Plas Power Solar and Energy Storage Project

3.0.1 Planning, Design and Access Statement

February 2024

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Planning, Design and Access Statement

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On behalf of

lightsource bp

bp

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For and on behalf of Stantec UK Limited				

Revision	Date	Description	Prepared	Reviewed	Approved

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1 Executive Summary

1.1.1 This Planning, Design and Access Statement (PDAS) has been prepared by Stantec on behalf of Lightsource SPV 192 Limited ('Lightsource bp' or 'the Applicant') to accompany a full planning application under the Development of National Significance process for the construction and operation of a solar photovoltaic electricity generating station ('solar farm'), a Battery Energy Storage System ('BESS') and associated ancillary development (the 'Proposed Development'). The solar farm is anticipated to have an installed generation capacity of approximately 57MWac. The Proposed Development is fully reversible at the end of its anticipated 40-year operational life. The Proposed Development will be located immediately west of the A483, comprising parcels of land to the north and south of the A525 Ruthin Road (herein referred to as 'the Site') extending to approximately 145 hectares. The Site is approximately 2.5km to the west of Wrexham town centre). A site location plan is appended to this PDAS at Appendix A.

1.1.2 This application proposes development which is, in summary, described as:

> *"The construction and operation and maintenance of a solar photovoltaic electricity generating station, a Battery Energy Storage System ("BESS"), inverters, transformers, cabling, substations, access tracks, landscaping, ecological enhancement areas and associated ancillary development"*

1.1.3 The Proposed Development falls within the definition of a 'Development of National Significance' (DNS) under regulations 3 and 4 of the Developments of National Significance (Specified Criteria and Prescribed Secondary Consents) (Wales) Regulations 2016, for the purposes of s62D of the Town and Country Planning Act 1990, because it comprises an electricity generating station with an installed generating capacity of between 10 and 350MWac.

1.1.4 Future Wales: The National Plan 2040 is clear that decision makers must give significant weight to Wales' need to meet its international commitments, and its target of generating 70% of consumed electricity by renewable means by 2030 (with a revised target of 100% by 2035 currently being the subject of consultation). Future Wales is the latest expression of national planning policy and, therefore, due to the significant contribution that the Proposed Development will make to meeting Wales' renewable energy targets and net zero objectives, it is fully compliant with the principles of Policy 17 of Future Wales.

1.1.5 The Proposed Development will also accord with Policy 18 of Future Wales through a consideration of each of the 11 criteria set out in the policy supported by a robust assessment of the likely environmental impacts of the proposals. In each case, there is considered to be no conflict with the policy objectives of Future Wales.

1.1.6 The Proposed Development is also in accordance with policy RE2 of the recently adopted Local Development Plan (LDP) relating to the location of renewable energy development in the County Borough and section 5.9 of Planning Policy Wales.

1.1.7 The proposals will deliver biodiversity net benefit across the Site and can continue to be grazed by livestock during the solar farm's operational life. Moreover, once the operational life of the Proposed Development comes to an end, which is expected to be approximately 40 years from construction, the agricultural fields can be restored in full to their current condition.

1.1.8 In accordance with Article 14 of The Developments of National Significance (Procedure) (Wales) Order 2016, the Design and Access section of this Statement sets out the Site context, its surrounds and details of the Proposed Development. It also sets out the design principles, the process and evolution of the scheme throughout the early engagement process to date, and will be subsequently updated to reflect the outcomes of the formal pre-application consultation (PAC) process, highlighting any further amendments to the scheme that the Applicant has made to address comments from consultees. Where any comments or suggestions have not been implemented, justification that directly addresses them is provided throughout the various application documents.

1.1.9 A suite of technical reports and plans is submitted in support of this application, including an Environmental Statement (ES). The application documents, in combination, demonstrate that there are no site-specific technical constraints that would preclude delivery of the Proposed Development, and its impacts will not result in unacceptable significant environmental effects, meaning that the Proposed Development is in accordance with Policy 18 of Future Wales and the development management policies of the LDP in relation to the full range of planning considerations, including in relation to the following matters:

- Landscape and Visual;
- Biodiversity;
- Cultural Heritage;
- Disturbance and Residential Amenity
- Noise and Vibration
- Glint and Glare
- Highways and traffic;
- Hydrogeology and hydrology (including flood risk);

- Climate Change; and
- Soils.

1.1.10 This Statement clearly sets out how the Proposed Development will accord with Future Wales and all relevant national and local planning policy, supported by a robust assessment of the likely environmental effects, as set out in the accompanying Environmental Statement, and other impacts of the proposals. Overall, the proposals are entirely suitable to the Site and its surrounds, consistent with local and national planning policy and all relevant material planning considerations. It will deliver the objectives envisaged by the Applicant and aligns with the policy objectives set out by the Local Planning Authority and the Welsh Ministers. Accordingly, this DNS application should be approved.

2 Introduction

2.1 Overview

2.1.1 This Planning, Design and Access Statement (PDAS) has been prepared by Stantec on behalf of Lightsource SPV 192 Limited ('the Applicant') to accompany a full planning application under the Development of National Significance process for the construction and operation of a solar photovoltaic electricity generating station ('solar farm'), a Battery Energy Storage System ('BESS') and associated ancillary development (the 'Proposed Development'). The solar farm is anticipated to have an installed generation capacity of approximately 80MWac (or export capacity of 57MWac). The Proposed Development is fully reversible at the end of its 40-year life.

2.1.2 The Proposed Development will be located immediately west of the A483, comprising parcels of land to the north and south of the A525 Ruthin Road (herein referred to as 'the Site'). The Site is approximately 2.5km to the west of Wrexham town centre). A site location plan is appended to this PDAS at **Appendix A**.

2.1.3 The full planning application description is confirmed below:

> *"The construction and operation and maintenance of a solar photovoltaic electricity generating station, a Battery Energy Storage System ("BESS"), inverters, transformers, cabling, substations, access tracks, landscaping, ecological enhancement areas and associated ancillary development"*

2.1.4 The scheme comprises an electrical generation station with an installed generating capacity of between 10 and 350 megawatts (MW), therefore it falls within the definition of a 'Development of National Significance' (DNS) under regulations 3 and 4(1) of the Proposed Developments of National Significance (Specified Criteria and Prescribed Secondary Consents) (Wales) Regulations 2016 (as amended), for the purposes of s62D of the Town and Country Planning Act 1990 (TCPA).

Section 62D of the TCPA states that:

> (3) "*Development is of national significance for this purpose if it meets criteria specified regulations made by the Welsh Ministers for the purposes of this section*".

2.1.5 Taking the above into account, the application is, therefore, made to the Welsh Ministers instead of the local planning authority, which in this case is Wrexham County Borough Council (WCBC).

2.1.6 This PDAS provides a background to the proposals, describes the Site and its surroundings and the development proposed. It also explains the evolution of the Proposed Development proposals through the various stages of assessment and consultation to date. The key role of the PDAS is to set out an assessment of the Proposed Development against relevant national and local planning policies and guidance, including that set out in Future Wales and WCBC's Local Development Plan (LDP), Planning Policy Wales (PPW), National Policy Statement for Energy, applicable Technical Advice Notes (TAN) and National Policy Statements. Finally, the PDAS meets the Design and Access requirements in Article 14 of the Developments of National Significance (Procedure) (Wales) Order 2016. This is fully set out in Section 3 of this report.

2.1.7 This PDAS comprises the following title sections:

- Section 1: Introduction – this section introduces the Applicant, the basic principles of the Proposed Development and the structure of this PDAS;
- Section 2: Project Description – this section describes the proposals in more detail, explaining what is included within the planning application, and includes consideration of design and access. The Site and its context are also described in this section.
- Section 3 – Scheme Design Evolution – this section sets out the design context that has informed the proposal as currently submitted.
- Section 4: Planning History – this section identifies the most relevant planning history of the Site;
- Section 5: Pre – application Dialogue – this section includes pre-application dialogue with Planning, Environment and Decisions Wales (PEDW), WCBC, the local community and other relevant consultees. In addition, this section provides details with regard to the Environmental Impact Assessment Scoping Process that has been undertaken;
- Section 6: Planning Policy Framework – section 6 sets out the prevailing planning policy context, including national and local policy and guidance that is applicable to the Proposed Development;
- Section 7: Assessment of the Proposed Development – section 7 assesses the Proposed Development against the prevailing Planning Policy Framework highlighted in section 6 concluding that the Proposed Development complies with Future Wales (National Plan for Wales) (February 2021), PPW (Edition 12), the Development Plan and other material considerations; and
- Section 8: Conclusions – this section concludes and summarises the preceding sections.

2.1.8 An extensive suite of technical documents, including an Environmental Statement (ES), accompanies this planning application, and should be read in conjunction with this PDAS.

2.2 The Applicant

2.2.1 Lightsource bp is a global leader in the funding, development, operation and management of large-scale solar energy generation and battery projects. Its projects generate competitively priced, dependable, clean energy for businesses and communities.

2.2.2 Lightsource was established in 2010 and has developed significant expertise in the UK renewable energy sector. In 2017, Lightsource joined forces with BP and rebranded to become Lightsource bp. The company has invested £2.5billion into solar assets in just nine years and currently manages two gigawatts (GW) of solar projects.

2.2.3 The Applicant has successfully delivered significant solar projects across the globe, and is currently expanding operations throughout Europe and beyond. They are committed to the long-term delivery of solar energy to ensure green targets are met and energy security is ensured.

3 Design Evolution

3.1 Introduction

3.1.1 This section of the PDAS sets out the design evolution of the scheme from initial concept through to its current form, and comprises the Design and Access Statement (DAS) element of the proposed submission.

3.2 DAS Requirements

3.2.1 Article 14 of The Developments of National Significance (Procedure) (Wales) Order 2016 (as amended) sets out that, as a minimum, the DAS must explain: (a) the design principles and concepts that have been applied to the development; (b) demonstrate the steps taken to appraise the context of the development and how the design of the development takes that context into account, (c) explain the policy or approach adopted as to access, and how policies relating to access in the development plan have been taken into account; and (d) how specific issues which might affect to access to the development have been addressed. This is supplemented by the Design and Access Statements in Wales (July 2017) national guidance document.

3.2.2 Section 5 of the guidance sets out a recommended structure for DAS submissions as follows:

- Summary of the proposal
- The brief and vision
- Site and context analysis
- Interpretation
- Design development
- The proposal:
  - Character
  - Access
  - Movement
  - Environmental Sustainability
  - Community Safety
  - Response to planning policy

3.2.3 This section of the report responds to each relevant criterion accordingly. It also sets out the design process and evolution of the scheme throughout the early engagement up to formal pre-application consultation (PAC), describing how the Applicant has responded to the constraints

and opportunities of the Site, and taken account of comments from statutory and non-statutory consultees thus far, implementing changes to address them wherever practicable.

3.3 Design Development and Evolution

3.3.1 The original design concept following initial technical and planning assessments is set out in the plan below (Figure 1). The scheme comprised solar photovoltaic electricity generating station and associated ancillary development, with an installed generation capacity of up to 75 MW. The power generated would be enough to power approximately 21,500 typical family homes and result in an approximate saving of 27,000 tonnes of CO2 per annum – the equivalent of removing approximately 5,750 cars from the road. The scheme comprised solar panels and frames, inverters, transformers, cabling and substations. At the outset there was an intention to investigate the potential to also include an element of battery storage, however, in the early stages of design iteration matters around connection to the grid network and location on site were still to be resolved.

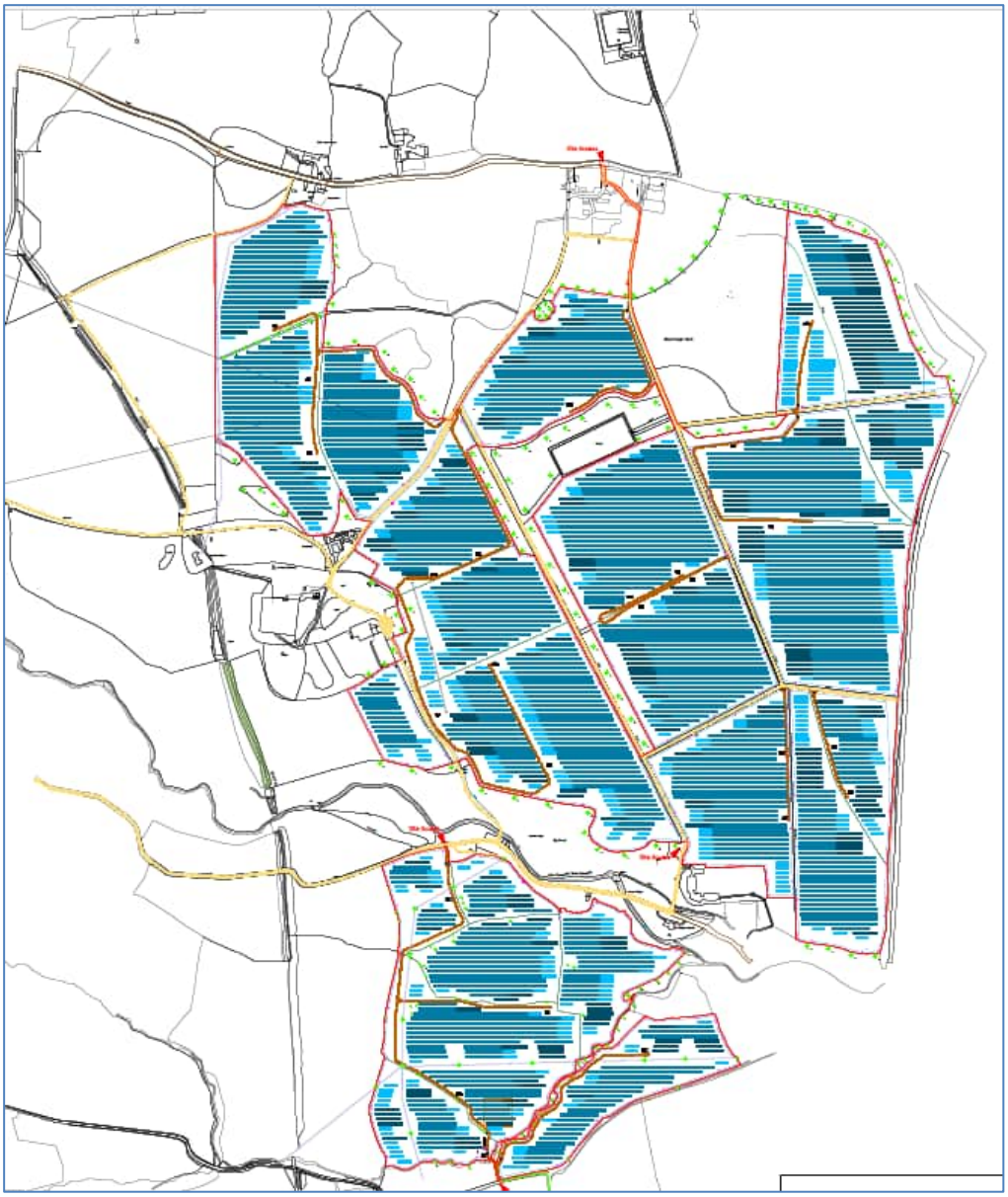


Figure 1 – Initial Design Concept

3.3.2 Following on from initial informal pre-application discussions with PEDW (timeline fully set out in Section 5 below), it was deemed necessary to remove the southern parcel of land based on a combination heritage, environmental and Best and Most Versatile Agricultural Land issues.

3.3.3 Consequently, the following proposed layout was prepared and formed the basis of the Non-Statutory Consultation process undertaken in the Summer of 2023:

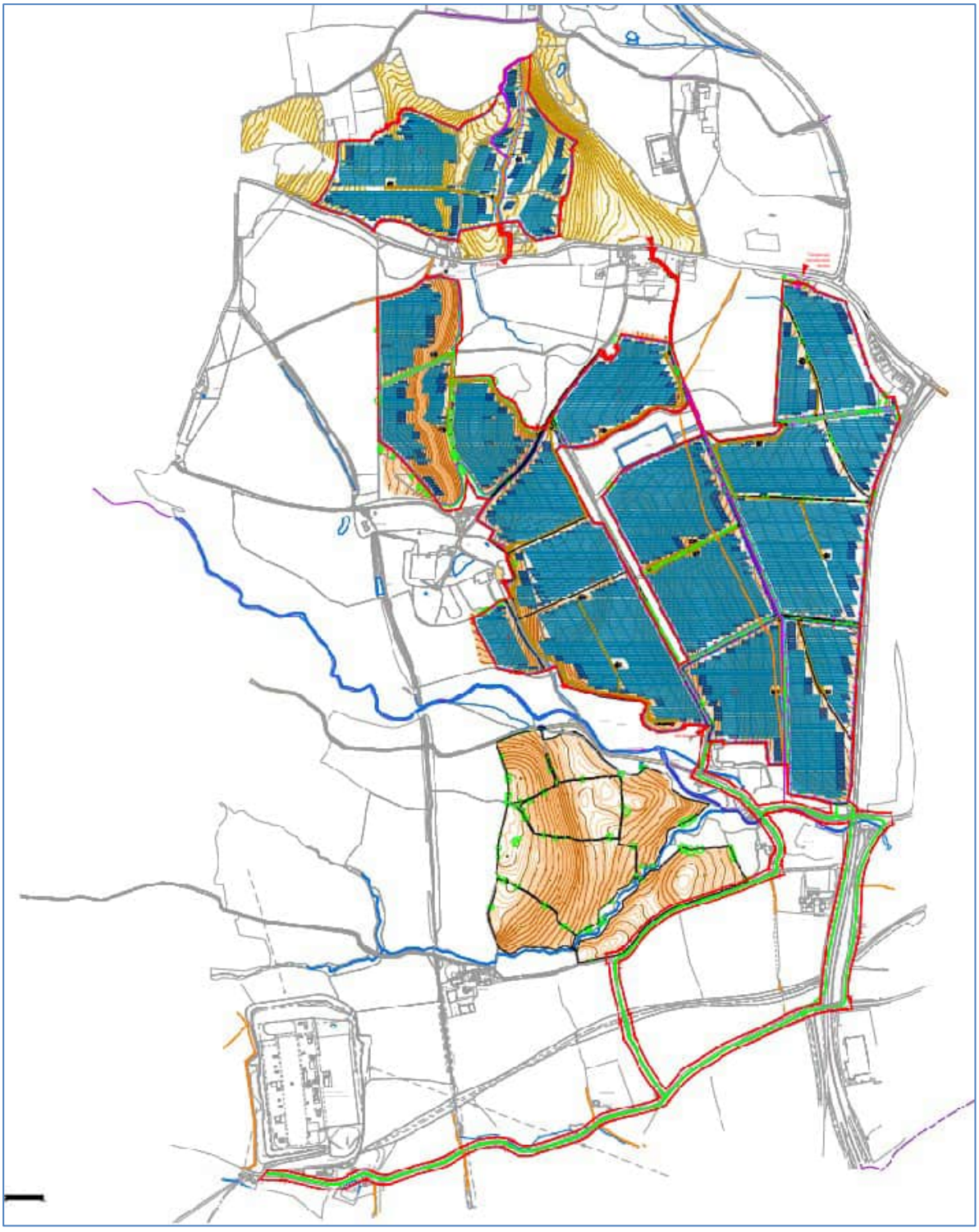


Figure 2: Summer 2023 layout

3.3.4 Following on from this consultation exercise and further discussions with residents and stakeholders, the following design changes have been implemented ahead of this consultation:

- Addition of details of BESS facility.

- Scaling back of panels in northern part of southern parcel to address the concerns of local residents.
- Scaling back of panels in northern parcel on amenity grounds.
- Full inclusion of land formerly safeguarded for potential A483 junction improvements.
- Consolidation of A525 access as a permanent (not temporary) access point.

3.3.5 Finally, following further consultation with local residents and other stakeholders, the following plan was finalised in February 2024 and this is the plan submitted to the PAC process:

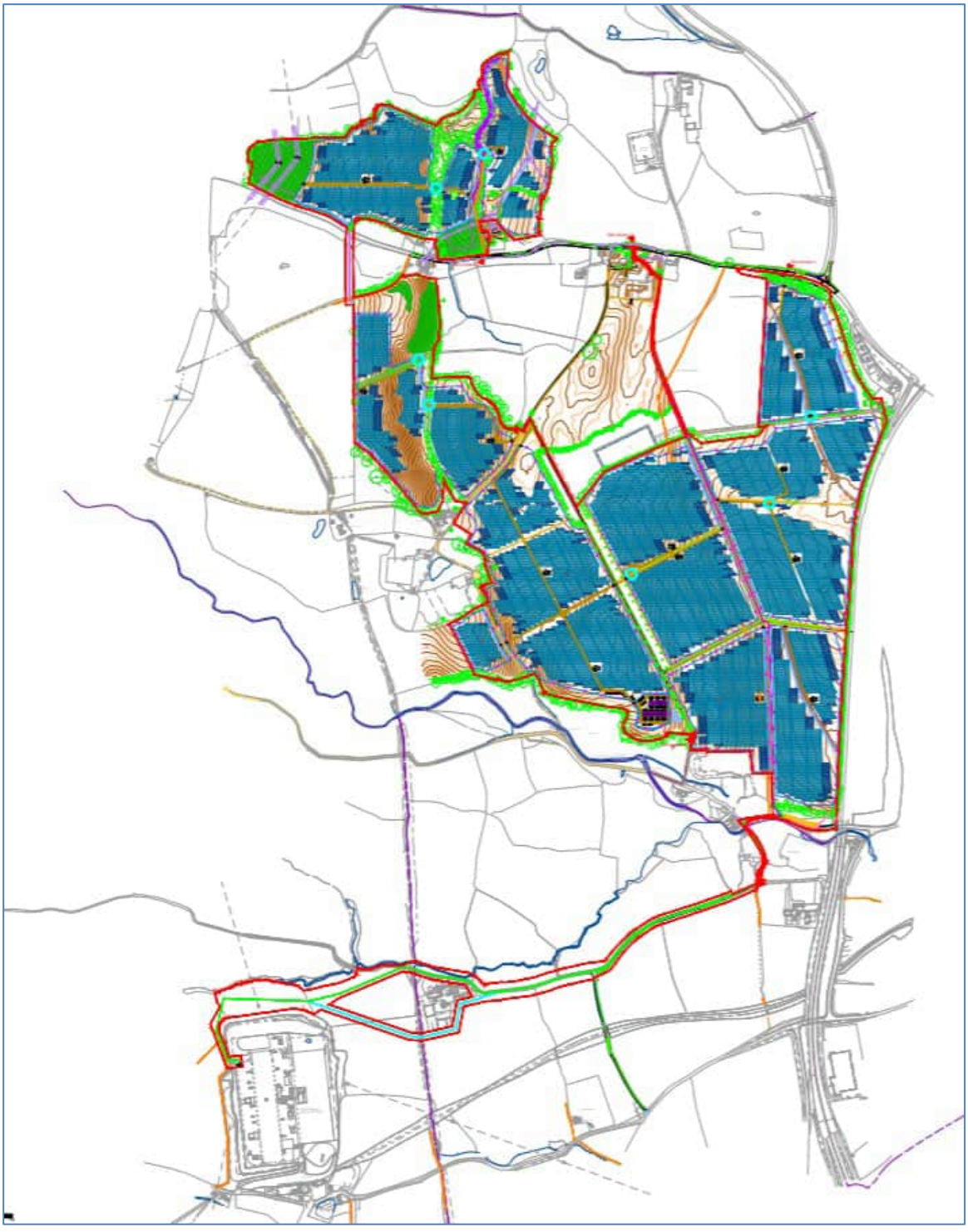


Figure 3: PAC Version Layout Plan - February 2024

3.3.6 Following collaborative discussions with all stakeholders, the following amendments are accommodated on the above layout plan:

- Red line boundary changes to remove parcel south of residents on A525 & also to include access internal access track which was omitted previously.

- Cable route options have been amended to show 1 preferred route with three option variations along the route.
- Changes to panel layout in fields south of the residents south of the A525.
- Inverter moved slightly south in field south of Foxes Hollow.
- Security fence moved in to enclose new panel layout south of A525 residents.
- Site fence moved to avoid RPA of veteran tree (T305).
- Access track moved to avoid tree (T272).
- Panels moved to avoid conflict with trees (G107, G106).
- Extension of access track to biodiversity enhancement area north of A525 in far western parcel.

3.4 The Proposal

3.4.1 This section addresses each criterion as set out in DAS guidance that is considered relevant to the Proposed Development.

Layout

3.4.2 The location of the Development is shown on the Site Location Plan and the proposal with associated infrastructure works in the Site Layout Plan. The Site Layout shows the arrangement of the equipment, which has been carefully considered to ensure the efficient use of land to maximise clean energy generation whilst reducing potential adverse impacts on the local and wider environment. The following design principles and concepts have been incorporated into the Proposed Development through the design iteration process:

- Buffers to the existing and diverted public rights of way (PRoW), including additional landscaping to reduce visual impact on users of the routes;
- Minimising impacts on potentially affected residential properties by utilising offsets, buffers and landscaping in appropriate locations;
- Retention of existing hedgerows where practicable, in particular native species rich hedgerows;
- Implementation of a comprehensive site wide hedgerow improvement strategy through reinforcement planting and enhanced management;
- Utilise existing hedgerow gaps for access to field parcels;
- Achieve high levels of biodiversity net gain by maximising opportunities to create high quality wildlife habitats through the landscape strategy;
- Maximising layout efficiency, including the siting of panels, substations, ancillary development and the BESS facility;

- Exploration of opportunities for further planting, i.e., native trees, scrub and grassland;
- Achieving safe site access and efficient and circulation within the Site to aid construction and operational maintenance; and
- Continued allowance for grazing of the Site to retain pastoral character.

Access

3.4.3 Criterion 9 of Policy 18 in Future Wales states that renewable and low carbon energy projects qualifying as DNSs will be permitted provided that the proposal does not have unacceptable impacts on the transport network through the transportation of components or source fuels during its construction and / or ongoing operation.

3.4.4 Section 8.4 of this report fully assesses the scheme against relevant local and national policies and confirms that it is considered that the proposed development meets the objectives of Policy 18 of Future Wales, PPW and LDP policies SP2 and RE2.

3.4.5 This section sets out the design evolution of the access arrangements. The following figure sets out the proposed access arrangement for the scheme.

Figure 4: Access arrangements

Access 3: Existing Access from A525

3.4.6 Site Access 3 is the existing Home Farm access, which also serves a number of residential properties. This access will not be used for construction except in the initial site establishment phase whilst Site Access 1 is under construction. Site Access 3 may be used for maintenance access when the Proposed Development is operational.

Access 1: New Access from A525

3.4.7 This point of access would require construction of a new access route from the Site onto the A525. It would provide a route emerging some 75-100m west of the Heritage Way and A525 Junction. It is proposed that this access is initially created to provide access for the construction phase and then retained as a permanent access for maintenance.

3.4.8 Concept design work to create a priority junction has been undertaken. To provide sufficient width to allow a large articulated vehicle to enter and exit the Site safely it is estimated that approximately 25m of the existing wall will need to be removed. Two trees will also need to be removed and the existing road sign will need to be relocated. It is proposed to retain the stonework from the affected section of wall and use it to create an entrance way to the site with the wall curving round with the radii of the entrance junction.

3.4.9 Concept design drawings including vehicle swept path analysis and confirming the required visibility splay can be achieved are submitted as part of the Transport Assessment.

Access 2: Northern Plot Access, A525

3.4.10 This existing point of access on the A525 to the northern element of the Site is considered suitable for HGVs and is currently used by large agricultural vehicles. It will require advance signage to warn of construction vehicle movement and a potential temporary speed reduction via traffic management.

3.4.11 Concept design drawings including vehicle swept path analysis to reconfigure the access to accommodate the required vehicle types and turning movements as well as maintaining the access for residents in adjacent dwellings can also be found in Appendix D of the submitted Transport Assessment. The drawings indicate that the required visibility can be achieved with some vegetation removal. Turning movements will be restricted to right turn in and left turn out only.

Internal Access

3.4.12 Existing farm tracks will be used for internal access within the Site where possible. Where required, new access tracks will be formed, usually using a layer of permeable crushed stone. Geosynthetic reinforcement or soil stabilisation may be used to reduce the depth of track construction. The surface will be a compact granular material (crushed rock) up to an approximate thickness of 0.3m, dependent on the ground conditions. Width will increase at bends and at the entrance point. The tracks will measure between 3.5m and 4.5m wide.

Community safety and sustainability

3.4.13 The Proposed Development will provide a substantial source of low carbon / renewable energy. There are clear and substantial benefits presented, primarily through the opportunity to provide a renewable source of clean energy. Furthermore, the operation of the solar farm will not present any risks in terms of hazardous materials, pollution, emissions or any other operational hazards. In addition, CCTV and security fencing will be installed as part of the Development to ensure it is secure.

3.4.14 There is a strong local, national and international policy steer towards delivering ambitious reductions in carbon emissions through growth of renewable energy generation. Given the intended maximum generating capacity, the scheme would make a substantial contribution towards these targets and in turn provide safer communities (renewable and low carbon energy used by houses).

3.4.15 The scheme is static in nature and does not involve the use of any hazardous substances, and as such there are no immediate risks to public safety beyond the Site.

3.4.16 In terms of the BESS element of the proposal, the design, development and manufacture of this element requires maintenance of high standards in respect of safety and operational sustainability, as confirmed in the submitted Outline Battery Safety Management Plan.

4 Project Description

4.1 The Site and its Context

4.1.1 The Site covers an area of approximately 145 hectares (ha) and is located approximately 2.5km to the west of Wrexham city centre, immediately west of the A483.

4.1.2 The Site comprises two areas north and south of the A525 Ruthin Road. The southern and larger part of the Site is bound by the A525 Ruthin Road to the north, to the east by the A483, to the south by Plas Power Woods and its western-most point by agricultural fields beyond which lies Rhos Berse Road and Nant Road.

4.1.3 The northern parcel is bound by the A525 Ruthin Road to the south and extends northwards towards the Higher Berse Road. Coedpoeth lies approximately 120m to the west and New Broughton lies approximately 600m to the north-west of the Site.

4.1.4 The Site comprises several agricultural fields, primarily used for pasture grazing to the south and for arable use to the north, bound by a mixture of mature woodland, trees, hedgerows, fencing and agricultural tracks and roads.

4.1.5 The Site includes a small section of land to the east, adjacent to the A483, which was included in plans for a road scheme at Junction 4 of the A483 (as part of the Junctions 3 – 6 improvements). However, in February 2023, the Welsh Government's Roads Review Panel recommended that the A483 Junctions 3 – 6 improvement scheme should not proceed in its current form, as the case for change is not well-aligned with the Welsh Government's aim to reduce car mileage.

4.1.6 The Site has historically been part of an open cast coal mine and has had an industrial use. The Site formed part of an open cast mine in 1964 and subsequently a non-water fill in 1976. As stated further above, the Proposed Development supports the continued use of the land for sheep grazing.

4.2 Overview

4.2.1 The Applicant is seeking planning permission for a ground mounted PV solar energy generating system (solar farm), BESS and associated infrastructure capable of generating approximately 57 MWac export capacity of power for a period of up to 40 years. The Applicant is also seeking secondary consents in the form of an application to divert Public Rights of Way (Section 247 application) and Scheduled Monuments Consent for Cable Route Option 1 of the proposed cable route options connecting the facility to Legacy Substation.

4.2.2 As stated above, the Proposed Development falls within the definition of a DNS under regulations 3 and 4(1) of the Developments of National Significance (Specified Criteria and Prescribed Secondary Consents) (Wales) Regulations 2016 (as amended), for the purposes of s62(D) of the TCPA, because it comprises an electrical generation station with an installed generating capacity of between 10 and 350MWac.

4.2.3 The energy generated from the Proposed Development would be enough to power 22,700 homes per year and offset over 15,821 tonnes of CO_2 annually, the equivalent of taking around 10,881 cars off the road.

4.2.4 The Proposed Development is temporary and fully reversible, with all equipment removed from the Site at the end of the installation's operational life (i.e., up to 40 years). The methods used in construction (i.e., 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 character.

4.2.5 The main components of the scheme are:

- Solar arrays comprising solar panels and frames;
- Inverters;
- Transformers;
- Cabling;
- Substations;
- BESS;
- Ancillary infrastructure, including storage;
- New access and internal access tracks; and
- Landscaping and ecological enhancement areas.

4.2.6 The Proposed Development will include a 33kV cable that will connect the solar farm to the Legacy Substation located approximately 1.2km to the south-west of the Site, north of the B5246 Bronwylfa Road. At this stage in the process the most appropriate cable route is still to be determined, and therefore this application proposes a 'preferred' route option, variations of an additional three potential cable route options, with further detail provided at 4.13 below.

4.2.7 The proposal will provide a dual use – sheep grazing beneath and in between the rows of solar panels and renewable energy generation.

4.2.8 The Site layout demonstrates the arrangement of the equipment, which has been carefully considered so that potential effects on residents, key views, trees and hedgerows and biodiversity are reduced as far as practicable.

4.3 Solar Arrays

4.3.1 Solar panels, also known as PV, are made up of cells which convert solar energy into electrical energy.

4.3.2 The solar panels will be attached to metal frames or mounting structures, which together form PV tables (or modules). The PV tables will be fixed to pile-driven galvanised steel posts. The frames are typically made of galvanised aluminium or steel and will have a rough matt finish, rather than a polished finish. The base of the frame piles are thin 'H' or 'Z' shapes, thus they have very little impact on the ground and do not require prior excavation. The frames are typically driven to a depth of approximately 1.5m – 2m, dependent on ground conditions. When the Site is decommissioned, the frame piles are simply pulled out from the ground, causing minimal disturbance. No concrete foundations are likely to be required for the frames, however in some instances it may be necessary to use concrete bases or 'feet' where the ground conditions are not suitable for piling, or if there is an area of particular archaeological sensitivity. The concrete bases sit on top of the ground so as not to disturb anything below-ground which also makes them easy to remove when decommissioning the Site.

4.3.3 The frames will allow the panels to be positioned at an angle of between 12-18 degrees from the horizontal axis and oriented south, typically the height of a panel will be up to approximately 3.055m to the top of the panel frame on level ground, including 1m of ground clearance to enable maintenance access below the PV modules Panel Elevation. However, subject to topography, the height of the panel could be up to approximately 3.20m high.

4.3.4 A solar panel array will comprise of multiple rows of solar panels running east to west. Between each row of solar panels there would be a gap of approximately 2-2.5m to avoid overshadowing from one solar row to another. The solar panels will be set back from the Site boundaries to allow for landscaping and screen planting, perimeter security fencing, CCTV coverage, access tracks and maintenance access.

4.4 Inverters, Transformers and Switchgear Substations

4.4.1 The Applicant is currently considering two inverter options:

- String inverters; or
- Central inverters.

4.4.2 The inverters are required to convert the Direct Current (DC) electricity generated by the panels, to Alternating Current (AC) which is compatible with the wider UK grid network. From the inverters, the electricity flows to a transformer which 'steps-up' the voltage of the electricity from Low Voltage (LV) to Medium Voltage (MV) before the switchgear substations. The switchgear substations include a 'switch' mechanism to shut parts or all of the solar farm off from the wider network in the event of a fault (similar to a household fuse box).

4.4.3 String inverters would be mounted onto support frames whilst central inverters would be situated in pairs at regular intervals throughout the Site. Central inverters are larger and comprise containerised units, shown in grey on the Site layout and will measure up to approximately 8.2m in length (L), 2.3m in width (W) and 2.8m in height (H) (including the base).

4.4.4 The proposed transformers will be up to approximately 5.5m (L), 4.5m (W) and 3.2m (H), these are an 'open air' design, surrounded by a fence and accompanied by a switchgear substation. The switchgear substations will be up to approximately 4.2m (L), 2.6m (W) and 3.15m (H) (including the base).

4.4.5 The inverters, transformers and switchgear substations will be sited on a hardcore base. Refer to Proposed Inverters (drawing number: UK_EPD_INV), Proposed Transformers (drawing number: UK_EPD_TFM) and Proposed Switchgear Substations (drawing number: UK_EPD_SWG) for further details.

4.4.6 The electricity generated across the Site, will be cabled to the main customer and DNO (Distribution Network Operator) substations to the south of the Site. All cabling will be routed underground.

4.5 Auxiliary Transformer

4.5.1 There will be one auxiliary transformer located within the Site adjacent to the DNO and customer substations in the south-west of the Site. This will be up to approximately 3.8m (L) x 3.8m (W) 3.2m (H). The auxiliary transformer will provide low voltage electricity supply to the Site. Refer to Proposed Auxiliary Transformer (drawing number: UK_EPD_AUX) for further details.

4.6 Customer Substations

4.6.1 All electricity generated from the Proposed Development will collect at a main customer substation which will be installed to the south-west of the Site and will connect to the DNO substation before the electricity is exported off-site and onto the UK Grid Network. From here, a High Voltage (HV) cable buried underground, will connect the solar farm and BESS to the existing grid network. The DNO substation is adopted by the DNO.

4.6.2 The customer substation will be up to approximately 7.7m (L) x 2.6m (W) 3.5m (H) (including the base) and the DNO substation will be approximately 5.5m (L) x 5.0m (W) x 4.4m (H). Both the Customer and DNO Substations will be painted in RAL 6005 Moss Green. Refer to Proposed Customer Substation (drawing number: UK_EPD_CSS).

4.6.3 A DNO cabinet will be located close to the DNO substation and will house the DNO meter (refer to Proposed DNO Cabinet (drawing number: UK_EPD_MTR)). The DNO cabinet is generally made of Glass Reinforced Plastic (GRP).

4.7 Monitoring House / Communications Building

4.7.1 A monitoring house is required to enable remote monitoring of the Site. This building is typically 3.9m (L) x 3.2m (W) and 3.3m (H) (including the base). This building will provide daily information/data in relation to the operation of the solar farm. During a solar farm's operation, data communication is vital to facilitate information flow from equipment such as inverters to a central control centre and alert the Applicant to any potential operational issues with the solar farm and or battery storage compound. In addition to this an up to approximately 5.05m weather station attached to the outside of the building is proposed to monitor wind speed, direction, and temperature. Refer to Proposed Monitoring House (drawing number: UK_EPD_MH/CB) for further details.

4.7.2 A further Monitoring House will be located in the BESS compound as detailed below.

4.8 Storage Container

4.8.1 One permanent storage container will be located within the Site to store miscellaneous spare parts. This unit will measure approximately 12.4m (L) x 2.6m (W) x 2.79m (H). The storage container will be painted in RAL 6005 Moss Green.

4.8.2 A further Storage Container will be located in the BESS compound as detailed below.

4.9 Battery Energy Storage System (BESS)

4.9.1 The BESS allows for surplus energy generated at times of high production to be stored and dispatched to the grid at times when the energy is needed. The BESS therefore contributes to balancing the intermittent energy production and maximises the Site's efficiency to allow a greater output of clean energy.

4.9.2 If the construction of the BESS were not to take place, the land where the BESS is currently proposed would be used to place solar panels instead. Figure 2.2b of the submitted ES illustrates the alternative layout should the BESS not be constructed, highlighting where the

solar panels would be situated. All technical environmental assessments have assessed the Proposed Development in the context of the BESS being included as part of the design. In the scenario that the BESS is not built out and this land is used for additional solar panels instead, the environmental effects would be equal to or less than those currently presented within the technical chapters that are associated with the BESS in this location. As a result, the assessments as they are currently assessed present a worst-case scenario and therefore allow the flexibility for either option to be brought forward in the future. This approach and conclusion is also confirmed within each technical ES chapter (5-10).

4.9.3 The BESS will be located to the south of the Site, close to the infrastructure associated with the solar farm, and away from residential properties and sensitive viewpoints.

4.9.4 The BESS will comprise batteries, Heating Ventilation and Air Conditioning (HVAC) units, combined Power Conversion System (PCS), transformer units and associated electrical infrastructure.

4.9.5 The BESS will comprise the following:

BESS Component	Maximum Approximate Dimensions
14 x 4 BESS Enclosures	16.62m (L) x 3.88m (W) x 3.0m (H)
14 x BIC (Battery Interface Cabinet)	2.2m (L) x 1.1m (w) x 2.3m (H)
7 x Twin MV Skid	13.37 (L) x 6.9m (W) x 3.96m (H)
1 x BESS Backup Generator	6.3m (L) x 2.64m (W) x 2.89m (H)
1 x BESS Spares Container	6.3m (L) x 2.64m (W) x 2.9m (H)
1x BESS Intake Substation	15.70m (L) x 3.00m (W) x 3.60m (H)
1x BESS Monitoring House	3.86m (L) x 3.2m (W) x 3.3m (H)

4.9.6 With the exception of the Power Conversion System at approximately 4m and the MV Skid at 3.96m, most other buildings and structures will typically be below 3.5m in height.

4.9.7 There will be security fencing around the BESS compound which will function to restrict unauthorised access into the compound, for safety and to deter theft or vandalism. Fencing is typically welded mesh with metal posts, combined with CCTV at approximately 2.5-3.5m high, as for the wider Site.

4.9.8 If the construction of the BESS were not to take place, the land where the BESS is currently proposed would be used to place solar panels instead.

4.10 Facilities

4.10.1 A composting toilet will be based on the Site for use of on-site staff during operational and maintenance visits.

4.11 Security Fencing and Gates

4.11.1 The Proposed Development will be secured by perimeter fencing. This will be deer fencing with wooden posts at approximate 3.5m centres. The fence will be approximately 2m high with small mammal gates fitted at appropriate points to enable free access into and out of the Site. Please refer Proposed Security Fencing (drawing number UK_EPD_FNC) for further details.

4.11.2 The security fencing will function to restrict unauthorised access into the Site, for safety and to deter theft or vandalism. Deer fencing has been selected due to its relative visual permeability and minimal impact on the natural surface water flows. A minimum distance of 3m will be maintained between the security fencing and the solar arrays.

4.11.3 Gates will be located at each of the access points around the Site. Each gate will be up to approximately 2m high and 5m wide. Refer to Proposed Gates (drawing number: UK_EPD_GTD) for more details.

4.12 CCTV and Infra-red Lighting

4.12.1 CCTV cameras would be carefully positioned around the periphery of the Site. These cameras will be approximately 2.5m – 3.5m in height on galvanised steel posts and will be directed into the solar farm. They will use passive infra-red technology, thereby avoiding the need for lighting. These will enable remote surveillance of the Site. Refer to Proposed CCTV (drawing number: UK_EPD_CAM) for further details.

4.13 Cabling

4.13.1 All of the cabling within the northern and southern areas of the Site will be laid underground via surface-dug trenches of up to approximately 1m deep and 50cm wide and backfilled. These will utilise existing access tracks and road options wherever practicable, particularly where sensitive habitats or archaeology are potentially present.

4.13.2 A cable route between the northern and southern parcels will be installed using Horizontal Directional Drilling (HDD) under the road (A525) and trees into the Site to minimise disruption to the road, and any impact on the woodland. The route is indicated on the Site Layout plan.

4.13.3 The 'Preferred' 33kV cable route option to connect to the legacy substation, as shown on the Site Layout plan, will pass to the east of Bersham Ironworks Museum, under the River Clywedog and Clywedog Trail via HDD, and follow the unnamed road south-west, before preceding along one of two cable route options listed below:

- The Preferred Cable Route Option: The cable routing would pass underground (via trench methods or HDD) and follow the unnamed road west to the north of Cadwgyn Hall before connecting to the existing Legacy Substation – length approx. 800m;
- Cable Route Option 1: The cable routing would largely take the same route as above, but would pass underground through agricultural fields to the south of Cadwgan Hall.

4.13.4 There are also two additional alternative cable route options which consist of 'Cable Route Option 2' and 'Cable Route Option 3' which provide a short alternative route to connect from Plas Buckley Road to the immediate south of the site.

4.13.5 The red line boundary for the Proposed Development extends into the scheduled area for the Bersham Ironworks Scheduled Ancient Monument at the south of the site. The Site Layout Plan confirms that the preferred cable route option runs along this boundary, but does not run through the designated scheduled area. No physical works and/or ground disturbance is proposed within the scheduled area. Where the cable route options connect the Proposed Development to the legacy substation to the west, both the preferred cable route option and cable route option 1 cross Offa's Dyke Scheduled Ancient Monument. The preferred cable route crosses Offa's Dyke along the existing road at a point where the scheduled area breaks and therefore no physical works and/or ground disturbance is proposed within the scheduled area at this location. For cable route option 1, the cable route would cross the scheduled area. Should this option be pursued, the cable route will be routed under Offa's Dyke by HDD and Scheduled Ancient Monument Consent would be obtained to control the works. Accordingly, a draft Scheduled Ancient Monument Consent application is included with this DNS application so that in the event that cable route option 1 is pursued, the necessary secondary consents will be in place for the works.

4.13.6 Notwithstanding that there is a 'Preferred' route option for the cable, all route options have been assessed by this application, including in the ES, and a flexible permission is sought to provide the Applicant with the ability to use any of the options presented. It is expected that the final route can be agreed via suitable planning conditions.

4.14 Access

4.14.1 The main strategic routes to the area near the Site are:

- A483 towards Chester in the north and Oswestry and the A5 to the south. These routes provide the links to larger cities such as Cardiff and Swansea to the south and Liverpool and Manchester to the North; and
- A534 towards Nantwich, linking to the A500 towards Stoke-on-Trent and the M6. This route links to Birmingham, Bristol, Derby and Nottingham.
- Junction 4 of the A483 provides access on to the A525 with access to both the southern and northern parcels of land being taken from the A525.

4.14.2 Several access points will be used for the construction, operation and maintenance and decommissioning of the Proposed Development. If necessary, some minor modifications will be required or temporary accesses will be created from the highway to enable access to the Site for construction.

4.14.3 The existing Home Farm access (Access 3) will be used for maintenance access when the Proposed Development is operational if required. A new access (Access 1) will be constructed to the east along the A525 which will serve as the main construction access point for the southern parcel of the Site and will subsequently also be used as the main access for operation and maintenance site visits. Submitted drawing 'Existing Southern Site Access' (Drawing ref: 330610724-SK-1200-004) provides details of the existing arrangements for the southern access, and submitted drawing 'Indicative Southern Site Access' provides details on the proposed southern site access (Drawing ref: 330610724-SK-1200-001). Whilst Access 1 is being constructed, there will be a short-term temporary requirement to use Access 3 to access the Site during construction set up and establishment.

4.14.4 The main access for construction will be Access 1 from the A525, west of Heritage Way. This point of access would require construction of an access approximately 200m to the west of the Heritage Way and A525 Junction. The access will need to provide sufficient width to allow a large articulated vehicle to enter and exit the Site safely. Up to approximately 25m of the existing wall and two trees will also need to be removed, and the existing road sign will need to be relocated (Submitted drawing – 'Indicative Southern Site Access Cross Section' (Drawing ref: 330610724-SK-1200-005) provides an illustrative cross-sectional illustration of this access). It is proposed to retain the stonework from the affected section of wall and use it to create an entrance way to the Site with the wall curving round with the radii of the entrance junction. This access would have the advantage that it would avoid properties situated around the Home Farm access and would minimise the distance between the A483 strategic route and the southern area of the Site.

4.14.5 Abnormal indivisible loads (AILs) (if required) would be able to access the site via Access 1 using the identified strategic routes, which are suitable for use by AILs. Should an AIL be needed

a suitably qualified haulier would confirm the route from point of origin using the required notification process.

4.14.6 It is not proposed to use the access to the southern part of the Site from the south along Rhos Berse Road (Access 4) during construction, operation or decommissioning, but may be needed in exceptional circumstances and will be limited to staff or emergency vehicular access only, and would be limited to cars and LGVs.

4.14.7 The access to the northern parcel of the Site (Access 2) will be via an existing farm access routing north off the A525. The existing access is currently used by large agricultural vehicles and would be suitable for HGVs with some improvements (Submitted drawing 'Indicative Northern Site Construction Access' (Drawing no: 330610724-SK-1200-003)). It will require advance signage to warn of the site access and construction vehicle movements and potential speed reduction via traffic management. Through detailed design and the road safety audit process the access safety will be examined, but at this stage the access is considered a safe and viable HGV access point with appropriate traffic management. This access point could be reconfigured in a number of ways and designed to accommodate the required movements, although as it is the sole point of access for adjacent dwellings, reconfiguration would require maintaining the access for residents. There will be no access to the northern part of the Site from Tan Llan Lane to the north.

4.14.8 It is not proposed to use the access to the southern part of the Site from the south along Rhos Berse Road (Access 4) during construction, operation or decommissioning, but may be needed in exceptional circumstances and will be limited to staff or emergency vehicular access only, and would be limited to cars and LGVs.

4.14.9 There will be no access to the northern part of the Site from Tanllan Lane to the north.

4.14.10 Existing farm tracks will be used for internal access within the Site wherever practicable. New access tracks, where required, will be formed, normally using a layer of permeable crushed stone. Geosynthetic reinforcement or soil stabilisation may be used to reduce the depth of track construction. The surface will be a compacted granular material (crushed rock) up to an approximate thickness of 0.3m, dependent on the ground conditions. Width will increase at bends and at the entrance point. The tracks will measure between 3.5m and 4.5m wide.

4.14.11 The Outline Construction Traffic Management Plan (OCTMP), submitted as part of the planning application package, sets out the proposed measures to manage construction traffic to reduce impacts as far as practicable.

4.15 Surface Water Drainage

4.15.1 SuDS techniques include filter strips, swales and attenuation for ancillary features is proposed via gravel basis in which infrastructure will be located upon. Access tracks will be constructed out of permeable materials.

4.15.2 Solar PV arrays are designed in such a way to prevent surface water sheeting off panels and potentially causing erosion. Panels are designed to allow surface water to drip off, landing onto filter strips below.

4.15.3 All ancillary features will be placed on a gravel subbase sized to accommodate the 100 year + 20% climate change critical storm event.

4.15.4 The detailed operational drainage design will be developed pre-construction with the objective of achieving drainage of the land to the present level.

4.16 Landscaping

4.16.1 The submitted Illustrative Landscape Plan sets out, on the basis of a review of the Site's context, character and visual characteristics, as well as relevant policy and landscape character information, a landscape mitigation strategy that has been developed and coordinated with the appointed ecologists. Based on the analysis undertaken, a series of key mitigation principles have been recommended to reduce or avoid potential landscape and visual effects arising from the Proposed Development, as set out below:

- The planting of deciduous and coniferous trees as soft landscape screening
- The creation of a variety of grassland habitats, meadows and hedgerows for both recreational and ecological enhancement purposes.
- Biodiversity enhancements including spring flowering bulb planting and wild bird seed crops.
- The creation of dedicated Ecological Enhancement Areas, devoid of any infrastructure associated with the Proposal.

4.17 Public Rights of Way

4.17.1 PRoW BER/1 (Bersham Public Footpath 1) runs through the southern parcel of the Site and ProW/8 (Bersham Public Footpath 8) runs through the northern parcel of the Site. This ProW network runs north/north-west through the southern area of the Site before meeting the A525. It continues approximately 650m to the west along the A525 where it runs north through the

northern parcel of the Site. There will be no extinguishment of this ProW as a result of the Proposed Development, however some minor re-alignment will be required.

4.17.2 Currently the WCBC Definitive PRoW Map shows the alignment of PRoW BER/1 and PRoW BER/8 in a different position to the paths which are walked and clearly visible on the ground. The proposed re-alignment will therefore realign the Definitive Map along a more accessible route (i.e one which is not on a steep incline or intercepted by hedgerows), including what is the walked route on the ground. The alignment of the PRoW is indicated in the submitted Indicative Site Layout Plans.

4.17.3 Where appropriate, hedgerow enhancements will be incorporated along the PRoW to screen views of the Proposed Development and a width of 5m will be incorporated for all PRoWs to be retained throughout the Site. Further detail in respect of the proposed PRoW treatment is included in the Illustrative Landscape and Ecology Masterplan.

4.18 Appearance and Design

4.18.1 The Proposed Development is low-lying in nature, and the infrastructure is typically shorter in height than the many existing mature trees and hedgerows around the Site.

4.18.2 The appearance will be a more modern and obvious human influence on the landscape compared to that currently formed by agriculture. While construction will cover a wide area, the works would be temporary and the Proposed Development itself will be considerably less solid and durable in appearance than traditional buildings. This would mitigate against the likely change in the character of the landscape.

4.18.3 In terms of views, the Site is low lying and well buffered by existing boundary vegetation with views being predominantly close ranging, from the RPoW (BER/1) that runs within the Site and longer distance views being obtained from elevated land to the east that includes the Clwydian Range and Dee Valley AONB. However, despite the natural barriers to visual impact, mitigation planting is proposed, in the form of new native hedgerow and structural woodland to restrict views from viewpoints on the PRoW where possible, thus reducing the potential for significant impacts. The same landscape measures are also proposed to soften views of the development from nearby property. It is acknowledged that the planting would take a number of years before it provides its full effect.

4.18.4 Extensive new landscape planting is also proposed in creating the Ecological Enhancement Areas, as shown on the proposed Landscape Masterplan.

4.19 Community Safety

4.19.1 The Proposed Development will provide a substantial source of low carbon / renewable energy. There are clear and substantial benefits presented by the Proposed Development, primarily through the opportunity to provide a renewable and safe source of clean energy. Furthermore, the operation of the solar farm will not present any risks in terms of hazardous materials, pollution, emissions or any other operational hazards.

4.19.2 There is a strong local, national and international policy steer towards delivering ambitious reductions in carbon emissions through growth of renewable energy generation. Given the intended generating capacity of up to 57 MWac, the Proposed Development would make a substantial contribution towards these targets and in turn help to contribute towards environmentally friendly communities (renewable and low carbon energy used by houses).

4.19.3 During construction, the Site will be secured by using temporary security fencing. This will be positioned in locations where openings in the existing Site boundary would allow intentional or accidental vehicle or pedestrian access to the construction area.

4.19.4 In addition, as mentioned above, several CCTV cameras and security fencing will be installed as part of the Proposed Development to safeguard the Proposed Development and the local community.

4.20 Environmental Sustainability

4.20.1 The Proposed Development is static in nature and benefits from rigorous safety strategies and regulation, and as such there are no immediate risks to public safety beyond the Site.

4.20.2 The Proposed Development will supply electrical energy to the distribution network rather than generate demand.

4.20.3 The Welsh Government formally committed Wales to legally binding targets to deliver the goal of net-zero emissions. The Climate Change Committee recommended the following targets that the Proposed Development will contribute to:

- Carbon Budget 2 (2021-25): 37% average reduction with credit (“offset”) limit of 0%;
- Carbon Budget 3 (2026-30): 58% average reduction;
- 2030 target: 63% reduction;
- 2040 target: 89% reduction; and
- 2050 target: 100% reduction (net zero).

4.20.4 The Proposed Development will also contribute to cost-effective energy generation and energy security with limited governmental subsidy and will, therefore provide socio-economic and community benefits. Notably, the design of the Proposed Development will allow an efficient dual use of the land for renewable energy generation and agriculture.

4.21 Construction

4.21.1 It is anticipated that the construction period will be approximately 12-18 months for the solar farm and a further 6-9 months for the BESS. Full details are set out within the Construction Transport Method Statement that has been submitted as part of the application package.

4.22 Hours of Work

4.22.1 Working hours during construction are likely to be restricted as follows:

- Monday to Friday 0700 hours to 1900 hours.
- Saturdays 0700 hours to 1300 hours.
- No work on Sundays or bank holidays with the exception of unforeseen circumstances or urgent maintenance.

4.22.2 Noisy activities such as piling will be undertaken between 0800 – 1800 hours Monday to Friday and 0800 – 1300 hours on Saturday. These hours will ultimately be agreed with WCBC. If works are required outside of these hours in exceptional circumstances, this would be agreed with WCBC prior to commencement of the activity, as necessary.

4.23 Construction Staff

4.23.1 There will be approximately 100 construction workers utilised during the construction phase, but it is expected that there will be a maximum of 75 staff on the Site at any one time. The number of staff on the Site will vary subject to the overall programme of works.

4.24 Temporary Construction Compound

4.24.1 During construction, temporary site compounds will be required to host staff facilities, take deliveries of components and store plant and equipment securely whilst it is not in use.

4.24.2 Temporary construction compounds will be required in the southern and northern parcels. The main construction compound will be located in the southern parcel and will be accessed by construction vehicles via Access 1. Smaller satellite compounds will be required across the northern and southern areas to facilitate access and works in those areas.

4.24.3 The temporary construction compounds will house temporary site office space and welfare facilities, an unloading area, and short-term parking for HGVs, temporary storage area, waste storage and parking for the construction staff. These will be constructed using a hardcore or geogrid base, or similar, and will be removed when the construction phase is complete.

4.25 Construction Deliveries

4.25.1 The main construction access will be off the A525 via Access 1. There is expected to be approximately 1,200 HGV deliveries over the construction period of both the solar and BESS elements, and an average of 15 HGVs per day. The OCTMP will set out management measures to reduce any disruption to the road network during the construction phase as far as practicable.

4.26 Site Selection

4.26.1 The Applicant has undertaken a comprehensive and detailed site selection process, encompassing a wide range of considerations, including landscape and visual, soils and agricultural land, heritage and archaeology, biodiversity and flood risk and availability of connection opportunities.

4.27 Development Site Evolution

4.27.1 Baseline surveys and assessments have been undertaken which have made clear that if certain areas were to be developed, significant adverse environmental effects would be anticipated. As well as undertaking these assessments, the Applicant has engaged throughout the pre-application period with relevant stakeholders and the local community, which has all led to the design of the Proposed Development evolving over time. A detailed account of the key design evolution and the related justification is detailed in Section 3 above and is set out in paragraphs 3.70-3.124 of the ES.

4.27.2 The Applicant is aware of the now aborted A483 Junction 3 to 6 improvements. The cancellation of the upgrade proposals has been confirmed following engagement with the Welsh Government and the North and Mid Wales Trunk Road Agent, throughout the early engagement phase of the project, where it was confirmed that there is no prospect of the improvements, as previously consulted on, coming forward. On this basis, the panels in the area formerly safeguarded for the junction 4 improvements remains a fundamental part of the scheme.

5 Planning History

5.1 Pre-Application Enquiry

5.1.1 A number of pre-application meetings have been held with PEDW, WCBC planners and relevant local and national stakeholders to date, going back to autumn 2019, as well as obtaining written advice provided by PEDW. A summary is set out below, with full details to be set out in the PAC Summary report.

- PEDW Plas Power Inception Meeting, 3 October 2019: A meeting which provided an opportunity to set out who LSBP are, what the project is and why Plas Power was considered to be a good site for solar. Meeting PEDW representatives provided the Applicant team with direct contacts and suggested next steps to take the planning of this site forward. The overall tone of the meeting was positive.

- WCBC Meeting, 19 December 2019 - Overall the meeting tone was positive with the general principle of a large scale solar project being suitable, subject to more detailed studies. Most sensitive areas likely to be north of the A525 and by Offas Dyke. If Applicant engages with WCBC on landscape viewpoints and provide photomontages then this may help at the earlier stages to get general agreement on suitability of parcels.

- PEDW DNS Pre-application Advice 3253253, January 2021 – PEDW provided written advice on the proposed EIA scope, consultation requirements, application procedures and timing of publicity and consultation.

- PEDW pre-application Meeting, 7 February 2023. During this meeting, it was noted that approximately 80% of the original Site was included for the proposals; a parcel of land was removed and another was included. The northern parcel of land contains a small area (1.6 ha) of BMV land. However, the response received on this is that the Land Quality Advice Service (LQAS) do not, in the context of evolving BMV policy, consider the loss of 1.6 ha of BMV land to be “a matter in the national agricultural interest”. The parcel of land to the south which has been removed had a lot of biodiversity and heritage constraints and was nearer to Offa’s Dyke and as such, the removal of this land was beneficial to reduce any potential impacts.

- WCBC Meeting, 9 March 2023 – this was a project update meeting where design evolution was discussed. Policy discussions on changes in position between the UDP and emerging LDP were also held, specifically on the removal of the Green

Barrier designation. WCBC agreed that significant weight should be given to this policy amendment at application stage should the Inspector's Binding Report confirm the plan to be sound.

- WCBC Highways Meeting, 7 September 2023 – Proposed access arrangements were discussed and agreed in principle with Wrexham's Highways officers.
- PEDW Pre-Application Services Meeting: DNS 3253253, 21 September 2023 – discussions were held on secondary consent requirements, general submission requirements and the scope of any future submission. The Applicant team also provided a general update on scheme evolution.
- Mineral Safeguarding Meeting, 26 September 2023 – a scheme update was provided on the basis that the Site falls within a Minerals Safeguarding Area. Constructive recommendations were set out by Flintshire Minerals Officer, including the possibility of applying a 'restoration' condition to any future approval.
- The Applicant is aware of the now aborted A483 Junction 3 to 6 improvements. The cancellation of the upgrade proposals has been confirmed following engagement with the Welsh Government and the North and Mid Wales Trunk Road Agent, throughout the early engagement phase of the project, where it was confirmed that there is no prospect of the improvements, as previously consulted on, coming forward. On this basis, the panels in the area formerly safeguarded for the junction 4 improvements remains a fundamental part of the scheme.

5.2 EIA Scoping

5.2.1 A formal request for an EIA Scoping Direction under Regulation 33 of the Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017 (the 'EIA Regulations') was submitted to Planning, Environment and Decisions Wales (PEDW) on 7th October 2020. A Scoping Direction was provided by PEDW (dated 2nd December 2020) which was prepared in accordance with the requirements of the EIA Regulations.

5.2.2 Within PEDW's Scoping Direction, PEDW confirm that they are content *'that the receipt of a Scoping Direction should not prevent the Applicant from subsequently agreeing with the relevant consultees to scope such matters out of the ES, where further evidence has been provided to justify this approach. However, in order to demonstrate that the matters have been appropriately addressed, the ES should explain the reasoning for scoping them out and justify the approach taken".*

5.2.3 Paragraph 7.1 of the Scoping Direction confirmed that the following topics are to be scoped into the ES:

- Landscape and visual;
- Biodiversity;
- Hydrogeology and hydrology (including flood risk);
- Historic Environment; and
- Climate Change.

5.2.4 A pre-application meeting was held with PEDW on 7th February 2023, which covered the re-scoping of the ES as a result of the additional land and principal changes to the proposals (i.e. the removal of land to the south of the current Site area on the basis of it comprising Best and Most Versatile agricultural land and the addition of the northern parcel of land), among other topics of discussion. The Applicant confirmed the use of the previous Scoping Report and has created a Scoping Addendum to explain the changes.

5.2.5 Accordingly, an updated request for a Scoping Direction was submitted to PEDW on 14 June 2023 in relation to the revised proposal. It was anticipated that the newly revised proposal would, in broad terms, give rise to similar environmental effects as the original proposal PEDW has subsequently provided an updated Scoping Opinion which sets out requirements for an ES. The submitted ES has been prepared on the basis of this Scoping Opinion and consultee responses provided to PEDW more recently.

6 Pre-Application Dialogue and Community Consultation

6.1 Introduction

6.1.1 This section of the PDAS provides an overview of pre-application dialogue with WCBC, PEDW and other stakeholders prior to the submission of the application. A full account of the consultation undertaken will be provided in the Pre-Application Consultation Report, which will summarise the statutory consultation process undertaken by the Applicant in accordance with the requirements as set out within the DNS (Wales) Regulations 2016.

6.2 Pre-Application Advice Requests

6.2.1 A pre-application meeting was held on 19th December 2019 between the Applicant and WCBC. During this meeting, the Applicant set out its proposed extensive stakeholder engagement process to be undertaken at suitable stages of the project. WCBC indicated that the Proposed Development would alter the landscape and with some refinement and landscape and ecological mitigation measures, the Proposed Development would be acceptable (subject to the detailed assessments). Among several points of discussion, Agricultural Land Classification (ALC) for the Site was confirmed as generally being within ALC Grade 3b; it was agreed that sheep grazing on the Site upon completion of the Proposed Development would assist in offsetting loss of any Best and Most Versatile (BMV) land (BMV Land is now removed in its entirety following these discussions and other consultation responses).

6.2.2 PEDW responded to a request for pre-application advice in January 2021, responding to several matters including the scope of non-EIA application documents, and consultation requirements. PEDW indicated that there were no concerns on individual assessment approaches; however, for noise, PEDW stated:

> *"The methodology presented in the Pre-Application request does not specifically address construction noise". It is not anticipated that construction noise will generate likely significant effects, but confirmation should be provided in the report. Additionally, it is not anticipated that the construction traffic (in particular HGV movements) will be of such scale to generate a significant noise impact during construction but confirmation should be provided in the report.*
>
> *If the ES is prepared on the basis that the Applicant is not yet decided as to whether to pursue static panels or tracker panels, this assessment should be sure to cover any*

noise implications of tracker panels to ensure the appointed Inspector has a full understanding of noise impacts from that technology".

6.2.3 A pre-application meeting was held with PEDW on 7th February 2023. During this meeting, it was noted that approximately 80% of the original Site was included for the proposals; a parcel of land was removed and another was brought in (see section 3 and Table 1 above summarising the Site's evolution). The northern parcel of land contains a small area (1.6 ha) of BMV land. However, the response received on this is that the Land Quality Advice Service (LQAS) do not consider the loss of 1.6 ha of BMV land to be *"a matter in the national agricultural interest".* The parcel of land to the south which has been removed had a lot of biodiversity and heritage constraints and was nearer to Offa's Dyke and as such, the removal of this land was beneficial to reduce potential impacts on these receptors.

6.3 Community Consultation

6.3.1 Prior to the statutory consultation as part of the DNS regime, a period of non-statutory (informal) consultation was held on 21st October 2021 via an online Q&A session, for the originally proposed scheme. Stakeholders were notified via leaflet.

6.3.2 A bilingual newsletter introducing the emerging proposals for Plas Power Solar Project was posted on the 9 June 2023 to a total of 4837 properties in the defined consultation zone (approximately 2 mile radius of the site) and emailed/posted to identified stakeholders on the 12 June (including elected representatives, schools, community and interest groups) In-person drop-in events were held on 27th and 28th June 2023. In addition, an online webinar session was held on 20th June 2023.

6.3.3 Feedback provided at the online Q&A session (undertaken on 21st October 2021), the drop-in events and online webinar session (June 2023) cover various topics including:

- Construction traffic volume
- Traffic concerns relating to the A525
- Visual impact of the development
- Use of PRoW during construction and operation
- The non-delivery of the previously proposed junction improvements to the A483
- Biodiversity gains through the delivery of the project, including wildflowers, bees and segregated grazing

- Heritage opportunities, including storyboarding the circular history of the site from a mining operation for generating power, to a modern solar scheme to create power for the region once again.

6.3.4 Where practicable, feedback received during the informal consultation has been fed into the design of the Proposed Development and has assisted with the evolution of the project.

7 Planning Policy Framework

7.1.1 This section presents the key policy, legislation and guidance relevant to the Proposed Development, including energy and climate change policy, and planning policy at a national and local level.

7.2 National Policy on Climate Change, Sustainability and Renewable Energy

7.2.1 Since the Kyoto Protocol came into effect in 2005, it is widely accepted that greenhouse gas emissions need to be significantly reduced and that there is a need for international action. The United Kingdom, together with 37 other industrialised countries (called 'Annex I Countries'), committed themselves to reducing greenhouse gas emissions by 5.2% from 1990 levels by the year 2012. The current policy stance on climate change has all stemmed from the context set by the Kyoto Protocol, and the intervening legislation which followed it up to the latest position which is discussed below.

7.2.2 The Committee on Climate Change (CCC) published a report in May 2019, titled '*Net Zero – The UK's contribution to stopping global warming*'. The report responded to a request from the Government to reassess the UK's long term emission targets and recommend a new emissions target for Wales: a 95% reduction in greenhouse gases by 2050, from a 1990 baseline. The target had previously been an 80% reduction, as originally set out in The Environment (Wales) Act 2016. The above is underpinned by the Paris Agreement (2015), which sets out a commitment to limit warming to 1.5 degrees.

7.2.3 Chapter 6 of CCC's report on delivering a net zero emissions target for the UK. The chapter sets out a number of actions, including the transition to a net zero emissions economy and what is needed to underpin delivery of net zero emissions in the UK. 'Part b' set out key near term actions to put the UK on track to achieve net – zero greenhouse gas emissions by 2050 and recommends that more rapid electrification must be accompanied with greater build rates of low carbon generation capacity, accompanied by measures to enhance the flexibility of the electricity system to accommodate high proportions of inflexible generation. In addition, the report explains that the Proposed Development of new infrastructure will be important in opening avenues for decarbonisation.

7.2.4 In June 2019, the UK Government declared a climate emergency following the publication of the CCC report. The resultant legislation amended the Climate Change Act 2008 (c.27) and introduced a legally binding target to achieve 'net zero' by 2050. Section 1(1) of the Climate Change Act 2008 (as amended) sets out the target to 2050 and states that:

> *"it is the duty of the Secretary of State to ensure that the net UK carbon account for the year 2050 is at least 100% lower than the 1990 baseline"*

7.2.5 The "1990 baseline" means the aggregate amount of net UK emissions of carbon dioxide for that year and net UK emissions of each of other targeted greenhouse gases for the year that is the base year for that gas.

7.2.6 In March 2021, section 29 of the Environment (Wales) Act 2016 was amended to set a net zero target by 2050, in line with the UK commitments in the Climate Change Act 2008

7.2.7 On 20th April 2021, the UK Government announced its commitment to reduce carbon emissions by 78% by 2035 compared to 1990 levels (including, for the first time, those from shipping and aviation) via the 6th Carbon Budget. The new target was enshrined by law in June 2021.

7.3 Welsh Government Climate Emergency

7.3.1 In April 2019, the Welsh Government declared a climate emergency and in June 2019 accepted the CCC's recommendation for a new emissions target but set a more ambitious target of net zero emissions no later than 2050.

7.3.2 In March 2021, new legislation came into force in Wales, amending the 2050 emissions target[1] and the interim emission targets[2]. As well as amending the 2050 emissions target to net zero, the 2030 target was increased from 45% to 63% below the 1990 baseline, and the 2040 target was increased from 67% to 89% below the 1990 baseline.

7.3.3 Evidence for the third UK Climate Risk Independent Assessment (CCRA3) in relation to Wales[3], highlights that the climate in Wales is already changing, with an increase of 0.9 degrees Celsius in the average annual temperature since the mid-1970s, an increase of 2.0% in annual mean rainfall and 6.1% in sunshine hours during the same period, approximately 1.4mm of sea level rise per year since 1901, and an increase in heat events.

7.4 Wrexham County Borough Council Climate Emergency

7.4.1 WCBC declared a climate and ecological emergency in September 2019, committing to make WCBC a net carbon free council by 2030. In line with this declaration, WCBC adopted its Decarbonisation Action Plan (DAP), targeting the decarbonisation of Council operations and

[1] The Environment (Wales) Act 2016 (Amendment of 2050 Emissions Target) Regulations 2021
[2] The Climate Change (Interim Emissions Targets) (Wales) (Amendment) Regulations 2021
[3] www.ukclimaterisk.org/wp-content/uploads/2021/06/CCRA-Evidence-Report-Wales-Summary-Final.pdf

promote the protection and enhancement of its natural environment. The Plan forms the integral basis for the delivery of decarbonisation across the organisation up until 2030.

7.5 Prosperity for All: A Low Carbon Wales (March 2019)

7.5.1 The Environment (Wales) Act 2016 requires Welsh Government to reduce emissions of greenhouse gases (GHGs) in Wales by 100% by 2050. Under s39 of that Act, Welsh Ministers must prepare and publish a report for each budgetary period setting out their policies and proposals for meeting the carbon budget for that period.

7.5.2 *Prosperity for All: A Low Carbon Wales* is the Welsh Government's first statutory decarbonisation plan. It sets out the Welsh Government's approach to cut emissions and increase efficiency in a way that maximises wider benefits for Wales, ensuring a fairer and healthier society. It sets out a hundred policies and proposals that directly reduce emissions and support the growth of the low carbon economy.

7.5.3 It specifically seeks to reduce the use of fossil fuels for power generation and promote and accelerate the deployment of renewable energy generation. The plan also recognises that energy storage and flexibility services will need to be provided to integrate with new renewable energy development as part of a whole system approach. In relation to the power sector, the plan sets a target to reduce power sector emissions by 37% from baseline levels [1990s] by the year 2030. The Welsh Government's Sector Emission Pathway for Power[4], published in June 2019, states that power sector emissions would be 2% greater than the baseline level in the year 2020.

7.5.4 Policy 26 (Implementing Energy Consenting, Planning and Permitting Policy) identifies planning as a key lever in Wales for determining the sources of fuel for power generation. *Future Wales: the national plan to 2040* is identified as a key aspect of this as it will play:

> *A key role in facilitating clean growth and decarbonisation, and helps build resilience to the impacts of climate change. Achieving our strategic decarbonisation goals is highlighted as a key driver, which all development plans must support.*

7.5.5 Policy 31 (Delivery of our Renewable Energy Targets) specifically seeks to deliver the 2017 Renewable Energy Targets announced by the Welsh Government, including generating 70% of Wales' electricity consumption from renewables by 2030. It is noteworthy that this energy target is currently being consulted on by the Welsh Government as they seek views on revising this target.

[4] Gov.wales/sites/default/files/publications/2019-06/power-sector-emission-pathway-factsheet.pdf

7.5.6 In October 2021, the Welsh Government published its second statutory decarbonisation plan (LCDP2) titled *Net Zero Wales*. This sets out 123 policies and proposals across all Ministerial Portfolios.

7.5.7 In respect of energy generation, *'Net Zero Wales Carbon Budget 2 (2021-2025)*sets the following ambitions:

- By 2025, 1GW additional renewable energy capacity will be installed;
- From 2021 there will no new build unabated fossil fuel generation in Wales. All current unabated gas generation removed from the system by 2035.

7.5.8 *Net Zero Wales'* Policy 22 seeks to increase the delivery of renewable energy developments on land through the planning system. It recognises that *Future Wales* provides a positive policy framework for the consenting and development of large-scale renewable energy projects and associated infrastructure.

7.6 National Infrastructure Strategy – Fairer, Faster and Greener (November 2020)

7.6.1 The Strategy sets out the UK Government's plans to deliver on its ambition, being to '*deliver an infrastructure revolution: a radical improvement in the quality of the UK's infrastructure to help level up the country, strengthen the Union, and put the UK on the path to net zero emissions by 2050'*. It states that:

> *To achieve net zero by 2050, the power system will need to be virtually carbon free and significantly larger to cope with the additional demand from electrification in transport, heating and some industrial processes.*
>
> *This expanded system requires increased investments in network infrastructure, sources of flexibility, such as interconnection, demand response and storage, together with enough low carbon generation capacity to provide the vast majority of the UK's electricity needs.*

7.6.2 The Strategy confirms that achieving net zero will require a dramatic increase in the share of generation from renewables, including specifically from onshore wind and solar. The Government also proposes to continue supporting the roll out of renewable through the Contracts for Difference subsidy mechanisms, which now includes solar and wind technologies.

7.7 Energy White Paper (December 2020)

7.7.1 The White Paper '*Powering our Net Zero Future'* builds on the Prime Minister's Ten Point Plan for a green industrial revolution and provides a long-term strategic vision for the UK's energy system, consistent with delivering net zero emissions by 2050. It puts forward a strategy for the energy system that:

> *"Transforms energy, building a cleaner, greener future for our country, our people and our planet.*
>
> *Supports a green recovery, growing our economy, supporting thousands of green jobs across the country in new green industries and leveraging new green export opportunities.*
>
> *Creates a fair deal for consumers, protecting the fuel poor, providing opportunities to save money on bills, giving us warmer, more comfortable homes and balancing investment against bill impacts*

7.7.2 The White Paper sets out the Government's goal of a decisive shift from fossil fuel to clean energy, in power, buildings and industry, whilst creating jobs, growing the economy, and keeping energy bills affordable. It also explains that a four-fold increase in clean electricity generation could be required by 2050, due to the retiring of old capacity and the potential doubling of demand from increased electrification (e.g., vehicles and heating).

7.7.3 It does not target a particular mix of energy generation technologies to meet the 2050 target, stating that the market should determine the best solutions for very low emissions and reliable supply at a low cost to consumers. It states however that a low – cost, net zero consistent system is likely to be composed predominantly of wind and solar. It further states:

> *"Onshore wind and solar will be key building blocks of the future generation mix, along with offshore wind. We will need sustained growth in the capacity of these sectors in the next decade to ensure that we are on a pathway that allows us to meet net zero emissions in all demand scenarios."*

7.7.4 The role of other technologies such as battery storage is also recognised in the White Paper, to support reliability in power supply and balance the grid.

7.8 The Wellbeing of Future Generations (Wales) Act 2015

7.8.1 In addition to the policy provisions outlined above, under the *Wellbeing of Future Generations (Wales) Act 2015*, all public bodies in Wales have a duty to secure sustainable development by improving the economic, social, environmental, and cultural well – being of Wales to achieve the 7 well-being goals. All planning applications in Wales should demonstrate how they align with these well-being goals:

- A Prosperous Wales.
  - *"An innovative, productive and low carbon society which recognises the limits of the global environment and therefore uses resources efficiently and proportionately (including acting on climate change); and which develops a skilled and well-educated population in an economy which generates wealth and provides employment opportunities, allowing people to take advantage of the wealth generated through securing decent work."*
- A Resilient Wales.
  - *"A nation which maintains and enhances a biodiverse natural environment with healthy functioning ecosystems that support social, economic and ecological resilience and the capacity to adapt to change."*
- A More Equal Wales.
  - *"A society that enables people to fulfil their potential no matter what their background or circumstances (including their socio economic circumstances)".*
- A Healthier Wales.
  - *"A society in which people's physical and mental well-being is maximised and in which choices and behaviours that benefit future health are understood".*
- A Wales of Cohesive Communities.
  - *"The Commissioner's current analysis shows that Public bodies and Public Services Boards have set more well-being objectives on the theme of 'community' than any other topic."* This goal seeks to maintain and improve upon the good work already being done on this goal.
- A Wales of Vibrant Culture and Thriving Welsh Language.
  - *"A society that promotes and protects culture, heritage and the Welsh language, and which encourages people to participate in the arts, and sports and recreation."*

- A Globally Responsive Wales.
  - Statutory guidance on the Act (Shared Purpose: Shared Future 1: Core Guidance) explains that action on climate change benefits both people and communities in Wales, whilst also contributing to the wider global effort to tackle the causes of climate change and reduce its effects.

7.8.2 Key matters highlighted in the guidance for public bodies to focus attention are decarbonisation (including use of clean energy) and sustainable consumption and production.

7.8.3 The Flintshire and Wrexham Public Service Board has also published 'Our Well-Being Plan 2023-2028', which sets out a plan for building flourishing communities by reducing inequalities across environment, education, employment, income and housing. This will improve community well-being by enabling people of all ages to live healthy and independent lives.

7.9 Planning Policy Framework

7.9.1 In accordance with Section 38 (6) of the Planning and Compulsory Purchase Act 2004 (PCPA), this application should be determined in accordance with the Development Plan, unless material considerations indicate otherwise. Under Section 38(4) of the Act of the Development Plan in Wales comprises the following:

- The National Development Framework for Wales;
- The Strategic Development Plan (SDP) for any strategic planning area that includes all or part of that area; and
- The LDP for that area.

7.9.2 The following section provides an overview of the planning policy relevant to the Proposed Development.

7.10 Future Wales: The National Plan 2040 (February 2021)

7.10.1 Future Wales is the Welsh Government's National Development Framework and is the highest tier of the Proposed Development Plan in Wales. It states (at page 96) that "***as set out in legislation, applications for Developments of National Significance must be determined in accordance with Future Wales***".

7.10.2 As the most recent expression of national planning policy, Future Wales is considered to have primacy in the planning policy hierarchy. Its purpose is to ensure the planning system at all

levels is consistent with, and supports the delivery of, Welsh Government strategic aims and policies (including those in Planning Policy Wales, the Wales Infrastructure Investment Plan and Regional Economic Frameworks). It was prepared having regard to various items of Welsh Government policy and legislation, including:

- Well – being of Future Generations (Wales) Act 2015;
- Environment (Wales) Act 2016;
- Prosperity for All: A Low Carbon Wales (March 2019); and
- Policy Statement: Local ownership of energy generation in Wales – benefitting Wales today and for future generations (February 2020).

7.10.3 Future Wales provides the spatial direction for development in Wales and the policy framework for SDPs and LDPs at the regional and local level. These plans are required to conform to Future Wales and planning decisions at every level must be taken in accordance with the Development Plan.

7.10.4 Future Wales identifies 11 Outcomes to be achieved in 20 years' time. Outcome 9 seeks a Wales where people live in places that sustainably manage their natural resources and reduce pollution. Outcome 11 seeks a Wales where people live in places which are decarbonised and climate resilient.

7.10.5 Future Wales states:

> *"Wales is abundant in opportunities to generate renewable energy and the Welsh Government is committed to maximising this potential. Generating renewable energy is a key part of our commitment to decarbonisation and tackling the climate emergency.*
>
> *Wales can become a world leader in renewable energy technologies. Our wind and tidal resources, our potential for solar generation, our support for both large and community scaled projects and our commitment to ensuring the planning system provides a strong lead for renewable energy development, mean we are well placed to support the renewable sector, attract new investment and reduce carbon emissions.".*

7.10.6 Furthermore, Future Wales sets the following ambitious targets for the generation of renewable energy[5]:

[5] In January 2023, the Welsh Government proposed to alter their existing renewable energy targets.

- For 70% of electricity consumption to be generated from renewable energy by 2030.
- For one gigawatt of renewable energy capacity to be locally owned by 2030.
- For new renewable energy projects to have at least an element of local ownership from 2020.

7.10.7 Section 2 of Future Wales sets out how it has been informed by climate change issues, including projections showing an increased chance of milder, wetter winters and hotter, drier summers, rising sea levels and an increase in the frequency and severity of extreme weather events. It further states:

> *"It is vital that we reduce our emissions to protect our own well being and to demonstrate our global responsibility. Future Wales together with Planning Policy Wales will ensure the planning system focuses on delivering a decarbonised and resilient Wales through the places we create, the energy we generate, the natural resources and materials we use and how we live and travel.".*

7.10.8 Section 3 includes the Future Wales' Outcomes which are described as "*collectively a statement of where we want to be in 20 years' time. Every part of Future Wales…is concerned with achieving the Outcomes*". The Outcome of principal relevance to the Proposed Development is:

> *"A Wales where people live in places which are decarbonised and climate resilient: the challenges of the climate emergency demand urgent action on carbon emissions and the planning system must help Wales lead the way in promoting and delivering a competitive, sustainable decarbonised society.".*

7.10.9 The Future Wales policies of principal relevance to the Proposed Development are:

- Policy 17 – Renewable and Low Carbon Energy and Associated Infrastructure; and
- Policy 18 – Renewable and Low Carbon Energy Developments of National Significance.

7.10.10 Policy 17 notes that the Welsh Government strongly supports the principle of renewable and low carbon energy development from all technologies and at all scales to meet our future energy needs. Furthermore, it states (our emphasis):

> *"In determining planning applications for renewable and low carbon energy development,* ***decision makers must give significant weight to the need to meet Wales' international***

> ***commitments and our target to generate 70% of consumed electricity by renewable means by 2030 in order to combat the climate emergency.[…]*** *Applications for large scale wind and solar will not be permitted in National Parks and Areas of Outstanding Natural Beauty and all proposals should demonstrate that they will not have an unacceptable adverse impact on the environment. Proposals should describe the net benefits the scheme will bring in terms of social, economic, environmental and cultural improvements to local communities. New strategic grid infrastructure for the transmission and distribution of energy should be designed to minimise visual impact on nearby communities.".*

7.10.11 Policy 18 provides a decision-making framework for renewable and low carbon energy technologies. It states:

> *"Proposals for renewable and low carbon projects (including repowering) qualifying as Developments of National Significance will be permitted subject to policy 17 and the following criteria:*
>
> 1. *outside of the Pre-Assessed Areas for wind developments and everywhere for all other technologies, the proposal does not have an unacceptable adverse impact on the surrounding landscape (particularly on the setting of National Parks and Areas of Outstanding Natural Beauty);*
>
> 2. *there are no unacceptable adverse visual impacts on nearby communities and individual dwellings;*
>
> 3. *there are no adverse effects on the integrity of Internationally designated sites (including National Site Network sites and Ramsar sites) and the features for which they have been designated (unless there are no alternative solutions, imperative Reasons of Overriding Public Interest and appropriate compensatory measures have been secured);*
>
> 4. *there are no unacceptable adverse impacts on national statutory designated sites for nature conservation (and the features for*

which they have been designated), protected habitats and species;

5. *the proposal includes biodiversity enhancement measures to provide a net benefit for biodiversity;*

6. *there are no unacceptable adverse impacts on statutorily protected built heritage assets;*

7. *there are no unacceptable adverse impacts by way of shadow flicker, noise, reflected light, air quality or electromagnetic disturbance;*

8. *there are no unacceptable impacts on the operations of defence facilities operations (including aviation and radar) or the Mid Wales Low Flying Tactical Training Area (TTA-7T);*

9. *there are no unacceptable adverse impacts on the transport network through the transportation of components or source fuels during its construction and / or ongoing operation;*

10. *the proposal includes consideration of the materials needed or generated by the development to ensure the sustainable use and management of resources; and*

11. *there are acceptable provisions relating to the decommissioning of the development at the end of its lifetime, including the removal of infrastructure and effective restoration.*

The cumulative impacts of existing and consented renewable energy schemes should also be considered."

7.10.12 The supporting text to both polices states that Policy 17 demonstrates the Welsh Government's support in principle for all renewable energy projects and technologies. The supporting text also refers to the Welsh Government's target for new renewable energy projects to have at least an element of local ownership from 2020, but specifically states that this is not a planning consideration.

7.11 Planning Policy Wales – Edition 12 (February 2024)

7.11.1 The Welsh Government published Planning Policy Wales Edition 12 (PPW) in February 2024. PPW provides the key principles for the planning system in Wales, in terms of what development plans and decisions must achieve and how development should deliver the best possible outcomes. It is not part of the Development Plan however, and according to Future Wales is a material consideration in the planning process.

7.11.2 The primary objective of PPW is to ensure that the planning system contributes towards the delivery of sustainable development and improves the social, economic, environmental and cultural well–being of Wales, as required by the Planning (Wales) Act 2015, the Well–being of Future Generations (Wales) Act 2015 and other key legislation.

Its key principles are:

- Growing our economy in a sustainable manner;
- Making best use of resources;
- Facilitating accessible and healthy environments;
- Creating and sustaining communities; and
- Maximising environmental protection and limiting environmental impact.

7.11.3 Paragraph 2.14 states that these principles enable the goals and five ways of working set out in the Well–being of Future Generations Act 2015 to be realised through land use planning. It also states that they act as a catalyst for the positive delivery of the planning system across Wales.

7.11.4 Paragraph 2.27 explains the need for planning authorities to take a balanced approach to implementing the Well–being of Future Generations Act and its Sustainable Development Principle. It states there may be occasions where one benefit of a development proposal outweighs others, and in such cases robust evidence should be presented to support these decisions, whilst seeking to maximise contributions against all the well – being goals. It identifies a long list of key factors to consider in the assessment process. In summary, these include:

- How the proposal would support the achievement of a more prosperous, low carbon, innovative and resource efficient Wales;
- Where environmental risks are prevented or appropriately managed;
- Whether the causes and impacts of climate change are fully taken into account through location, design, build, operation, decommissioning and restoration; and

- Whether a proposal supports decarbonisation and the transition to a low carbon economy.

7.11.5 Paragraph 3.30 states that the planning system plays a key role in tackling the climate change emergency through the decarbonisation of the energy system and the sustainable management of natural resources. It also states that the transition to a low carbon economy brings opportunities for clean growth and quality jobs, together with wider benefits of enhanced places to live and work, with clean air and water and improved health outcomes.

7.11.6 Paragraph 3.33 explains that the planning system plays a significant role in managing the significant risk of climate change to people, property, infrastructure and natural resources. It states:

> *Development allowed today will be around for decades to come. The most important decision the planning system makes is to ensure the right developments are built in the right places.*

7.11.7 The introduction to Section 5 explains that the use of renewable and low carbon energy sources is one of the ways of achieving Productive and Enterprising Places. Other key relevant extracts from PPW include (our emphasis):

> ***Low carbon electricity must become the main source of energy in Wales.*** *Renewable electricity will be used to provide both heating and transport in addition to power. The future energy supply mix will depend on a range of established and emerging low carbon technologies. (Paragraph 5.7.1).*

> ***Overall power demand is expected to increase…*** *In order to ensure future demand can be met, significant investment will be needed in energy generation, transmission and distribution infrastructure. The system will need to integrate renewable generation with storage and other flexibility services, in order to minimise the need for new generation and grid system reinforcement. (Paragraph 5.7.2).*

> ***The benefits of renewable and low carbon energy, as part of the overall commitment to tackle the climate emergency and increase energy security is of paramount importance.*** *The continued extraction of fossil fuels will hinder progress towards*

achieving overall commitments to tackling climate change. The planning system should:…

- ***Maximise renewable and low carbon generation*** *(paragraph 5.7.7.)….*

Planning authorities should support and guide renewable and low carbon energy development to ensure their area's potential is maximised… (Paragraph 5.9.14).

Outside identified areas, planning applications for renewable and low carbon energy developments should be determined based on the merits of the individual proposal. ***The local need for a particular scheme is not a material consideration, as energy generation is of national significance*** *and there is a recognised need to optimise renewable and low carbon energy generation. (Paragraph 5.9.15)...*

In determining applications for the range of renewable and low carbon energy technologies, planning authorities should take into account:

- *The contribution a proposal will make to meeting identified Welsh, UK and European targets;*
- *The contribution to cutting greenhouse gas emissions; and*
- *The wider environmental, social and economic benefits and opportunities from renewable and low carbon energy development. (Paragraph 5.9.19)*

7.11.8 Section 5 of PPW also includes policies supporting:

- An appropriate mix of energy provision (Paragraph 5.7.6);
- An effective electricity grid network, including additional electricity grid network infrastructure to support PAAs (Paragraph 5.7.8); and
- Cross department co – operation with local authorities to facilitate renewable and low carbon energy development, to maximise the

potential for renewable and low carbon energy generation, and to meet renewable energy targets (Paragraph 5.9.1).

7.11.9 In relation to the rural economy, PPW specifically acknowledges that diversification of farms can include solar development. PPW states that:

> *…planning authorities should adopt a positive approach to diversification projects in rural areas. Diversification can strengthen the rural economy and bring additional employment and prosperity for communities. (Paragraph 5.6.10).*
>
> *Diversification can also include renewable energy proposals such as anaerobic digestion facilities of solar and wind installations, which will help to increase the viability of rural enterprises by reducing their operating costs. These schemes should be supported where there is no detrimental impact on the environment and local amenity. (Paragraph 5.6.13).*

7.12 Technical Advice Note 6: Planning for Sustainable Rural Communities (TAN 6)

7.12.1 TAN 6 is a technical advice note that provides technical guidance to supplement PPW in relation to a range of issues such as the rural economy, rural housing, and sustainable agriculture.

7.12.2 Chapter 2 describes key principles for planning for sustainable rural communities:

> *The planning system must respond to the challenges posed by climate change, for example by accommodating the need for renewable energy generation. It must also protect and enhance the natural and historic environment and safeguard the countryside and open spaces. The overall goal for the planning system is to support living and working rural communities in order that they are economically, socially and environmentally sustainable. (Paragraph 2.1.1).*

7.12.3 Section 6.2 of TAN 6 relates to development involving agricultural land and states that:

> *When […] considering planning applications, planning authorities should consider the quality of agricultural land and other agricultural*

factors and seek to minimise any adverse effects on the environment. (Paragraph 6.2.1).

7.13 Technical Advice Note 15: Development and Flood Risk (TAN 15)

7.13.1 TAN 15 is a technical advice note that provides technical guidance to supplement PPW in relation to development and flooding. TAN 15 advises on development and flood risk, and provides a framework within which risks arising from both river and coastal flooding, and from additional run off from development in any location, can be assessed.

7.13.2 The general approach of PPW and TAN 15 is to advise caution with respect to new development in areas at high risk of flooding by setting out a precautionary framework to guide planning decisions. The overarching aim of the precautionary framework (in order to preference), is to:

Direct new development away from those areas which are at high risk of flooding.

Where development has to be considered in high-risk areas (zone C) only those developments which can be justified on the basis of tests (outlined in Sections 6 and 7 of TAN 15), are located within such areas.

7.13.3 A new version of TAN 15 (accompanied by a revised Flood Map for Planning that includes allowances for climate change) was made available on 28th September 2021, which will eventually replace the 2004 version of TAN 15 and the Proposed Development Advice Map (which does not include climate change allowances), as well as Technical Advice Note 14: Coastal Planning.

7.13.4 The Welsh Government launched a consultation[6] on 23rd January 2023 to seek views on the further amendments to TAN 15 with consultation responses required to be submitted by 17th April 2023. The publication of revised TAN 15 and Flood Map for Planning was suspended until 1st June 2023 and no further clarity has been provided on the timetable at the time of writing.

7.14 Review of Wales' Energy Targets (January 2023)

7.14.1 The Welsh Government announced in January 2023 that they propose to alter their existing renewable energy targets. The Welsh Government launched a consultation on 24th January 2023 seeking views on their proposal of revising the energy targets in Wales which are currently:

[6] TAN 15 Consultation available at: Further amendments to Technical Advice Note (TAN) 15: Development, flooding and coastal erosion | GOV.WALES

- Wales to generate electricity equal to 70% of its consumption from renewable sources by 2030.
- 1GW of renewable energy capacity in Wales to be locally owned by 2030.
- An expectation for all new energy developments in Wales to have at least an element of local ownership from 2020.

7.14.2 The consultation sets out a number of proposals which the Welsh Government would like views upon, which includes the commitment that 100% of Wales' electricity will come from renewable energy sources by 2035, instead of the current commitment above. Additionally, Welsh Government proposes to increase its locally owned target to 1.5GW of renewable energy capacity to be locally owned by 2035 (excluding heat pumps). Welsh Government proposes a separate proposal to cover heat pumps, indicating that 5.5GW of renewable energy capacity to be produced by heat pumps by 2035. The consultation on these proposals ended on 18th April 2023.

7.15 Building Better Places: The Planning System Delivering Resilient and Brighter Futures – Placemaking and the Covid 19 Recovery (July 2020)

7.15.1 Building Better Places describes the Welsh Government's planning policies and priorities to support recovery following the Covid – 19 pandemic crisis. One of its key messages is that a plan led approach is the most effective way for the planning system to combat climate change. It states "*we must identify, plan for and achieve key steps in achieving the switch to a decarbonised and climate resilient society".*

7.16 Overarching National Policy Statement for Energy (NPS EN – 1) (January 2024)

7.16.1 NPS EN - 1 sets out the UK Government's commitment to increasing renewable generation capacity. Paragraphs 2.1.3 and 2.1.4 state that:

> *To produce the energy required for the UK and ensure it can be transported to where it is needed, a significant amount of infrastructure is needed at both local and national scale. High quality infrastructure is crucial for economic growth, boosting productivity and competitiveness.*
>
> *The National Infrastructure Strategy (NIS)20 committed to boosting growth and productivity across the whole of the UK, levelling up and strengthening the Union through investment in rural areas, towns,*

and cities, from major national projects to local priorities. It also committed to government putting the UK on the path to meeting its net zero emissions target by 2050 by taking steps to decarbonise the UK's power networks, and take steps to adapt to the risks posed by climate change."

7.16.2 As this application falls within the definition of a 'Development of National Significance', it falls under s62(D) of the TCPA, as amended by The Planning Wales Act. As such, the NPS is a material planning consideration.

7.16.3 The UK Government undertook consultation on a draft NPS EN – 1 between September and November 2021, in addition to a revised draft National Policy Statement for renewable energy infrastructure (NPS EN – 3), which included a new section specific to solar development. This was adopted in March 2023.

7.16.4 The section on solar states that analysis shows that a secure, reliable, affordable, net zero consistent system in 2050 is likely to be composed predominantly of wind and solar.

7.16.5 Applications for offshore wind above 100MW or solar above 50MW in England, or 350MW for either in Wales, will continue to be defined as NSIPs, requiring consent from the Secretary of State

7.17 Relevant Local Planning Policy

7.17.1 The Wrexham Local Development Plan 2013-2028 (LDP) was adopted on 20 December 2023 and is the basis for decisions on land use planning in the WCBC authority area.

7.17.2 The LDP is a development strategy focused on achieving sustainable development, guiding development, setting out policies and safeguarding areas of land requiring protection or enhancement.

7.17.3 The LDP Proposals Map shows that the Site is affected by the following designations:

- Minerals Safeguarding Area for Sand and Gravel; and
- Welsh Language Sensitive Area

7.17.4 Key LDP policies relevant to this proposal are as follows:

- Policy SP2: Location of New Development - New development is directed to the defined settlement limits and employment areas as identified on the Proposals Map.
- Policy SP13: Health and Wellbeing - All development should seek to reduce health inequalities and provide opportunities for healthy lifestyles and improving health and well-

being. This will be achieved by supporting proposals which provide access to services including primary and secondary healthcare, sports facilities and opportunities for recreation, as well as active travel opportunities, high quality sustainable design, open space, green infrastructure, food growing and allotments.

- Policy SP14: Natural Environment - Development will only be supported where it protects, conserves and enhances the natural environment.
- Policy SP15: Historic and Cultural Environment - Development will only be supported where it conserves, protects and enhances the cultural and heritage assets of the County Borough and, where appropriate, their settings.
- Policy SP16: Minerals Supply and Safeguarding – Minerals will be managed sustainably through directing development away from affected areas where possible, and avoiding conflict between mineral working and sensitive development through the use of buffer zones.
- Policy SP18: Climate Change - To mitigate against the effects of climate change and adapt to its impacts, development proposals will need to demonstrate that they have taken into account of, among other things, reducing emissions, adapting to climate change, promoting renewable energy, maintaining of ecological resilience and avoiding areas at risk of flood.
- Policy SP19: Green Infrastructure - Wrexham's distinctive natural heritage provides a network of green and blue infrastructure. Protection, conservation and enhancement of natural heritage networks needs to be reconciled with the benefits of development through, amongst other things, improving connectivity, protection of valuable features and provision of mitigation where there is loss.
- Policy MW1: Minerals Safeguarding – Non-mineral development withing the Mineral Safeguarding Areas will only be permitted where it can be demonstrated that the mineral does not merit extraction; the need for the non-mineral development outweighs the need to protect the resource; prior extraction can take place; the development is temporary and can be removed before the mineral is likely to be needed; and essential infrastructure that supports the supply of minerals would not be compromised or would be provided elsewhere. A Minerals Safeguarding Assessment should support planning applications in these areas.
- Policy RE1: Development and Renewable Energy/Low Carbon Technology – the Council will actively encourage the delivery of renewable and low carbon energy solutions on major development sites.
- Policy RE2: Renewable Energy Schemes – Proposals to generate energy from renewable and low carbon sources will be supported. Proposals for solar farms (5MW to 50MW) will be directed to the solar local search areas (LSA) identified on the Proposals Map. In

assessing such proposals consideration will be given to the impacts of the development on the landscape, the number, scale, size, design and siting of renewable installations and associated infrastructure, alone, cumulatively and in combination.

7.18 Supplementary Planning Guidance

7.18.1 The following WCBC Supplementary Planning Guidance (SPG) are considered to be pertinent to the Proposed Development:

- Landscape and Development SPD 7
- Trees and Development SPD 17
- The Welsh Language and Welsh Communities SPD 31
- Biodiversity and Development SPD 32

7.19 Climate Change Declaration

7.19.1 WCBC declared a climate and ecological emergency in September 2019, committing to make WCBC a net carbon free council by 2030. In line with this declaration, WCBC adopted its Decarbonisation Action Plan (DAP) in May 2021, targeting the decarbonisation of Council operations and promoting the protection and enhancement of its natural environment. The DAP forms the integral basis for the delivery of decarbonisation across the organisation up until 2030.

7.19.2 The four 'key themes' and related foci of the DAP are set out below:

1) Buildings

- Monitoring and targeting of buildings;
- Behaviour change campaigns;
- Improving energy efficiency of buildings;
- Design and refurbish buildings for low energy in operation; and
- Heat buildings with renewable energy.

2) Mobility and Transport

- Journeys made by fleet vehicles;
- Journeys made by the workforce for business reasons;
- Transport services delivered to the public;

- Active Travel; and
- Street-lighting.

3) Land Use

- Changing the energy we use and generate;
- Using green open spaces;
- Support opportunities for increased tree and woodland planting; and
- Ensuring appropriate land-use by developers through our planning responsibilities.

4) Procurement

- Ensuring that all procurement processes appropriately consider the decarbonisation agenda;
- Improving contract management processes to actively monitor, manage, and report the performance of our supply chain decarbonisation activities; and
- Improving the understanding of the decarbonisation agenda with our current and future supply chain.

7.19.3 The Wrexham LDP similarly commits to resisting and mitigating the consequences of climate change. Objective SO10 of the LDP specifically seeks to promote the use of renewable resources as part of this strategy. As stated above, Policy RE2 (Renewable Energy Schemes) of the plan states that proposals to generate energy from renewable and low carbon sources will be supported.

8 Assessment of the Proposed Development

8.1 Overview

8.1.1 This section of the PDAS provides an assessment of the key planning policy matters and material considerations relevant to the determination of this application. It considers the technical assessment work undertaken and presented in the application and appraises that against the relevant planning policy set out in the preceding chapter. The section demonstrates the acceptability of the Proposed Development in planning terms.

8.1.2 The assessment of the Proposed Development is focussed on the following key matters:

- Principle of development;
- Principle of development
- Consideration of specific matters:
  - Landscape and Visual;
  - Biodiversity;
  - Historic Environment;
  - Archaeology
  - Disturbance and Residential Amenity
  - Noise and Vibration
  - Glint and Glare
  - Highways and traffic;
  - Hydrogeology and hydrology (including flood risk); and
  - Minerals Safeguarding.
- Summary of Compliance with Future Wales;
- Summary of compliance with the LDP; and
- Compliance with the Well Being of Future Generations (Wales) Act 2015.

8.1.3 In the first instance, the planning assessment presented below tests the Proposed Development against the policy provisions of Future Wales: as the highest tier of the development plan in Wales; the most recent expression of national policy for renewable energy; and the principal policy for decision making on DNSs (see paragraph 6.9.1 above). The assessment also considers the provisions of other national planning and energy policy and PPW as material considerations to the decision-making process.

8.2 Principle of Development – Future Wales

8.2.1 The UK and Welsh Governments, and WCBC (on 25 September 2019) have declared a climate emergency. In response, both UK and Welsh Governments have legislated an ambitious net zero emissions target by 2050.

8.2.2 As identified in section 6 (above), Welsh Government has published a consultation to amend its renewable energy targets including the commitment that 100% of Wales' electricity will come from renewable energy sources by 2035. In December 2020, the CCC published a progress report (updated in June 2023) on emissions reduction in Wales that shows emissions of greenhouse gases have fallen by 31% since 1990 according to 2018 reports. Although this progress is likely to meet 2020 targets, there is still much to be done in order to meet the net zero targets by 2050, and the interim targets set out by the Welsh Government.

8.2.3 The Welsh Government's own figures on greenhouse gas emissions demonstrate a more gradual decline in emissions from the 1990 baseline (55 mega tonnes CO2 equivalent). There was a reduction from the baseline to 48 mega tonnes in 2016, with the 2020 target of 40% reduction from 1990 levels (34 mega tonnes), set under the Welsh Government Climate Change Strategy 2012 not having been met.

8.2.4 In 2020, solar PV accounted for 28% of renewable electricity generation in the UK. In 2019, there was circa 13.5GW of installed capacity of solar energy in the UK.

8.2.5 According to the Welsh Government figures, Wales is substantially behind its own 2050 net zero target. The evidence for CCRA3 shows that the effects of climate change are already being seen in Wales, including rising sea levels and an increase in extreme heat events, highlighting the need for greater urgency in decarbonisation efforts.

8.2.6 Welsh energy policy acknowledges that renewable energy development is a key contributor to the net zero target. Specifically, *Prosperity for All: A Low Carbon Wales (2019)* seeks to accelerate the deployment of renewable energy generation in order to cut emissions. At a UK Level, the National Infrastructure Strategy states that to achieve net zero by 2050, the power system will need to be carbon free and significantly larger to cope with additional demand. As set out in the Energy White Paper, generation of clean energy may need a four-fold increase to meet this additional demand and to replace the retiring of old capacity.

8.2.7 The Proposed Development will have an export capacity of circa 57MWac of electricity, enough to power approximately 700 homes per year and offset over 15,800 tonnes of CO2. The Proposed Development will therefore play an important role in contributing towards the national targets and identified need to significant increase the provision of clean, renewable

energy production identified above. This is a highly material and significant factor that carries great weight in favour of the Proposed Development.

8.2.8 Consequently, there is unequivocal planning policy support for the principle of renewable energy development through Future Wales at a national level, and adopted LDP (and the appropriate SPG) at a local level, which will be addressed further below.

8.2.9 Future Wales, aims to ensure that the planning system focuses on delivering a decarbonised and resilient Wales, including through energy generation. Policy 17 of Future Wales provides strong support for the principle of developing renewable and low carbon energy from all technologies and at all scales, and requires that decision makers give significant weight to the need to meet Wales' international commitments, and the target to generate 70% of consumed electricity by renewable means by 2030. The Proposed Development will clearly make an important contribution towards meeting these targets and commitments, as stated above, which should be afforded significant weight.

8.2.10 Welsh Government figures[7] estimate that the renewable share of Wales' electricity generation increased from 25% in 2018 to 27% in 2019. In terms of consumed electricity, the figures estimated that 51% of electricity consumed in Wales is provided through renewable sources, highlighting that achieving the 70% target by 2030 is challenging. The significant weight to be placed on the need to meet Wales' renewable energy targets is evident in recent decisions taken by Welsh Ministers in respect of other DNS applications[8].

8.2.11 Future Wales also considers the responsibility of renewable energy development. Paragraph 3.30 states that the planning system plays a key role in tackling the climate emergency through the decarbonisation of the energy system. Section 5.7 (Energy) of PPW states that low carbon electricity must become the main source of energy in Wales, and that significant investment in will be needed in energy generation, transmission and distribution infrastructure in order to ensure future demand can be met. It also states that the benefits of renewable and low carbon energy, as part of the overall commitment to tackle the climate emergency and increase energy security, is of paramount importance.

8.2.12 On the BESS element of the proposal, Future Wales confirms that "*the UK's energy system is now undergoing significant change, with energy generation and delivery becoming more distributed in the communities and regions where the energy is used. The boundaries between systems are also becoming blurred, with energy being converted into (and stored in) different*

[7] Welsh Government (2019) Electricity Generation in Wales

[8] Wauntysswg Solar (DNS/3213639), Llanwern Solar (DNS/3213968), Penderi Solar (DNS/321364) and Penpergwm Solar (DNS/3252305)

forms to address a range of needs. There is also a need to consider large-scale energy storage as part of the energy system to provide grid balancing".

8.2.13 It is important to note that Future Wales identifies Wrexham and Deeside as a 'national growth area', being the main focus for investment and growth within North Wales.

8.2.14 Parts 5.7.8 – 5.7.12 of Planning Policy Wales provide more detailed national policy guidance on energy storage. It confirms that:

"an effective electricity grid network is required to fulfil the Welsh Government's renewable and low carbon ambitions. An integrated approach should be adopted towards planning for energy developments and additional electricity grid network infrastructure.

In certain circumstances, additional electricity grid network infrastructure will be needed to support the Pre-Assessed Areas in Future Wales, but also new energy generating developments more generally. Planning authorities should plan positively for grid infrastructure. Development plans should facilitate the grid infrastructure required to support the renewable and low carbon energy potential for the area, particularly areas identified for such development. Planning authorities should support appropriate grid developments, whether or not the Proposed Developments to be connected are located within their authority.

Energy storage has an important part to play in managing the transition to a low carbon economy. The growth in energy generation from renewable sources requires the management of the resultant intermittency in supply, and energy storage can help balance supply and demand. Proposals for new storage facilities should be supported wherever possible."

8.2.15 It is clear that national planning policy strongly supports the delivery of such energy storage facilities in-principle. The principle of the Proposed Development is therefore wholly supported by Future Wales and, as a material planning consideration, PPW.

8.3 Principle of Development – Local Planning Policy

8.3.1 As set out previously, for the purposes of s38(6) of the PCPA 2004, the adopted LDP forms part of the development plan alongside Future Wales. Its very recent adoption means that its policies are fully consistent with the principles of Future Wales, PPW and TANs.

8.3.2 The LDP is supportive of proposals for renewable resources to resist and mitigate the consequences of climate change. Objective SO10 of the LDP seeks to promote the use of renewable resources, and Policy RE2 (Renewable Energy Schemes) states that proposals to generate energy from renewable and low carbon sources will be supported. The policy states

that schemes of <10MW are to be directed to the solar local search areas (LSA) identified on the Proposals Map. However, the supported text to the policy at paragraph 4.222 states:

> "*These are the preferred areas for solar but this would not necessarily preclude applications coming forward outside these areas if deemed appropriate and considered acceptable in accordance with other policies in the plan and PPW.*"

8.3.3 Therefore, not only is the proposed scheme too large to be directed towards the LSAs, there is no restriction, in principle, to otherwise policy compliant schemes coming forward elsewhere in any event.

8.3.4 Renewable energy generation and storage has an important role in achieving sustainable development, as set out in PPW. As part of decarbonising the Welsh economy, the Proposed Development will provide economic, social and environmental enhancements. Economic benefits will include the creation of temporary jobs, supporting local supply chains during the construction phase and support the low carbon decentralised energy generation as a key growth sector in the local area. Social benefits will be realised through decentralised energy generation and not relying on energy imports. Environmental gains would be secured through carbon reduction and local biodiversity enhancements.

8.4 Local Search Areas for Solar

8.4.1 As stated above, the Site does not fall within a LSA for solar developments, as designated by the LDP. However, this does not preclude such Development being permitted elsewhere. The policy is not prescriptive and LSAs only provide an indication of solar energy potential.

8.4.2 There is no guarantee that planning permission will be granted for solar energy developments within a LSA, and the LDP does not restrict solar energy developments to these locations only, as stated in 8.3.3 above.

8.4.3 In summary, the Site's location outside for a Local Search Area for Solar Energy does not mean that the Proposed Development is contrary to the LDP and is not a reason for resisting such development proposals.

8.5 Conclusion on the Principle of Development

8.5.1 National and local planning policy is overwhelmingly supportive of renewable energy developments and seek to facilitate their delivery in appropriate locations. Therefore the in-principle acceptability of the Proposed Development is considered to be established. It is now necessary to consider whether there would be any unacceptable impacts in relation to the more detailed areas of technical assessment.

8.5.2 The strong support from Policy 17 of Future Wales should be read alongside the criteria set out in Policy 18 for assessing large scale proposals for renewable and low carbon energy. These criteria are considered in the topic sections below, which also demonstrate compliance with relevant LDP policies.

Consideration of Specific Matters

8.6 Landscape and Visual

8.6.1 Criterion 1 of Policy 18 in Future Wales states that *"renewable and low carbon energy projects qualifying as DNSs will be permitted where the proposal does not have an unacceptable adverse impact on the surrounding landscape*". Policy RE2 (Renewable Energy Schemes) of the LDP states that proposals outside LSAs will be supported in appropriate locations. It states that in assessing such proposals "c*onsideration will be given to the impacts of the development on the landscape, the number, scale, size, design and siting of renewable installations and associated infrastructure, alone, cumulatively and in combination."*

8.6.2 LDP Policy SP2 (Location of New Development), also sets out landscape parameters for new development.

8.6.3 The Landscape and Visual Impact Assessment (LVIA) was undertaken as part of the submitted ES (Chapter 5 and supporting technical appendices) to determine the relationship of the Site with its surroundings and the approximate extent of its visibility within the wider landscape, as experienced from publicly accessible viewpoints, and extent of impact.

8.6.4 The LVIA confirms in paragraph 5.267 that *"in terms of views, the site is low lying and well buffered by existing boundary vegetation with views being close ranging, from the Public Right of Way (BER/1) that runs within the site and longer distance views being obtained from elevated land to the east that includes the Clwydian Range and Dee Valley AONB. It is anticipated that a solar scheme of this scale would cause some localised obstruction to near views with the full extents of the scheme not viewed, however given the existing baseline context that includes field boundary hedgerows and areas of woodland within the view, this would not be considered significant. Distant views would be longer ranging and encompass a larger extent of the scheme, however given the distance the solar panels would not form an overly opponent feature in the view with long and short distance views often being interrupted by vertical elements of pylons."*

8.6.5 The LVIA concludes in paragraph 5.273 that "*Overall, the quality and character of the landscape and visual resources would be maintained and would have the capacity to accommodate the Proposed Development without significant effects*." In landscape and visual impact terms, therefore, the impacts are acceptable and the Proposed Development is considered to be in accordance with LDP Policies RE2 and SP2, and Criterion 1, Policy 18 of Future Wales.

8.7 Residential Visual Amenity Assessment

8.7.1 A Residential Visual Amenity Assessment was commissioned following consultation with local residents, in order to assess the likelihood that the Proposed Development would result in adverse effects on the visual amenity and liveability of residential properties within a 500m radius study area, to such a degree, that it would not be in the public interest to permit these conditions.

8.7.2 The assessment concludes that the Proposed Development would not trigger the Residential Visual Amenity Threshold in relation to the visual amenity or liveability of any of the residential properties within the study area, so long as the mitigation proposals suggested are implemented and managed to fulfil their designed intention. Early mitigation measures confirmed for the Proposed Development relate to the layout of proposed PVs, including setting back from residential properties and proposing new landscape planting appropriate to the local landscape setting to screen the proposals.

8.7.3 The design intention of the proposed landscaping is be t soften views towards parts of the Proposed Development, improving the Site's sense of place through not only new hedgerow planting, but also hedgerow repair whilst providing further biodiversity enhancement and habitat for local wildlife. There would also be some areas of amenity planting within a new pocket park alongside new meadows, to provide seasonal interest for the local residential and footpath users during operation.

8.7.4 As such, the Proposed Development is considered to be in accordance with LDP Policies RE2 and SP2, and Criterion 1 of Policy 18 of Future Wales.

8.8 Biodiversity

8.8.1 A Biodiversity Chapter of the ES (Chapter 6) sets out the assessment work that has been undertaken from a biodiversity perspective as well as completing an appropriate assessment. The key tasks that have been completed include:

- A Preliminary Ecological Appraisal (PEA) to inform the layout of the Proposed Development;
- A breeding bird survey (completed over three early morning transect survey visits);
- Wintering bird survey (completed over four early morning transect survey visits);
- Great Crested Newt (GCN) surveys comprising Habitat Suitability Index (HSI), assessment of ponds on the Site, environmental DNA survey and populations assessment survey; and
- Otter Survey.

8.8.2 Criteria 3 and 4 of Policy 18 in Future Wales state that renewable and low carbon energy projects qualifying as DNSs will be permitted where the proposal does not have an adverse effect on the integrity of internationally designated sites and the features for which they have been designated, or on national statutory designated sites for nature conservation, protected habitats and species.

8.8.3 One Ramsar site and three Special Areas of Conservation (SAC) are within 10km of the Site:

- Johnstown Newt Sites SAC is located 1.69km from the Site and is known to support one of the largest populations of GCN in Great Britain;
- Berwyn and South Clwyd Mountains SAC is located 2.36km from the Site and comprises European dry heath and blanket bog habitat. Berwyn contains the largest stands of upload European dry heath in Wales and the most extensive tract of near-natural blanket bog in Wales;
- Midlands Meres & Mosses Phase 2 Ramsar is located 5.87km from the Site and comprises a diverse range of habitats from open water to raised bog and supports a number of rare species of plants associated with wetland habitat.
- River Dee and Bala Lake SAC is located 7.11km from the Site. The primary reasons for the SAC designation are its classification as a 'Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation' and its populations of Atlantic salmon and floating water plantain.

8.8.4 Furthermore, three Sites of Special Scientific Interest (SSSI) are located within 2km of the Site, the closest being Gatewen Marsh, located 1.16km from the Site.

8.8.5 The results of the survey work describes the majority of the Site to incorporate seven arable fields at its northern area. The majority of the Site comprises close-grazed pasture fields that classify as improved grassland. Two small areas of semi-improved grassland are present in the northern section of the Site.

8.8.6 At the north of the Site, tall, wide hedgerows with trees border the arable fields, some of which are species-rich. The improved fields are bound by species-poor hedgerows and fence lines. The species-poor hedgerows are a mix of dense structured wide field boundaries and defunct hedges with multiple gaps. Mature / semi-mature trees are present within hedgerows at the north of the Site.

8.8.7 Each individual hedgerow on the Site is a Habitat of Principal Importance (HPI) under Section 7 of the Environment (Wales) Act 2016. The hedgerow field boundaries within and bounding the Site are of ecological importance in a local context.

8.8.8 The River Clywedog flows south-east through Big Wood and beneath Mill Terrace road to the east of the southern area of the Site. This river is a HPI and has a value in the context of at least the local area.

8.8.9 The Biodiversity Chapter of the ES sets out the potential biodiversity impacts as a result of the Proposed Development:

- **Statutory Designated Sites –** There is low potential for impacts, direct or indirect, due to the nature of the Proposed Development and the intervening distance between the Statutory Designated Sites and the application Site;
- **Non-Statutory Designated Sites** – There is no potential for impacts, direct or indirect, due to the nature of the Proposed Development. A 25m stand-off will protect the 'Big Wood' Wildlife Site and Higher Berse Marsh Wildlife Site from all construction activities;
- **Protected Habitats** – The Proposed Development will result in the conversion of low value habitat, primarily arable farmland. The Proposed Development will result in a direct, permanent beneficial effect in the context of the Site.
- **Protected Species** – The design of the Proposed Development has taken into account the wildlife present within and adjoining the Site. There will be minimal temporary loss of grassland and hedgerow habitat suitable for GCN, reptiles, dormouse and nesting birds. Very low numbers of ground nesting birds may be displaced onto adjoining arable land.

8.8.10 Section 6 of the Environment (Wales) Act 2016 places a duty on public authorities to seek to maintain and enhance biodiversity so far as it is consistent with the proper exercise of those functions. As part of the Proposed Development, the following proposed enhancement measures will benefit habitats and protected species:

- The tussocky grassland on the Site will be managed through rotational cutting in September/October. These boundary grasslands will be subdivided into a series of sections aligned to individual field boundaries. In each section a third of the tussocky grassland is to be cut each year on rotation to create a patchwork of grassland structures on the field boundaries across the site. Every area of grassland will be cut once every three years to prevent scrub colonisation and maintain a grassland habitat.
- Wildflower Grassland will be created within dedicated Biodiversity Enhancement Areas on the Site. No solar arrays will be installed in these areas.

- The existing arable fields will be stripped of rye-grass ley / crops and the topsoil removed. The fields will then be sewn with a wildflower grassland mixture. Once the grassland has established it will be subject to low intensity sheep grazing to encourage the Proposed Development of a species-rich wildflower grassland.
- A new wildlife pond will be created within the Biodiversity Enhancement Area. Grassland areas adjoining the pond will be managed as tussocky grassland, a habitat favoured by amphibians providing dense cover and supporting prey species.
- New native hedgerows comprise a mixture of native shrub species will be planted along the boundaries of the Biodiversity Enhancement Areas. Over time these will improve connectivity and become part of the network of hedgerows.
- Defunct and species-poor hedgerows will be subject to infill planting with a mixture of native shrub species.
- Invertebrate banks will be created in the Biodiversity Enhancement Area at the north-west of the site. The banks will have south facing slopes constructed from stone and soil. Steep, bare earth sections will provide burrowing habitat for invertebrates.
- Dense native species scrub will be created in the Biodiversity Enhancement Area at the north-west of the site. The scrub will be managed to provide nesting and foraging habitat for birds.
- Native broadleaved trees will be planted throughout the Biodiversity Enhancement Areas, creating additional habitat with connection to existing woodland and hedgerows.
- Sections of winter cover crop will be sown to provide sources of food for farmland bird species foraging within the site during winter.

8.8.11 A Shadow HRA is also submitted as part of the application. It concludes that there are no potential likely significant effects on any interest features within Berwyn & South Clwyd Mountains SAC, Midland Meres and Mosses Ramsar, the River Dee and Bala Lake SAC and Johnstown Newt Sites SAC during the construction or operational phases of the Proposed Development either alone or in combination.

8.8.12 Taking the above into account, there will be no adverse effect on integrity of internationally, or nationally designated sites, habitats or species, and a significant range of ecological enhancement measures will be delivered to ensure net benefits for biodiversity. A biodiversity net gain assessment, appended to Chapter 6 of the ES, concludes that the Proposed Development will deliver a significant net gain of ~64% for habitats and ~72% for hedgerows across the site.

8.8.13 As such, it is considered that the Proposed Development in relation to biodiversity meets the objectives of Policy 18 of Future Wales, PPW 12 and policy SP15 of the LDP.

8.9 Historic Environment (Cultural Heritage)

8.9.1 Criterion 6 of Policy 18 in Future Wales states that renewable and low carbon energy projects qualifying as DNSs will be permitted provided that the proposal does not have unacceptable adverse impacts on statutorily protected built heritage assets. Additionally, Paragraph 6.1.9 of Section 6 of PPW states that any decisions made through the planning system must fully consider the impact on the historic environment and on the significance and heritage values of individual historic assets and their contribution to the character of place. Chapter 7 of the ES, and its appendices, address matters relating to the Historic Environment, and fulfils this requirement within PPW.

8.9.2 Cadw's 'Conservation Principles' guidance document (2011) sets out that 'balanced and justifiable decisions about change to the historic environment depend upon understanding who values different historic assets and why they do so, leading to a clear statement of their significance and, with it, the ability to understand the impact of the proposed change on that significance. Every reasonable effort should be made to eliminate or minimise adverse impacts on historic assets. Ultimately, however, it may be necessary to balance the benefit of the proposed change against the harm to the asset'.

8.9.3 Policy SP16 (Historic and Cultural Environment) of the emerging LDP state that development will only be supported where it conserves, protects and enhances listed cultural and heritage assets.

8.9.4 The Cultural Heritage Assessment confirms in paragraph 7.139 that *"The Proposed Development will potentially affect the settings of fifteen heritage receptors through changes to their extended settings. For the identified heritage receptors, no effects greater than of Minor Adverse significance were identified. Due to the nature of the impacts and significance of effect in the operational phase described above, further mitigation measures are not considered likely to be required in terms of heritage."*

8.9.5 Chapter 7 of the ES confirms that no likely significant effects are predicted on any cultural heritage receptors.

8.9.6 On this basis, the Proposed Development does not give rise to unacceptable adverse impacts on protected heritage assets. The Proposed Development conforms with Policy 18 of Future Wales and with the requirements policy SP16 of the LDP and Section 6 of PPW, which requires development to conserve, protect and enhance the cultural and heritage assets of the County Borough and, where appropriate, their settings.

8.10 Archaeology (Cultural Heritage)

8.10.1 An Archaeological Impact Assessment has been prepared and accompanies the DNS application, in accordance with the requirements of PPW and local policy. The assessment has been primarily based on Chapter 6 of PPW and follows further guidance in TAN 24. Additionally, the assessment fulfils the general requirements of a desktop assessment as set out by the *Chartered Institute for Archaeologist's Standard and Guidance for Historic Environment Desk Based Assessments (2014 rev 2020).*

8.10.2 Furthermore, Paragraph 6.1.23 and Paragraph 6.1.24 of PPW are relevant and set out that the planning system recognises the need to conserve archaeological remains and forms a material consideration and additionally, planning authorities will need to weigh the relative importance of the remains and their settings against the need of the proposed development respectively. The relevant LDP policy again is SP16 (Historic and Cultural Environment).

8.10.3 The Cultural Heritage Assessment concludes in paragraph 7.136 that "*A Low archaeological potential was identified for all periods of human activity as part of the Archaeological DBA and associated evaluation fieldwork. It was assessed that any archaeological remains within the site would be of Low to Medium/Regional importance, therefore of Low to Medium sensitivity.*"

8.10.4 On this basis, the Proposal conforms with the requirements of LDP policy SP16 and Section 6 of PPW, which requires development to conserve, protect and enhance the cultural and heritage assets of the County Borough and, to provide robust archaeological evidence and justification where required.

8.11 Disturbance and Residential Amenity

8.11.1 Criterion 7 of Policy 18 of Future Wales states that renewable and low carbon energy projects qualifying as DNSs will be permitted if the proposal does not have unacceptable impacts by way of shadow flicker, reflected light, air quality or electromagnetic disturbance. There are no anticipated significant effects on electrical, radio or other communication systems along with soil systems.

8.11.2 Due to the nature of the Proposed Development, there will be no impacts in relation to shadow flicker, air quality, or electromagnetic disturbance. The Glint and Glare section below sets out further detail on reflected light.

8.12 Noise and Vibration

8.12.1 The potential impacts of the existing and proposed sources of noise on the existing and proposed residential areas have been assessed with reference to PPW, TAN 11 (Noise),

guidance on sound installation and noise reduction for buildings (BS8233) and methods for rating and assessing industrial and commercial sound (BS4142).

8.12.2 The submitted Noise Impact Assessment confirms in paragraph 7.4 that *"with the noise control measures outlined in this report in place, the Proposed Development is unlikely to give rise to significant adverse noise impacts with adverse impacts also sufficiently minimised at the nearest receptors and thus will not harm or disrupt the existing residential amenity."*

8.12.3 Thus the Proposed Development will not harm or disrupt the existing residential amenity as a consequence of operational noise generated by the Proposed Development.

8.12.4 During the construction and decommissioning phases, a variety of noise sources from various activities are anticipated at different times such as deliveries, trenching or constructing the arrays. Construction noise and vibration impacts have been scoped out of the assessment since the works are unlikely to give rise to significant adverse effects following the adoption of Best Practicable Means (BPM) which will be detailed in the Construction Environmental Management Plan (CEMP). Noise and vibration control measures outlined in BS 5228:2009+A1:2014 – 'Code of practice for Noise and Vibration Control on Open Sites' will be implemented to minimise impacts.

8.12.5 It is considered that solar farms are inherently quiet when operational, with only the air-cooling systems associated with the inverters and substations, and the general operation of the transformers, generating sound power levels. Due to the nature of the construction techniques that would be utilised, the potential for vibration effects is considered unlikely.

8.12.6 Taking the above into account, the Proposed Development is considered to satisfy the requirements for noise protection afforded by Policy 18 of Future Wales and policy DM1 of the LDP.

8.13 Glint and Glare

8.13.1 Criterion 7 of Policy 18 of Future Wales requires that development has no unacceptable adverse impacts by way of, among other things, reflected light. Pager Power has undertaken a Glint and Glare Study to assess the possible effects of glint and glare from the Proposed Development and pertains particularly to effects upon road safety, residential amenity and identified ZTV viewpoints.

8.13.2 There is no existing planning guidance for the assessment of solar reflections from solar panels towards roads and nearby dwellings. Pager Power has, however, produced guidance for glint and glare and solar photovoltaic developments, which was published in early 2017, with the

fourth edition published in 2021. The guidance document sets out the methodology for assessing roads and dwellings with respect to solar reflections from solar panels.

8.13.3 No significant impacts are predicted on surrounding road safety, residential amenity, and observers located at the identified viewpoints in the surrounding area. Mitigation is not considered to be necessary.

8.13.4 As such, the proposal is compliant with the Policy 18 of Future Wales.

8.14 Highways and Traffic

8.14.1 Criterion 9 of Policy 18 in Future Wales states that renewable and low carbon energy projects qualifying as DNSs will be permitted provided that the proposal does not have unacceptable impacts on the transport network through the transportation of components or source fuels during its construction and / or ongoing operation.

8.14.2 The construction of the Proposed Development will be in two principle phases – solar and BESS. The construction programme for the solar and associated infrastructure will be approximately 12-18 months and will consist of the following (but not limited to) principal activities:

- Site entrance creation, enabling works and security fencing / gates;
- Laying down and installation of temporary compounds and construction of access tracks;
- Delivery of solar PV, and associated equipment;
- Installation of foundations and piling / installation of mounting frames, solar panels and solar farm infrastructure;
- Cable trenching, ducting and backfilling, installation of inverters, transformers and substations;
- Laying of underground cable from the solar farm to the existing Legacy Substation;
- Commissioning of the solar farm and its grid connection, landscaping and ecological enhancement management regimes;
- Delivery of the BESS and associated infrastructure; and
- Demobilisation from the Site, including removal of the temporary construction compound.

8.14.3 Construction of the BESS will take approximately 6-9 months and will consist of the following principal activities:

- Delivery of the BESS and associated equipment;
- Installation of foundations for structures, cable trenching, ducting and backfilling;
- Installation of BESS containers and associated infrastructure; and
- Commissioning of the BESS and its grid connection.

8.14.4 The submitted OCTMP provides a framework for management of construction vehicles associated with the Proposed Development during the process summarised above. It is anticipated that a detailed CTMP will be produced once a Principal Contractor has been appointed. The OCTMP has been produced utilising best practice and guidance including the Transport for London (TfL), Construction Logistics Planning Guidance 2019 and includes the following sections:

- Context, considerations and challenges – providing an overview of the site, nature of development and parking, public transport and walking / cycling access
- Construction programme and methodology; providing information on the construction programme, stages and methods of construction
- Vehicle routeing and access – providing details on strategic and local vehicle routes for construction vehicle movements and site access / egress arrangements
- Strategies to reduce impacts – outlining the planned measures that will be used, and indicating how construction vehicles will be managed to / from and on-site
- Estimated vehicle movements – providing a construction vehicle trip generation profile for the duration of the construction programme
- Implementing, monitoring and updating – identifying how the implementation of the OCTMP will be monitored and managed

8.14.5 The Transport Statement (TS) sets out the proposed access arrangements, the anticipated construction programme and associated numbers and routing of deliveries. The TS considers the suitability of the highway network and impact from construction traffic and the site access arrangements. Additionally, a review of road safety has been undertaken and forms part of the TS.

8.14.6 The main vehicular access to the Site will be taken from the A525 Ruthin Road in which all construction traffic will utilise. If necessary, existing access(es) will be widened to create an adequate site access arrangement which is sufficiently wide enough to accommodate full size articulated HGVs. Vehicles will be able to utilise a dedicated construction compound turning area to enter and exit the site in forward gear, which will be located adjacent to the main

access(es). Following the unloading of materials in the construction compound, smaller vehicles will then follow the access route to transport the panels and other infrastructure around the site.

8.14.7 In conclusion, the Proposed Development can be accommodated on the adjacent highway network without any significant negative impact. The TS concludes that *"The Proposed Development is considered to be well placed to take advantage of the surrounding transport network, including good connections to the A525 and wider trunk road network. The vehicle trip generation associated with the Proposed Development will be limited, and as such, it is considered that the Proposed Development proposals can be accommodated without detriment to the highway network at both the construction and operational stages."*

8.14.8 As such, it is considered that the proposed development meets the objectives of Policy 18 of Future Wales, PPW and LDP policies SP2 and RE2.

8.15 Hydrology and Flood Risk

8.15.1 TAN 15 (updated in December 2021) and its accompanying Development Advice Map indicates that the Site is located entirely in Flood Zone 1 (from all sources of flooding, i.e., surface, fluvial, reservoirs or tidal) which is classified as a 'low risk' of flooding. In other words, TAN 15 and PPW sets out that Flood Zone A classifies land as having no constraints relating to flooding from rivers of the sea. Additionally, due to the nature of the Proposed Development, TAN 15 classifies the Proposed Development as a 'Less Vulnerable Development'.

8.15.2 Notwithstanding the above, a Flood Consequences Assessment and Conceptual Drainage Strategy has been prepared as part of the submitted ES (Chapter 8), which demonstrates that the Proposed Development does not result in an unacceptable risk of flooding over its operational lifetime, whilst taking climate change into account. The FCADS assesses the risk of flooding from all sources in accordance with TAN 15.

8.15.3 The FCA and Conceptual Drainage Strategy demonstrate that appropriate mitigation measures, a suitable drainage strategy / network, would be incorporated into the design to reduce the adverse impacts and attenuate any increase in surface water runoff. The FCA demonstrates that the Proposed Development meets the requirements of national policy TAN 15.

8.16 Minerals Safeguarding

8.16.1 Policy SP16 (Minerals Supply and Safeguarding) of the adopted plan seeks to manage minerals sustainably through directing development away from affected areas where possible and avoiding conflict between mineral working and sensitive development through the use of buffer zones. Policy MW1 states that non-mineral development within Mineral Safeguarding Areas (MAS) will only be permitted where it can be demonstrated that certain considerations apply.

8.16.2 Part of the Site is affected by a MSA for sand and gravel. Appendix 4.8 of the ES contains a Mineral Resource Assessment (MRA) which details the nature of the resource under the Site and comments on the impact of the proposed development upon its likely extraction. The MRA concludes that from the assessment of the environmental setting it is evident that the extraction of any safeguarded reserves would potentially impact on the local landscape, highways and sensitive land uses, requiring buffer zones to be factored into the consideration of potential extraction. Of the relatively small area remaining, the MRA has found that a significant overburden of Glacial Till is likely to exist calling into question the viability of extraction. Finally, the MRA concludes that the temporary nature of the Proposed Development is such that any exploitable mineral resource is not permanently sterilised.

8.16.3 On the basis of the above, therefore, it is considered that the Proposed Development is in accordance with Policy MW1 of the LDP on the basis that the mineral underlying the Site does not merit extraction (criterion i.), and/or the development is of a temporary nature and there is no known timescale within which any extraction could take place (criterion iv); and the overall temporary nature of the Proposed Development means that the resource will not be permanently sterilised.

8.16.4 As set out previously, a meeting was held with the North Wales Minerals and Waste Planning Service on 26 September 2023. Recommendations were set out by Minerals Officer, including the possibility of applying a ‘restoration’ condition to any future approval.

8.17 Compliance with Planning Policy

8.17.1 This policy assessment has considered the key planning issues associated with the Proposed Development. The principle of the Proposed Development is unequivocally supported by national and local planning policy and guidance.

8.17.2 Policy 17 of Future Wales provides strong support for the principle of developing renewable and low carbon energy and requires decision makers to give significant weight to the need to meet Wales’ international commitments, and the target to generate significant weight to the need to meet Wales’ international commitments, and the target to generate 70% of consumed electricity by renewable means by 2030 (being a higher percentage target being consulted upon).

8.17.3 Proposals for renewable and low carbon energy projects qualifying as DNS will be permitted subject to Policy 17 of Future Wales and the criteria set out in Policy 18 of Future Wales, which are summarised below.

Table 1 – Future Wales Policy 18 Compliance

Criterion	Summary
1. outside of the Pre-Assessed Areas for wind developments and everywhere for all other technologies, the proposal does not have an unacceptable adverse impact on the surrounding landscape (particularly on the setting of National Parks and Areas of Outstanding Natural Beauty)	The LVIA concludes that the Proposed Development will not result in unacceptable impacts on landscape and visual receptors at Year 1. These effects are localised, with the landscape and visual impact of the Proposed Development reducing rapidly with distance from the Site. The design of the Proposed Development has been guided by iterative landscape and visual mitigation by rationale developed in tandem with the appointed ecologist eventually the majority of the effects are anticipated to be neutral or beneficial in nature.
2. there are no unacceptable adverse visual impacts on nearby communities and individual dwellings	Overall, the visual impact on nearby sensitive receptors, including residential properties from the Proposed Development is not unacceptable.
3. there are no adverse effects on the integrity of Internationally designated sites (including National Site Network sites and Ramsar sites) and the features for which they have been designated (unless there are no alternative solutions, Imperative Reasons of Overriding Public Interest (IROPI) and appropriate compensatory measures have been secured)	The Proposed Development will not have an adverse effect on the integrity of internationally designated sites, as confirmed in submitted Shadow HRA.
4. there are no unacceptable adverse impacts on national statutory designated sites for nature conservation (and the features for which they have been designated), protected habitats and species	The Proposed Development will not have an adverse effect on the integrity of nationally designated sites, as confirmed in Shadow HRA.
5. the proposal includes biodiversity enhancement measures to provide a net benefit for biodiversity	The Proposed Development has the potential to employ enhancement measures to benefit habitats and protected species. This is fully set out in the Biodiversity chapter of the ES.
6. there are no unacceptable adverse impacts on statutorily protected built heritage assets	The Cultural Heritage Chapter of the ES assesses the Proposed Development's impact on the historic environment. With the proposed mitigation measures in place, a low level of harm is predicted in terms of heritage assets and archaeology. This low level of harm is, however, temporary and is considered to be outweighed by the considerable public benefits of the Proposed Development. There are no unacceptable

	adverse impacts on statutorily protected built heritage assets.
7. there are no unacceptable adverse impacts by way of shadow flicker, noise, reflected light, air quality or electromagnetic disturbance.	Due to the nature of the Proposed Development, there will be no unacceptable impacts in relation to shadow flicker, air quality or electromagnetic disturbance. The NIA demonstrates that the noise levels as a result from the proposed development will be low at the receptors and as such any impact will be low and therefore, considered not be significant. Further, the submitted Glint and Glare Report and Management Plan confirm there will be no adverse impacts in terms of reflected light from the solar panels or associated equipment.
8. there are no unacceptable impacts on the operations of defence facilities and operations (including aviation and radar) or the Mid Wales Low Flying Tactical Training Area (TTA-7T).	Given the nature and location of the development, no significant impacts upon aviation activity are predicted, and therefore, no further mitigation with respect to these receptors is recommended.
9. there are no unacceptable adverse impacts on the transport network through the transportation of components or source fuels during its construction and/or ongoing operation	The Transport Statement concludes that the local highways network operates safely and there are no highway safety concerns which are likely to be exacerbated by the Proposed Development and associated traffic that will be generated as a result. Access will exclusively be provided to construction traffic from the A525 as other routes (particularly along the southern boundary) are unsuitable for HGVs due to the restricted widths, many bends and the rural nature of the carriageway (in both directions). Solar farms do not generally generate large amounts of traffic even during the installation phase. The submitted Transport Statement sets out measures that could readily implemented through the implementation of a Construction Traffic Management Plan (submitted as part of this submission). Therefore, there will be no unacceptable impacts on the transport network as a result of the proposed development.
10. the proposal includes consideration of the materials needed or generated by the	The general principles of waste minimisation are to design proposals sustainably, to reduce the amount of

Proposed Development to ensure the sustainable use and management of resources	waste generated, conserve natural resources and re-use waste materials and recycle materials where possible. The Proposed Development has been through an iterative design process and as a result, incorporates suitable measures to minimise the generation of waste. It is also considered that once the photovoltaic panels have been removed from the site, these can be recycled for other development and uses. The proposed machinery and equipment that comprises the Proposed Development has been strategically chosen due its sustainability, and ability to be recycled following the decommissioning of the Proposed Development. Suitable mitigation measures during the construction, operational and decommissioning phases will be implemented to ensure that wastage of materials will be minimised. A final Construction Environmental Management Plan will be submitted post consent which will set out actions to meet the waste hierarchy, including details of the types and quantities of waste that will be produced by the Contractor as part of the construction phase.
11. there are acceptable provisions relating to the decommissioning of the Proposed Development at the end of its lifetime, including the removal of infrastructure and effective restoration	The Proposed Development is expected to have an operational lifetime of up to 40 years after the date on which electricity is first exported to the National Grid, with the site returned to its original state and use thereafter.
The cumulative impacts of existing and consented renewable energy schemes should also be considered.	Targets for delivery of renewable energy schemes are not currently being met. This scheme is therefore necessary and would not represent an unacceptable cumulative impact when viewed in the wider development context.

8.17.4 In light of the preceding planning assessment, it is considered that the Proposed Development complies with all criteria set out in Policies 17 and 18 of Future Wales, which provides the primary decision-making framework for renewable and low carbon technologies.

8.17.5 In addition to the criteria in Policy 18, the Proposed Development is also considered to accord with other policy considerations including PPW, and Wrexham's LDP.

8.17.6 The Proposed Development is therefore clearly acceptable in relation to the policy tests set by the Development Plan and should be approved accordingly.

8.18 Compliance with the Well-being of Future Generations (Wales) Act 2015

8.18.1 The Proposed Development would improve the economic, social, environmental and cultural well-being of Wales, in accordance with the sustainable development principle, under Section 3 of the Well–being of Future Generations (Wales) Act 2015, and is in accordance with the sustainable development principle through its contribution towards one or more of the Welsh Ministers' well-being objectives set out as required by Section 8 of the Well–being of Future Generations (Wales) Act 2015.

8.18.2 In addition to the benefits of energy generation and carbon savings associated with the Proposed Development, the Proposed Development will generate a range of wider benefits which include:

- Carbon savings of over 15,800 tonnes of CO_2 every year;
- Energy generation output capacity of up to 57MWac, which would generate the equivalent to the domestic electricity requirements of 22,700 homes based on annual average household consumption;
- Opportunity for local communities to invest in the project;
- Community Benefit Fund of £1,000 per MWac installed as a one-off payment upon commissioning of the solar farm;
- Local economic impact of jobs created or safeguarded during the installation phase and further maintenance jobs during the operational phase.
- Contribution to local services and infrastructure;
- Provision of education packs as an education resource on climate change and renewables that could be offered to local schools;
- Creation of new public amenity space with interpretation boards;
- Enhancement to biodiversity, including to habitats and species and the creation of dedicated wild spaces resulting in significant net gains; and
- New woodland planting, native hedgerow planting, wild flower and wetland meadow creation.

8.18.3 Section 5 of PPW explains ways in which places can contribute to each of the seven goals of the Well-being of Future Generations Act (page 74 of PPW, Edition 12) including:

- Achieved through…increased economic activity across all sectors and at all scales. This is realised through […] investment in renewable and low carbon energy sources…' (A Prosperous Wales);

- Supported by […] renewable energy generation. (A Resilient Wales);
- Achieved through the reduction in emissions and air pollution as a result of generating energy from non-carbon sources. Greater distribution of our economic wealth can also help alleviate poverty which is a key determinant of health. (A Healthier Wales);
- Achieved through promoting sufficient employment and enterprise opportunities for people to realise their potential and by recognising and building on the existing economic strengths of places to assist in delivering prosperity for all. (A More Equal Wales);
- Supported by the provision of jobs and economic activity…(A Wales of Vibrant Culture and Thriving Welsh Language); and
- Promoted by reducing our carbon footprint through […] the promotion of renewable energy over carbon emitting sources and resource choices through which multiple benefits can be realised. (A Globally Responsive Wales).

8.18.4 As such, through the benefits of the Proposed Development (including renewable energy generation, decarbonisation, economic impact, and job creation / safeguarding for the local workforce), the Proposed Development is considered to be in accordance with all seven of the wellbeing goals set out in the Well–being of Future Generations Act.

8.19 Summary of need

8.19.1 Future Wales: The National Plan 2040 is clear that decision makers must give significant weight to Wales' need to meet its international commitments, and its target of generating 70% of consumed electricity by renewable means by 2030 (with a revised target of 100% by 2035 currently being the subject of consultation). Future Wales is the latest expression of national planning policy and, therefore, due to the significant contribution that the Proposed Development will make to meeting Wales' renewable energy targets and net zero objectives, it is fully compliant with the principles of Policy 17 of Future Wales.

8.19.1 The Environment (Wales) Act 2016 requires Welsh Government to reduce emissions of greenhouse gases (GHGs) in Wales by 100% by 2050.

8.19.2 *Prosperity for All: A Low Carbon Wales* specifically seeks to reduce the use of fossil fuels for power generation and promote and accelerate the deployment of renewable energy generation. The plan also recognises that energy storage and flexibility services will need to be provided to integrate with new renewable energy development as part of a whole system approach.

8.19.3 As set out throughout this report, a raft of local, national and UK policies and guidance confirms the acute need for renewable energy provision throughout the union. This also means planning for storage capability to ensure steady supplies. PPW, the key Welsh policy framework, confirms in 5.7.12 that *"Energy storage has an important part to play in managing the transition to a low*

carbon economy. The growth in energy generation from renewable sources requires the management of the resultant intermittency in supply, and energy storage can help balance supply and demand. Proposals for new storage facilities should be supported wherever possible."

8.19.4 In summary, local, national and UK policy is aligned on the need for renewable energy (and ancillary infrastructure) delivery, and the Proposed Development will play a key role in achieving these goals.

9 Conclusion

9.1.1 Future Wales is clear that decision makers must give significant weight to Wales' need to meet its international commitments, and its target of generating 70% of consumed electricity by renewable means by 2030 (a revised target is currently being consulted upon (100% by 2035)). Future Wales is the latest expression of national planning policy. Due to the contribution that the Proposed Development will make to meeting Wales' renewable energy targets and net zero objectives, it is considered to be fully compliant with Policy 17 of Future Wales.

9.1.2 This Statement, alongside the wider application documentation, clearly sets out how the Proposed Development will also accord with Policy 18 of Future Wales through a consideration of each of the 11 criteria set out in the policy supported by a robust assessment of the likely environmental effects of the proposals. In each case, there is considered to be no conflict with the policy objectives of Future Wales.

9.1.3 The Proposed Development is also in accordance with section 5.9 of PPW and LDP policy RE2 relating to the location of renewable energy development within the County Borough. The principle of the Proposed Development is therefore acceptable.

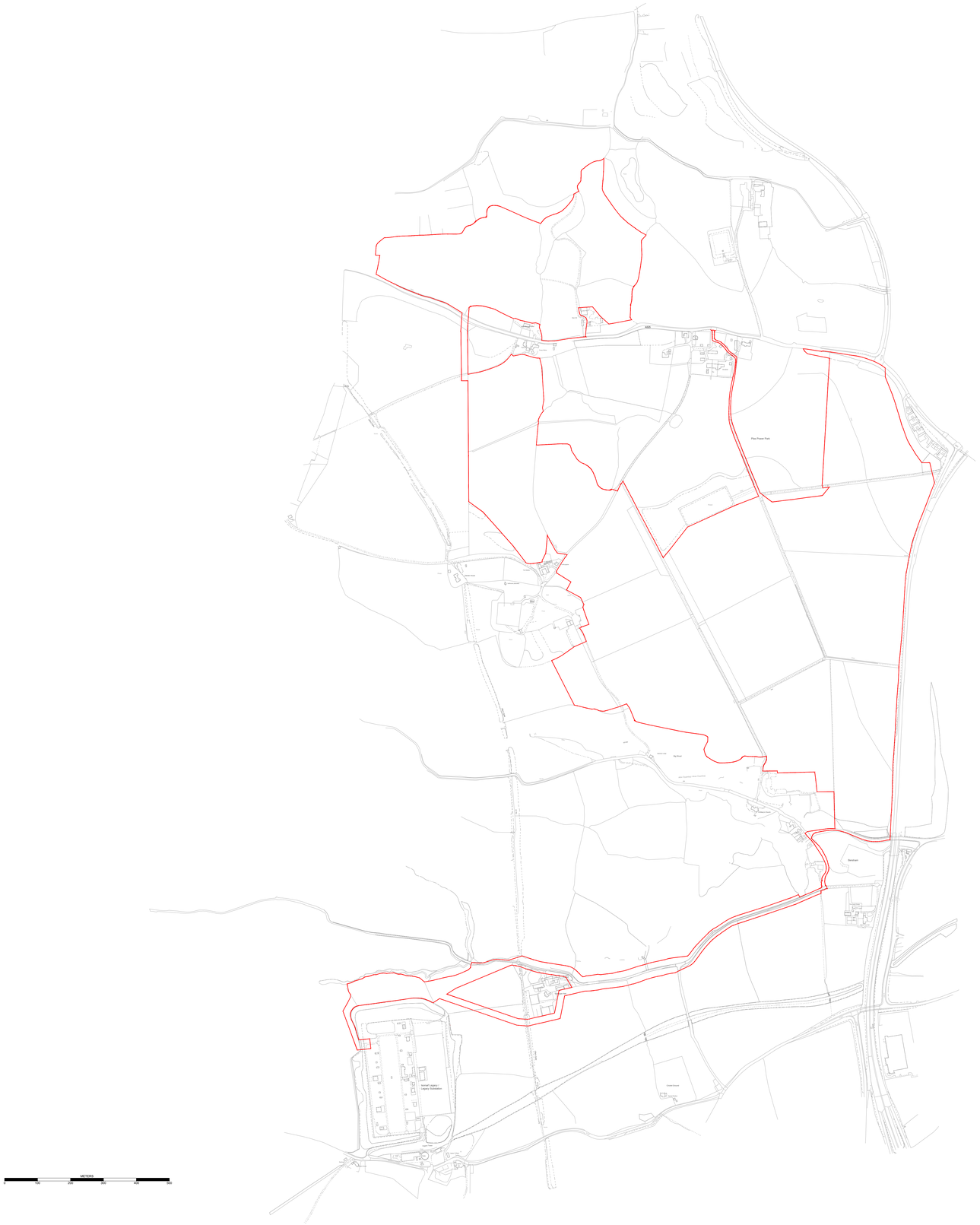
9.1.4 The Proposed Development will deliver an installed generation capacity of approximately 57MWac, a BESS and associated ancillary development. The Proposed Development is fully reversible at the end of its anticipated 40-year operational life. The proposals will deliver biodiversity net benefit across the Site and can continue to be grazed by livestock, and therefore agricultural use, during the operational life. Moreover, once the operational life of the Proposed Development comes to an end, the agricultural fields will be restored to their current condition. A summary of the significant benefits of the Proposed Development is as follows:

- Carbon savings of over 15,800 tonnes of CO_2 every year;
- Energy generation output capacity of up to 57MWac, which would generate the equivalent to the domestic electricity requirements of 22,700 homes based on annual average household consumption, making a significant contribution towards Wales' and the UK's targets for renewable energy generation;
- Opportunity for local communities to invest in the project;
- Community Benefit Fund of £1,000 per MWac installed as a one-off payment upon commissioning of the solar farm;
- Local economic impact of jobs created or safeguarded during the installation phase and further maintenance jobs during the operational phase.
- Contribution to local services and infrastructure;

- Provision of education packs as an education resource on climate change and renewables that could be offered to local schools;
- Creation of new public amenity space with interpretation boards;
- Enhancement to biodiversity, including to habitats and species and the creation of dedicated wild spaces resulting in significant net gains of circa 64% for habitats and 72% for hedgerows across the site; and
- New woodland planting, native hedgerow planting, wildflower and wetland meadow creation.

9.1.5 Overall, the proposals are suitable for the Site and its surroundings, consistent with Local and National Planning Policy and all relevant material planning considerations. It will deliver the objectives envisaged by the Applicant and as required by the Local Planning Authority and the Welsh Ministers. Accordingly, this DNS application should be approved.

Appendix A



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LEGEND

Application Site Boundary

Rev	Description	By	CB	Date

MAKING COMPLEX EASY

2 Callaghan Square, Cardiff, CF10 5AZ
T: 02920 668 662 E: rpsca@rpsgroup.com

Client Lightsource bp

Project Plas Power Solar and Energy Storage Project

Title Site Location Plan

Status	Drawn By	PM/Checked by
Planning	EA	AL
Job Ref	**Scale @ A0**	**Date Created**
JPW1473	1:5000	FEB 2024
RPS Drawing/Figure Number		**Rev**
JPW1473-DNS-007		A

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