site mitigation would be required, as the property is of a sufficient distance from the Proposed Development so that significant effects in EIA terms are unlikely. Additionally, the properties' primary view is away from the Proposed Development, with limited side elevation views.
P6 (Rosyscoch)	1 km	East	N	Single storey property. Primary view to the east away from Proposed Development. Mature vegetation to property boundary would further limit views.
P7 (Bryn Eryl Farm)	900 m	South	N	Single storey property. Primary view from property is south, away from the Proposed Development. Farm out buildings to the north of the property would prevent rear elevation views to the Proposed Development.
P8 (Bryn Eryl)	930 m	Northeast	Y	Two storey properties. Primary views northeast towards Proposed Development. Limited vegetation to property boundaries, although mature hedgerow to edge of Portway would limit ground floor views. No further on-site mitigation would be required, as the property is of a sufficient distance from the Proposed Development so that significant effects in EIA terms are unlikely.
P9 (Greenfield)	750 m	East	N	Single storey property. Primary view is to the east away from the Proposed Development. Limited side elevation windows with views towards the site.
P10 (No.4 at edge of Broadway)	1 km	Northeast	N	Single storey properties to the northern edge of Broadway. Primary views from properties varies, but predominantly away from Proposed Development. Mature hedgerow vegetation to

				edge of Portway would further limit views.
P11 (Pen Hill)	990 m	Northwest	N	Two storey property. Primary view to the northwest away from Proposed Development. Surrounding farm building would prevent views to the Proposed Development.
P12 (Parcgwyn)	900 m – 1 km	North	Y	Two storey property. Primary view from property, on elevated ground to the south, is towards Proposed Development. Vegetation to property boundary would limit views from ground floor. No further on-site mitigation would be required, as the property is of a sufficient distance from the Proposed Development so that significant effects in EIA terms are unlikely.
P13 (Maesmawr Farm house)	< 50 m (at its nearest point)	Southeast	Y	Single storey property, on raised ground. Surrounded by large scale farm buildings to the north and west, screening views. Substantial vegetation to the south along watercourse largely screens views to the south. Rear garden vegetation partially screens views to the southeast in direction of primary views towards Proposed Development. Further on-site mitigation to be considered including buffer to solar panels and further planting along boundary nearest property.

4.2.133 A landscape strategy plan would be completed as part of the wider planning application. This will detail intended on-site mitigation, such as the removal of panels within the properties’ eye line and on-site planting, considered and implemented as part of the ongoing iterative design process to mitigate effects on Parcgwyn and other residential properties within the wider landscape with views to the Proposed Development.

4.2.134 Due to the low nature of the Proposed Development, the presence of substantial screening vegetation, as well as distance (and intervening screening between dwellings and the Proposed Development) it is anticipated that there would be no residential properties which have the potential to experience a degree of harm of substantial. It is therefore considered that an RVAA would not be required. Consequently, individual residential properties would not be considered as part of the LVIA, or within an RVAA. Representative Viewpoints included within the LVIA have been selected, where publicly accessible locations are available, to include views that are representative of views from a number of residential properties. These Representative Viewpoints would be assessed as part of the LVIA.

4.2.135 It is therefore considered that a RVAA can be scoped out of the EIA.

Climate Change

- 4.2.136 The ES will identify how the Proposed Development is likely to affect the ability of the natural environment (including habitats, species and soils) to adapt to climate change as well as its ability to contribute towards climate change adaptation. This will include impacts on the vulnerability or resilience of a receptor as well as impacts on how the environment can accommodate change. This will be considered within each topic chapter of the ES and in supporting assessments for topics proposed to be scoped out of the EIA such as hydrology.
- 4.2.137 The ES will detail embedded mitigation together with additional mitigation and enhancement measures that will be adopted to address the impacts of the Proposed Development on climate change and to reduce the effects of climate change on the Proposed Development.
- 4.2.138 It is therefore considered that climate change can be scoped out of the ES as a standalone chapter with appropriate assessment to be incorporated within topic chapters.

4.3 Content of the Environmental Statement

- 4.3.1. The scope of the EIA takes into account the preliminary environmental information pertinent to the Site and as a result, the issues set out below are considered appropriate for assessment in an ES. It is considered that the Proposed Development may have the potential to give rise to significant environmental effects in these areas:
 - Landscape and Visual
 - Biodiversity
 - Soils

Table 4.2: Structure of the ES

Structure of ES	
Non-Technical Summary	Summary of the ES using non-technical terminology
Volume 1: Text	
	Glossary
Chapter 1	Introduction
Chapter 2	Project Description
Chapter 3	Need and Alternatives Considered
Chapter 4	Environmental Assessment Methodology
Chapter 5	Landscape and Visual
Chapter 6	Biodiversity
Chapter 7	Soils
Volume 2: Figures	
Including all figures and drawings to accompany the text.	
Volume 3: Appendices	
Including specialist reports forming technical appendices to the main text.	

- 4.3.2. The following sections provide details for each of the chapters that are proposed to be included in the ES.

5 TECHNICAL ASSESSMENTS

5.1 Chapter 1: Introduction

5.1.1 This chapter will provide the introduction to the ES, including details of the application, need for EIA and the structure of the ES.

5.2 Chapter 2: Proposed Development Description

5.2.1 The ES will include a description of the Proposed Development, which will form the basis of the assessment of effects. The EIA Regulations require an ES to include:

'A description of the development comprising information on the site, design and size and other relevant features of the development.'

5.2.2 This Proposed Development description chapter will include details of the Site, together with a description of the key components of the Proposed Development. The description will include the following information, as far as practicable at the time of writing:

- Construction phase - a description of the key works, activities and processes that would be required during the construction phase.
- Operational phase - a description of the completed development and its use.
- Decommissioning phase - a description of the key works, activities and processes that would be required during the decommissioning phase.

5.2.3 Where options remain at the time of the assessment (with regard to construction techniques, for example), the ES will provide a clear explanation of the assumptions made. Where appropriate, the realistic worst case scenario will be assessed.

5.2.4 Where mitigation measures have been identified and developed through the EIA process and have been incorporated as part of the Proposed Development, details of these measures will be set out within the Proposed Development description chapter.

5.3 Chapter 3: Need and Alternatives Considered

5.3.1 This chapter will briefly set out the need for the Proposed Development. In addition, the EIA Regulations require the alternatives considered by the applicant to be set out in the ES:

'A description of the reasonable alternatives studied by the developer, which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the development on the environment.'

5.3.2 This chapter will summarise the reasons for the selection of the Site and provide an outline of the alternatives considered during the EIA process, including a description of the alternative design and layout options that have been considered.

5.4 Chapter 4: Environmental Assessment Methodology

5.4.1 Details of the overall approach to EIA will be set out in this chapter, together with details of the scoping process, consultation undertaken and the overall approach to the assessment of significance. Topic specific methodologies, such as survey methods, will be provided in each topic chapter.

5.5 Chapter 5: Landscape and Visual Impact Assessment (LVIA)

General

- 5.5.1 Landscape and / or Visual effects, associated with the Proposed Development, are an important environmental issue. As such, a Landscape and Visual Impact Assessment (LVIA) would form an important part of the wider Environmental Impact Assessment (EIA) process for the project.
- 5.5.2 Chapter 5: Landscape and Visual Impact Assessment (LVIA), of the Environmental Statement (ES), would consider the potential effects of the Proposed Development upon the physical landscape elements and features, landscape character, views and visual amenity within a 5km radius study area, as measured in all directions from the edge of the Site (red line) boundary.
- 5.5.3 The LVIA would be undertaken with reference to best practice guidance, as detailed within 'Assessment of Effects' section below (paragraph 1.31) and would be completed by a suitably qualified and experienced Chartered Landscape Architect (CMLI).
- 5.5.4 A Glint and Glare Assessment, would also be completed as part of the LVIA. It would be a standalone assessment but included within the Appendices of the LVIA and referred to within the assessment of effects section of the LVIA chapter as appropriate.

Public Consultation

- 5.5.5 An important part of the applicant's planning process is engaging with local communities to provide information on the project and gather local feedback. Details regarding this public consultation process, of which the LVIA and related issues will be an important part, can be found above at Section 1 of this scoping report document. Specific engagement with the relevant statutory consultees will be undertaken in respect of landscape effects and will be used to inform the design of the proposed development and the LVIA.

Planning History

- 5.5.6 A review of the published Landscape and Visual Impact Assessment, in relation to the consented Bryncoch Farm development, has been carried out. It is noted that here are two no. Fields (14 and 15) of the Proposed Development, were part of the consented Bryncoch scheme. As such, there is a precedence for development of the nature proposed with the Application Site and wider landscape. This and other aspects will be considered as part of the LVIA for the Proposed Development.

Baseline Information

- 5.5.7 The following provides a summary of the baseline data collated, and work undertaken to inform the landscape and visual element of the EIA Scoping Report and the forthcoming LVIA. Information is illustrated on figures, including Landscape Planning Designations (ref. 5302-RPS-XX-XX-DR-L-9002) and the Zone of Theoretical Visibility (ZTV) (ref. 5302-RPS-XX-XX-DR-L-9001) (Appendix 5.1):
- Preliminary review of legislative and planning policy context insofar as it relates to landscape and visual matters and / or solar farm developments.
 - Review of Landscape Planning Designations.
 - Preliminary review of National, Regional and Local Landscape character assessments, as appropriate and / or where available.
 - Preparation of preliminary proposed ZTV with barriers and bare earth, including Candidate Viewpoint locations.
 - A preliminary, desk based, landscape and visual appraisal of the Proposed Development was completed by RPS Group in January 2025 and included a site visit to complete Representative Viewpoints and to inform the layout. The following section summarises the

existing baseline conditions and sensitive landscape and visual receptors that are likely to be affected by the Proposed Development

Landscape Planning Designations

- 5.5.8 The Proposed Development is not located within a National Park or National Landscape (Area of Outstanding Natural Beauty), i.e. an area of national importance for its scenic quality. Nor is the Proposed Development located within a locally designated Special Landscape Area (SLA). The nearest being part of the Carmarthenshire Bay and Estuary SLA, approximately 500m to the southwest at its nearest point, and Carmarthenshire Limestone Ridge SLA, approximately 2.8 km to the southeast at its nearest point. There would therefore be an indirect perceptual effect upon these SLAs as a result of the Proposed Development. It is noted however, that the Proposed Developments westernmost option would be located within an Historic Landscape (Tywi Valley); a designation designed for decision makers and landscape managers to help ensure that the historic character of the landscape is sustained (refer to Figure 5302-RPS-XX-XX-DR-L-9002-Designation, Appendix 5.1).
- 5.5.9 Within the wider 5km study area, there are a number of other landscape planning designations that would be indirectly impacted by the Proposed Development. These include:
- Listed Buildings.
 - Conservation Areas (CA); the nearest being the Llansaint CA, located approximately 1.7 km to the west of the Application Site (at its nearest point).
 - Scheduled Monuments; the nearest being Round Barrow 330m SW of Mynydd-Uchaf, approximately 110m south-east of the Site (at its nearest point).
 - Registered Common Land.
 - Significant Views.
 - Historic Parks and Gardens; the nearest being Llechdwnni, approximately 2.4 km to the east of the Application Site (at its nearest point).
- 5.5.10 There are a substantial number of individual trees, hedgerows and blocks of woodland across the Site, or immediately adjacent to it. A number of the woodland blocks, to the north and east, and within the wider 5 km study area, are designated as Ancient Woodland.

National and Local Landscape Character

- 5.5.11 The relevant published landscape character assessments have been reviewed. Within the LVIA Chapter, particular attention would be paid to the key landscape characteristics of the relevant LANDMAP aspect areas of the Site and the surrounding areas.
- 5.5.12 National Landscape Character Areas (NLCAs) are countrywide and form the broad scale landscape character assessment of Wales. The Site and much of the 5 km study area falls within NLCA 33: Gwendraeth Vales. Other NLCAs which fall within the 5 km study area include NLCA45: Aberoedd Taf, Tywi a Gwendraeth and NLCA44: Broydd Taf a Chleddau.
- 5.5.13 LANDMAP is an “all-Wales Geographical Information System (GIS) based landscape resource where landscape characteristics, qualities and influences on the landscape are recorded and evaluated into a nationally consistent dataset” (CCW (now NRW), 2011). It is administered by Natural Resources Wales (NRW) and comprises five spatially related datasets or aspect layers as follows:
- Geological Landscape: “considers the physical, primarily geological, influences that have shaped the contemporary landscape and identifies those landscape qualities which are linked to the control or influence exerted by bedrock, surface processes, landforms and hydrology”.
 - Landscape Habitats: “Focuses on recording habitat features, characteristics and their spatial relationships within the context of the wider landscape”.

- Visual and Sensory: “Maps landscape characteristics and qualities as perceived through our senses, primarily visually. The physical attributes of landform and land cover, their visible patterns and their interrelationship”.
- Historic Landscape: “Landscape characteristics that depend on key historic land uses, patterns and features. Identifies only those classes of historic land uses, patterns and features that are prominent and contribute to the overall historic character of the present landscape.”.
- Cultural Landscape: “Describes the links between landscape and people, from the way in which cultural, or human activity shapes the landscape, to the way in which culture shapes the way we respond to landscape. Focus is on mapping the landscape where it has been, or is being, shaped by a particular cultural activity or process, or where it has been directly represented, depicted or described in art, literature or folklore.”

5.5.14 The Visual and Sensory Dataset (accessed January 2025) locates the Site entirely within Aspect Area ‘CRMRTVS936: Llansaint Coastal Hills’. The area is described as:

“Rolling hills overlooking the coast and the Tywi estuary. Dominated by improved agricultural land, some arable (maize). Strong field boundaries, relatively few trees compared to other parts of the county creating a feeling of exposure, some trees are wind sculpted. Scattered rural farms and fairly busy country roads. Llansaint is an unusual settlement being old in origin and hilltop. It has a strong sense of place. The red soils are another feature that make this area distinct. Pylons cross a section of the area.”

5.5.15 Overall, Aspect Area ‘CRMRTVS936: Llansaint Coastal Hills’, is evaluated as High.

Visual Resources

Zone of theoretical visibility

5.5.16 In order to further determine the geographical extent of potential visibility, a preliminary computer-generated Zone of Theoretical Visibility (ZTV) was generated (ref. 5302-RPS-XX-XX-DR-L-9001, Appendix 5.1). The ZTV broadly defines the study area for both the landscape character and visual assessment. A 5km radius study area is proposed for this assessment due to the overall size and height of the Proposed Development, a maximum of 3 m above existing ground level (EGL) for the substation control room and 2.85 m above EGL for the solar arrays. It is anticipated that any potentially significant landscape and / or visual effects would lie within this radius. Following field survey and analysis of existing barriers, the study area radius may be reviewed.

5.5.17 Currently, the Proposed Development would consist of static south facing photovoltaic solar panels (PVs) at a finished height of 2.85 m above existing ground level (EGL), 132kV substation, DNO and customer controls rooms at 3 m EGL and other built elements such as security fencing and CCTV. The preliminary ZTV was completed to show this, with the origin points at 3m above EGL. The ZTV was compiled assuming observer height as 1.7 m at eye level and takes into account the screening effects of local settlements at 9m and existing areas of substantial vegetation (woodland) at a height of 11m. Twenty three (23) origin points, from within the Application Site, have been used to establish the likely area from where views to the Proposed Development may be available. These origin points are located within the centre of each of the agricultural fields within the Application Site which would contain solar panels.

5.5.18 OS Terrain 5 data has been used to generate the ground model for the ZTV.

View Ranges

5.5.19 For the purposes of the LVIA Chapter, views would be classified according to three distance ‘ranges’ as set out in Table 5.1 below.

Table 5.1: View Ranges

Range	Distance Threshold	Reasoning Description
Close	Less than 1 km	At close range the project could appear as a 'prominent' feature and visual receptors could experience high to medium/low magnitude of change when compared to existing views.
Medium	Between 1 km and 3 km	In medium range views the project could appear as 'present' features and visual receptors could experience medium/low to negligible magnitude of change compared to the existing situation.
Long	More than 3 km	In long range views the project would read as part of the landscape and visual receptors would tend to experience a low to negligible or lower magnitude of change compared to the existing situation.

Representative Viewpoints

- 5.5.20 A number of Representative Viewpoints have been proposed, which are considered representative of key sensitive visual receptors within the 5 km study area. An assessment of potential effects upon views from each viewpoint, as a result of the Proposed Development, would be completed (ref. 5302-RPS-XX-XX-DR-L-9001, Appendix 5.1). These Representative Viewpoints have been further refined following field work and will be assessed as part of the LVIA Chapter.
- 5.5.21 All Representative Viewpoints are situated in publicly accessible locations falling within the ZTV, at a range of distances and orientation to the Proposed Development. They include a range of receptors of varying sensitivity. Photographs have been taken from each of the chosen Representative Viewpoints and will be illustrated in accordance with the Landscape Institute Technical Guidance Note 06/19, Visual Representation of Development Proposals (Landscape Institute, September 2019). Any additional photographs, requested as part of the scoping exercise, would be included as necessary.
- 5.5.22 Photographs have been taken during winter, January 2025, when vegetation was devoid of its leaf cover to show the worst-case scenario. Any assessment of effects upon summer views would be necessarily made using professional judgement. Table 5.2 below describes the location of the Representative Viewpoints for this assessment.

Table 5.2: Representative Viewpoints

No. / Name	Sensitivity	View Location Description
Viewpoint 1: Local road (C2075)	Medium (road users)	Close distance view from the local road to the immediate south of the eastern part of the Application Site.
Viewpoint 2: PRoW 62/13/1	High (PRoW users)	Close distance view from Public Right of Way (62/13/1) to the south and east of the Application Site.
Viewpoint 3: Local road (C2074)	Medium (road users)	Close distance view from the local road at the southeast corner of the western part of the Application Site.
Viewpoint 4: Local road (U2216) near Maesmawr Farm	Medium (road users)	Close distance view from the local road to the immediate north of the western part of the Application Site, near to Maesmawr Farm.
Viewpoint 5: Local road (C2074)	Medium (road users)	Medium distance view from the local road to the north of the Application Site, near Nantyoitre Isaf.
Viewpoint 6: Local road (C2057)	Medium (road users)	Medium distance view from the local road to the northeast of the Application Site, near Ffynnon-Wen.

Viewpoint 7: PRoW (29/31/1 – 29/32/1)	High (PRoW users)	Medium distance view from Public Right of Way (29/31/1 – 29/32/1) to the east of the Application Site.
Viewpoint 8: PRoW (62/54/2)	High (PRoW users)	Medium distance view from Public Right of Way (62/54/2, Cilffordd Byway) to the south of the Application Site.
Viewpoint 9: PRoW (62/54/2)	High (PRoW users)	Medium distance view from Public Right of Way (62/54/2, Cilffordd Byway) to the south of the Application Site.
Viewpoint 10: PRoW (62/15/2)	High (PRoW users)	Medium distance view from Public Right of Way (62/15/2) to the south of the Application Site.
Viewpoint 11: Local road (Port Way)	Medium (road users)	Medium distance view from the local road to the southwest of the Application Site, near Manor Farm.
Viewpoint 12: PRoW (Wales Coast Path)	High (PRoW users)	Long distance view from Public Right of Way (part of the Wales Coast Path) to the west of the Application Site, near Llansteffan.
Viewpoint 13: Unclassified Road near Llechdwnni	Medium (road users)	Medium distance view from the local road to the west of the Application Site, near Llechdwnni.
Viewpoint 14: PRoW (62/13/1)	High (PRoW users)	Close distance view from Public Right of Way (62/13/1) to the south and east of the Application Site. Representative of views from nearby residential property (Parcgywn).
Viewpoint 15: PRoW (62/38/1)	High (PRoW users)	Medium distance view from Public Right of Way (62/38/1) to the south the Application Site. Representative of views from nearby residential properties to northern edge of Llansaint.

Further visual assessment

- 5.5.23 To further inform the potential adverse visual effects as a result of the Proposed Development, a detailed consideration of publicly available views would be carried out. Within 1km of the Proposed Development, an assessment of likely effects upon views for occupants of businesses/ places of work and, in particular, users of public rights of way, not covered by the Representative Viewpoints, would be completed. In some cases, given access restrictions, the baseline view and / or summary of effects upon these receptors would necessarily be estimated. However, an overview assessment of the likely effects of the operational phase of the Proposed Development upon views for these visual receptors would be given. This would include an overall assessment of the sequential effects upon views for users of the PRoWs and roads within the local vicinity of the Application Site.

Proposed approach

Baseline studies

- 5.5.24 Baseline information on the landscape will be gathered through a combination of desk studies, consultation and field surveys. Documents used in the assessment may include aerial photographs, Ordnance Survey (OS) maps and published landscape character assessments.
- 5.5.25 Further to the Baseline Information described above, the baseline assessment within the final LVIA Chapter will also include an assessment of the effects of the Proposed Development upon the landscape character of the Application Site itself and its immediate surrounds. It will also include an assessment of the existing landscape character within the wider study area in terms of its value and its sensitivity to the Proposed Development. The studies will identify the landscape resources and character of the surrounding area and examine how the Proposed Development will affect individual landscape features, elements, and characteristics of the wider landscape.
- 5.5.26 Field work has been undertaken to gain a better understanding of the landscape of the Application Site and surrounding area, to determine its character and condition and to identify visual receptors

and the extent of available views. Field work will help to establish those landscape resources which combine to give the area its distinct sense of place. Further consultation would be sought from key statutory organisations/consultees where applicable.

Assessment of effects

- 5.5.27 The Landscape and Visual Impact Assessment (LVIA), undertaken as part of the Landscape and Visual Resources chapter, will identify and assess the likely significant effects that would arise as a result of the Proposed Development on the landscape (its fabric, character and elements) and upon views as experienced by receptors (people). The full methodology for the LVIA can be viewed within Appendix 5.2 of this ES Scoping Report. Please note this is written in the present tense as it will be included within the LVIA Chapter.
- 5.5.28 The LVIA will be based on the current published guidelines for landscape and visual assessment provided in:
- Guidelines for Landscape and Visual Impact Assessment: Third Edition (GLVIA) (Landscape Institute and Institute of Environmental Management & Assessment, 2013).
 - An Approach to Landscape Character Assessment, Natural England (2014).
 - Planning Policy Wales LANDMAP Guidance Note 1: LANDMAP and Special Landscape Areas (2016).
 - Planning Policy Wales LANDMAP Guidance Note 3: (2013).
 - Technical Guidance Note 06/19, Visual Representation of Development Proposals (Landscape Institute, September 2019).
- 5.5.29 The sensitivity of landscape and visual receptors within the 5 km study area would be assessed (through the identification of the landscape resource's susceptibility to the Proposed Development/susceptibility of the visual receptor to change and value of the landscape resource/view), together with the predicted magnitude of impact on that receptor (through identification of the Proposed Development's size/scale, geographical extent and the duration and reversibility of effect). When combining sensitivity with magnitude of impact, a judgement will be made as to the significance of effect upon the landscape resource and/or view during the construction phase, the operational and maintenance phase, as well as the decommissioning phase of the Proposed Development.
- 5.5.30 Where appropriate, mitigation measures will be identified to avoid, where possible, or reduce any potential landscape and / or visual effects as a result of the Proposed Development.
- 5.5.31 The LVIA Chapter would include an assessment of cumulative effects of the Proposed Development in association with other proposed solar parks within the study area.
- 5.5.32 The LVIA ES chapter would include an assessment of effects of the Proposed Development (as detailed above) during its construction, operation and decommission phases. For the assessment of the operational phase, the LVIA would include an assessment of its likely effects during daytime only, at winter year 1, when all construction and mitigation planting is assumed complete, and during summer year 15 once all mitigation planting is assumed to have reached its design and screening function. Field work would be completed during summer 2025 and therefore the assessment of effects at winter would be completed using professional judgement.

5.6 Chapter 6: Biodiversity

Introduction

- 5.6.1 An Ecological Impact Assessment (EclA) will assess likely impacts and effects on biodiversity as part of the Biodiversity chapter. This section of the scoping report provides a summary of the

ecological baseline at the current stage and addresses the proposed methodology to assess impacts and effects.

- 5.6.2 It should be noted that further ecological surveys and assessments (with the exception of wintering bird surveys) have yet to be commenced. This is primarily a result of the seasonal restrictions associated with ecological surveys and assessments. Ecological surveys and assessments will be commenced at the earliest opportunities, ensuring that survey methodology meets best practice guidance.

Assessment Methodology

- 5.6.3 The approach to the ecology impact assessment will follow the EclA methodology detailed in the Guidelines for Ecological Impact Assessment in the UK and Ireland by the Chartered Institute of Ecology and Environmental Management (CIEEM) (CIEEM, 2018).

Legislation and Policy

- 5.6.4 Relevant legislation and policies will be taken into account as part of the EclA, including the:

- Environment (Wales) Act 2016
- Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019
- Countryside and Rights of Way Act 2000
- Wildlife and Countryside Act 1981 (as amended)
- Water Environment (Water Framework Directive) (England and Wales) Regulations 2003
- Hedgerow Regulations 1997
- Protection of Badgers Act 1992
- Future Wales: the national plan 2040
- Planning Policy Wales (Edition 12, February 2024)
- Technical Advice Note (TAN) 5: Nature conservation and planning
- Natural Resources Policy
- Carmarthenshire Local Biodiversity Action Plan

Baseline Information

Designated Sites and Ancient Woodland

- 5.6.5 One Internationally designated site and two nationally designated sites were identified within 2km of the Site, these include: Carmarthen Bay and Estuaries/ Bae Caerfyrddin ac Aberoedd Special Area of Conservation (SAC), Afon Tywi Site of Special Scientific Interest (SSSI) and Gwel y Coed (SSSI). Carmarthen Bay and Estuaries/ Bae Caerfyrddin ac Aberoedd (SAC) and Afon Tywi (SSSI) are both located approximately 1.4km to the west of the Site. Gwel y Coed (SSSI) is located 1.4km to the south. Bae Caerfyrddin/ Carmarthen Bay Special Protection Area (SPA) and Bury Inlet SPA were both located more than 5 km from the Site.
- 5.6.6 Whilst there are no Sites of Importance for Nature Conservation (SINCs) located within 2km of the Site, an area of Buglife's 'B-line' sites is located 0.2 km to the west.
- 5.6.7 The desk study identified multiple Ancient Woodland Sites within 2km of the Site. The closest parcel of ancient woodland was located immediately west of the Site boundary. Development will be excluded from areas of Ancient Woodland.

Habitats

- 5.6.8 A habitat walkover of the Site was undertaken in December 2024 to ascertain the broad habitat composition and assess the Site's suitability to support protected and/or notable species. A Habitat Plan is included at Appendix 5.3.
- 5.6.9 The Site comprised primarily grazing pasture/improved grassland, which was identified as the most abundant habitat recorded across the Site. Improved grasslands were dominated by perennial ryegrass *Lolium perenne*, with Yorkshire fog *Holcus lanatus* and cock's-foot *Dactylis glomerata* comprising frequently encountered species. Sward height was varied as a result of influence from domesticated animal rotation. Solar Area West and Solar Area East were homogenous in terms of species composition, though select areas in the Solar Area East comprised scattered patches of rush *Juncus* sp. At the time of survey, the northern eastern fields in Solar Area East were inundated.
- 5.6.10 Species-poor and defunct hedgerows bordered most of the fields within Solar Area West and Solar Area East. Drainage ditches were also identified. A slow flowing ditch was identified in Solar Area West bordering the central field south of Maesmawr, extending to the west of the farmyard and along the north western perimeter. In Solar Area East, a ditch was identified in the south east, along the Site boundary. Mature broadleaved trees made up a relatively small proportion of all habitats, with scattered oak *Quercus* sp. recorded in the south east of Solar Area East, which formed a wooded corridor connecting into a broadleaved woodland outside of the Site, to the east.
- 5.6.11 The habitat survey is to be updated in late spring to ensure diversity and condition information is collected during the optimal time for undertaking habitat surveys. The updated habitat information will form part of a factual Preliminary Ecological Appraisal report, which will support the EclA. This will include Option 1 and Option 2 areas.

Protected and/or Notable Species

- 5.6.12 Records of several species groups such as bats, otter, badger, birds, reptiles and amphibians were identified as part of a records search obtained from West Wales Biodiversity Information Service (WWBIC). Additionally, invasive non-native species records were also identified. None of the records returned from WWBIC fell within the site. The nearest record was of a European hedgehog *Erinaceus europaeus*, located approximately 100 m to the east of Area A.
- 5.6.13 The site supports several habitat types that could support protected and notable species. Grasslands could be used by breeding and wintering birds, mammals listed on Section 7 of the Environment (Wales) Act 2016 and badger, with hedgerows and trees offering opportunities for commuting and foraging bats. Broadleaved trees in the south east (within Area B) could support potential roost features (PRF) for roosting bats. Based on OS mapping a pond is located within the site, in the north east, though at the time of the habitat survey the fields in the north east were inundated which had covered the pond's location. An assessment of the on-site pond's suitability for great crested newt *Triturus cristatus* including other waterbodies within a 500 m buffer (or appropriate search area excluding amphibian dispersal barriers) would be undertaken alongside other ecological surveys and assessments.
- 5.6.14 Two wintering bird surveys have been undertaken at the Site, one in November 2024 and one in December 2024. Redwing *Turdus iliacus* and starling *Sturnus vulgaris* were the most abundant species recorded during the surveys, with the November 2024 visit recording flocks of more than 100 birds (of both species) in the north of Solar Area West and south of Solar Area East. Redwing and starling were also the most abundant species recorded across the site in December 2024, though their numbers had reduced by 50%. From vantage points of neighbouring fields, it appears that the wintering thrush and starling population use a variety of different fields across the local area interchangeably to forage, which is the typical behaviour of these species in winter. Other Schedule 1 species, and species listed on the Birds of Conservation Concern (BoCC) Wales lists were recorded during the surveys. These include red kite *Milvus milvus*, fieldfare *Turdus pilaris*, snipe *Scolopax rusticola*, meadow pipit *Anthus pratensis* and stock dove *Columba oenas*. A full

interpretation of the abundance and distribution of the wintering bird assemblage will be undertaken following survey completion in early March 2025.

- 5.6.15 Further ecological surveys will be undertaken in 2025 based on the results of the habitat survey. The surveys would be undertaken to ensure the ecological baseline is sufficiently studied and to support the EclA.

Scope of the Assessment

- 5.6.16 The Biodiversity chapter will determine the 'importance' of ecological features including key sites, habitats and species that are considered to be of conservation interest and could be affected by the development proposals. The evaluation will specifically refer to:

- Statutory and non-statutory designated Sites for nature conservation;
- Habitats of Principal Importance (Priority Habitats) in Wales;
- Species of Principal Importance (Priority Species) in Wales; and
- Carmarthenshire Biodiversity Action Plan (BAP), red listed, rare or legally protected species.

- 5.6.17 The importance will be qualified in a geographic context, as set out below:

- International (Europe)
- National (United Kingdom, specifically Wales)
- Regional (South West Wales)
- County (Carmarthenshire)
- Local
- Negligible/Site (specifically, the Proposed Development footprint)

- 5.6.18 The approach will identify, qualify and, where possible, quantify the sensitivity, value and magnitude of all ecological receptors which cannot be scoped out of this assessment.

- 5.6.19 In assigning a value to a site, habitat or species (population or assemblage), their distribution and status (informed by survey data and available historical records) will be considered. Rarity will be considered due to its relationship with threat and vulnerability, and the need to conserve representative areas of habitats and genetic diversity of populations and species.

- 5.6.20 The valuation of sites will also take full account of existing value systems such as site designations.

- 5.6.21 Criteria for the valuation of habitats and plant communities will include Annex III of the Habitats Directive, guidelines for the selection of biological SSSIs / criteria used by local planning authorities and Wildlife Trusts guidance for the selection of local sites. Legal protection status, will also be considered.

- 5.6.22 Other habitat or plant community criteria considered will include size (extent), diversity, naturalness, rarity, fragility, typicalness, historic records, importance to the ecological functioning of a site, ecological value to species of conservation concern, condition and potential importance.

- 5.6.23 Species populations will be valued on the basis of their size, recognised status (e.g. inclusion in lists of species of conservation concern or BAP status) and legal protection status. Other species related

factors that will be considered include the species' distribution and rarity, any population trends, the size of the population that would be affected, and geographic scale of the impact.

5.6.24 Legal protection afforded to species will be taken into account in the development of mitigation measures. For European protected species, measures will ensure that the species will remain at a favourable conservation status in their natural range.

5.6.25 Finally, existing and future predicted baseline conditions will be considered, including predicted changes resulting from climate change.

Magnitude of Impact

5.6.26 The likely impacts of the proposals will be assessed in terms of the:

- type – positive or negative impact on an important ecological feature;
- magnitude - size or intensity;
- extent or spatial scope;
- likely duration;
- reversibility – naturally or through mitigation action; and
- timing and frequency in relation to ecological changes.

5.6.27 Where likely adverse impacts are identified, mitigation or compensation measures will be incorporated into the proposal where practicable.

Significance of Effect

5.6.28 As per Section 3.1 of this scoping report, the significance and scale of the effects will be assessed and classified as:

- Substantial: likely to be significant at a national, UK, European / international scale.
- Major: likely to be significant at a regional scale.
- Moderate: likely to be significant at a County scale
- Minor: likely to be significant at a Local scale.

5.6.29 Effects of 'moderate' or greater significance are considered to be significant in terms of the EIA Regulations. Effects that are too low to be considered in the assessment will be those that are assessed as 'slight' or neutral. Beneficial effects will be considered in the assessment.

Duration

5.6.30 Time frames referred to in the EclA would be:

- short-term - one to three years;
- medium-term - four to nine years; and
- long-term - greater than nine years.

Assessment of Effects

Construction Impacts

5.6.31 In the absence of mitigation, the following impacts and their resultant effects would be assessed, or scoped out where not relevant:

- Impacts (direct and indirect) on designated sites, leading to loss, alteration and/or degradation
- Impacts (direct and indirect) on terrestrial habitats including grassland, arable, woodland and trees, hedgerows and scrub, leading to loss, alteration and/or degradation.
- Impacts (direct and indirect) on aquatic habitat such as waterbodies and watercourses (where present), including potential changes in water quality, leading to their alteration or degradation
- Impacts (direct and indirect) on protected and notable species of flora and fauna (following further ecological surveys and assessment), leading to disturbance/displacement, mortality and/or injury

5.6.32 As part of the EclA, the significance of effects would be assessed considering embedded mitigation, such as a CEMP.

Operational Impacts

5.6.33 In the absence of mitigation, the following impacts and their resultant effects would be assessed or scoped out where not relevant:

- Impacts (direct and indirect) on habitats, leading to alteration and/or degradation
- Impacts (direct and indirect) on protected and notable species of flora and fauna, leading to disturbance/displacement

5.6.34 Effects during the decommissioning stage are considered to be similar or no worse than during construction.

Notes and Limitations of the Assessment

5.6.35 Limitations will be avoided as far as practicable possible, however, should any limitations arise as part the assessment, such as through ecological surveys, these will be reported and assessed in relation to their effectiveness and presented in the ES.

Habitats Regulations Assessment

5.6.36 Considering the distance between the Proposed Development Site and the closest internationally designated site (Carmarthen Bay and Estuaries/ Bae Caerfyrddin ac Aberoedd Special Area of Conservation SAC), and the lack of discernible impact pathways, it is considered that there would be no likely significant effects on SACs from the proposal. Additionally, likely significant effects on qualifying features of the Bae Caerfyrddin/ Carmarthen Bay SPA and Bury Inlet SPA are not anticipated given the lack of functionally linked land within the Site. As a result, no Habitats Regulations Assessment (HRA) would be undertaken. This was also the position taken as part of the assessment for the Bryncoch Solar development.

Biodiversity Strategy

5.6.37 A biodiversity strategy would be developed in consultation with specialist consultees where appropriate and possible, and other technical specialists (including landscape architects, hydrologists and soils specialists where appropriate). The aim of the biodiversity strategy would be to avoid, minimise and mitigate any significant impact on biodiversity. A core part of the biodiversity strategy would be to maintain and enhance ecosystem resilience as part of the Proposed Development design, alongside building in measures to safeguard and maximise green infrastructure, ultimately delivering a net benefit for biodiversity. The Welsh Government's step-wise

approach and Natural Resources Wales' DECCA⁶ framework will be integral to the Proposed Development's biodiversity design.

- 5.6.38 The biodiversity strategy will be taken into account in the final conclusions of the EclA and reported in the Biodiversity chapter. The assessment of residual impacts will be made, based on the implementation of additional mitigation measures.

Cumulative Assessment

- 5.6.39 The cumulative ecological effects resulting from the combination of effects from the Proposed Development and other proposed developments in the area will be assessed. The cumulative effects will be considered together to ensure that an overarching assessment of impacts will be considered.

⁶ Diversity, Extent, Condition, Connectivity and Adaptability

5.7 Chapter 7: Soils

Introduction

- 5.7.1 This section of the Scoping Report considers the assessment of the potential effects of the Proposed Development on soils, including on the Agricultural Land Classification as a measure of agricultural land quality. This section considers the potential effects on the soil and land quality as a physical resource, and on its potential use as an economic resource. The section considers the physical effects that construction works, and decommissioning works, could have on the soils.

Potential Effects

- 5.7.2 Potential effects on soils include:
- loss of land as a resource for biomass production, using the Agricultural Land Classification (ALC) classification system;
 - loss or damage to soils as a physical resource.

Legislation and Policy

- 5.7.3 Relevant policy includes:
- Future Wales 2040 (2021), especially Policy 18;
 - Planning Policy Wales (2024) especially paragraphs 3.58 and 3.59;
 - Technical Advice Note TAN 6 (2010).

Guidance

- 5.7.4 Guidance that will inform the environmental assessment process, and assessment of the impacts and mitigation, includes:
- Institute of Environmental Management and Assessment Guide “A New Perspective on Land and Soils in Environmental Impact Assessment” (2022);
 - Construction Code of Practice for the Sustainable Use of Soils on Construction Sites, Defra (2009);
 - Good Practice Guide for Handling Soils in Mineral Workings, The Institute of Quarrying (2021), supplementary notes and worksheets.

Study Area and Baseline Context

- 5.7.5 The Study Area is all land within the Site, including land previously consented under the Bryncoch Solar Farm consent.
- 5.7.6 Agricultural land quality is measured under a system of Agricultural Land Classification (ALC), with the current methodology set by MAFF in October 1988. This divides land into five grades, from

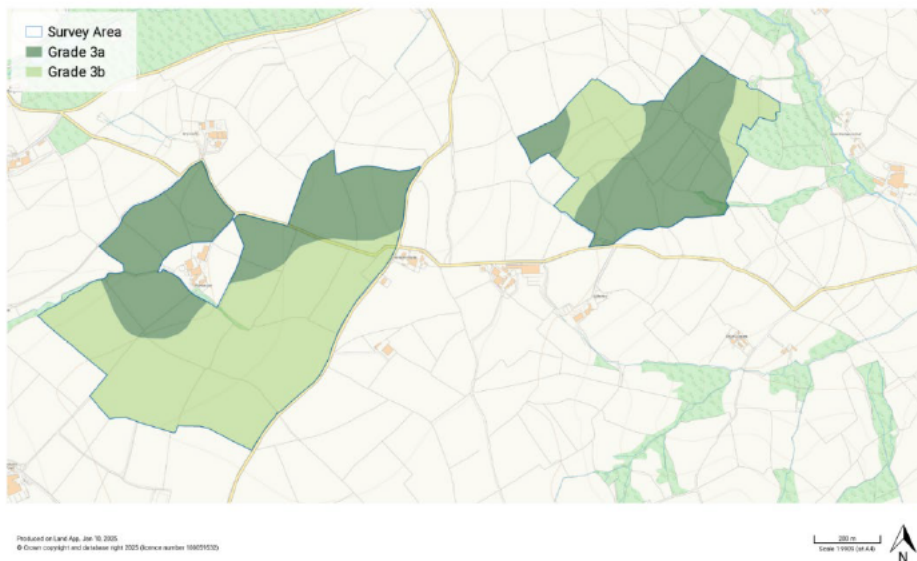
Grade 1 “excellent” to Grade 5 “very poor”, with Grade 3 divided into Subgrades 3a “good” and 3b “moderate” quality.

5.7.7 The site is shown on the predictive ALC by the Welsh Government, version 2, as mostly falling into ALC subgrade 3a, with an area of subgrade 3b.

5.7.8 A detailed ALC survey has been carried out by Amet Property Ltd. They have identified that part of the site falls within Subgrade 3a and the majority falls within Subgrade 3b. The distribution is shown on an extract from the ALC plan below.

Figure 7.1: Distribution of ALC

Appendix 6 - Map of ALC Grade



5.7.9 Approximately 10 ha of subgrade 3a land has previously been granted consent for solar farm use under the Bryncoch Solar Farm consent.

5.7.10 The ALC results for the whole site, are shown below.

Table 7.1: ALC Results of the Whole Site

ALC Grade	Area (ha)	Area (%)
Subgrade 3a good	38.7	48
Subgrade 3b moderate	42.2	52
Total	80.9	100

Assessment Methodology

5.7.11 The soils and land quality assessment has been derived from historic practice, recently encapsulated in the IEMA Guide. The IEMA Guide methodology has been adjusted for this

assessment to place all BMV land in the high category, rather than the very high category leaving the high category unpopulated as per IEMA.

5.7.12 The assessment of magnitude will be as set out in Table 7.2.

Table 7.2: Assessment Magnitude

Magnitude of Effect	Effects on Agricultural Land (soils)
Major	The Development would directly lead to the loss (including permanent sealing or land quality downgrading) of one or more soil functions or soil volumes over an area of over 20 hectares ('ha') of soil-related features; or potential for improvement in one or more soil functions over an area of more than 20 ha.
Moderate	The Development would directly lead to the loss (including permanent sealing or land quality downgrading) of one or more soil functions or soil volumes over an area of between 5 ha and 20 ha of soil-related features; or potential for improvement in one or more soil functions over an area of between 5 ha and 20 ha.
Minor	The Development would directly lead to loss (including permanent sealing or land quality downgrading) of one or more soil functions or soil volumes over an area of less than 5 ha of soil-related functions; or potential for improvement in one or more soil functions over an area of less than 5 ha.
Negligible	No discernible loss or reduction or improvement of soil functions or volumes.

5.7.13 The matrix for assessing sensitivity will be as set out in Table 7.3.

Table 7.3: Matrix for Assessing Sensitivity

Sensitivity	ALC/biomass production*	Sensitivity of topsoil and subsoil**
High	Land of ALC Grades 1, 2 and 3a	High clay soils where the field capacity days ('FCD')*** is >150, or medium textured soils where the FCD is >225
Medium	Land of ALC Subgrade 3b	High clay soils where the FCD is <150, or medium textured soils where the FCD is <225
Low	Land of ALC Grades 4 and 5	Soils with a high sand fraction where the FCD is <225
Negligible	Land of ALC Grades 4 and 5 with only indirect links	-

* IEMA Guidance Table 2

** IEMA Guidance Table 4. For the full list, refer to the IEMA Guidance Table 4

*** Field Capacity Days i.e. days when the soil is replete with water

5.7.14 These impacts will lead to a significance threshold determination as set out in Table 7.4.

Table 7.4: Significance Threshold Determination

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

Assessment of Likely Effects

5.7.15 Parts of the site are of ALC subgrade 3a, and accordingly of high sensitivity. The quantum of BMV within the site exceeds 20 ha, although some of this has previously been consented.

5.7.16 The installation of solar PV arrays does not generally adversely affect agricultural land quality, as the piles are driven in and have a very limited impact on the soil resource. There will be a requirement for some access tracks and bases for small items of fixed infrastructure, but collectively

these are likely to involve relatively small areas of BMV. By design, so far as possible, these areas of disturbance will be placed on land of moderate quality (subgrade 3b).

- 5.7.17 Overall, the impact on BMV land quality is expected to be minor, i.e. less than 5 ha, to include any tracks or infrastructure that cannot be located on subgrade 3b. The effect of a minor adverse impact (< 5 ha) on a resource of high sensitivity (BMV) would be a minor adverse effect, which would be temporary and reversible.
- 5.7.18 The Proposed Development has the potential to involve more than 20 ha, hence a large magnitude impact. The Field Capacity Days in this area are 260, and therefore in excess of 225 (reference Table 7.3). The soils were identified in the ALC as medium clay loam and heavy clay loam, and accordingly all soils are considered to be of high sensitivity (i.e. low resilience to structural damage). Without careful mitigation, which can be embedded in the construction process, there is the potential for a major adverse effect on soils. With suitable mitigation, however, especially from the limitations of construction works to only those periods when soils are suitably dry, this impact can be mitigated to a minor adverse effect.

Conclusions

- 5.7.19 There is the potential for major adverse effects on agricultural land and soils. However, by design and mitigation these effects can be reduced to minor adverse and temporary effects.

6 REFERENCES

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