

PLANNING STATEMENT: OAKLANDS SOLAR FARM AND BATTERY ENERGY STORAGE SYSTEM

LAND OFF FIVE MILE LANE | NEAR BONVILSTON | VALE OF GLAMORGAN



PREPARED BY



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APPENDIX SCHEDULE

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1. INTRODUCTION

1.1 FORWARD

- 1.1.1 Climate change is generally considered to be the greatest existential threat to the environment, our way of living and humanity in general. Addressing this huge challenge requires a sea change in how we live our lives in the future and the decisions we make.
- 1.1.2 In order to address this challenge, the UK Government have set a target to decarbonise the power grid and ensure all cars are zero emissions capable by 2035 thus moving away from fossil fuels and replacing this capacity with renewable energy.
- 1.1.3 In addition to this, recent months have brought into stark focus the need for the UK to improve its energy security to ensure both continuity of supply, reduced costs to the consumer and avoid future price spikes caused by geo-political events. In response to this additional challenge, the UK government has published The British Energy Security Strategy which commits to developing a low-cost net zero consistent electricity system, supported by large scale, long duration electricity storage.
- 1.1.4 This transition is predicted to result in an increase in electricity demand by 40%-60% all of which must be met from renewable energy sources.
- 1.1.5 Sirius Renewable Energy Limited is therefore seeking to develop a new solar farm and battery storage site, near Bonvilston, The Vale of Glamorgan, South Wales
- 1.1.6 The National Planning Policy Framework confirms that:
- “The planning system should support the transition to a low carbon future in a changing climate...”*
- Solar**
- 1.1.7 Solar farms are a simple and established technology providing a source of safe and clean energy which produce zero emissions when in operation. Solar development is temporary as the panels can be removed at the end of their lifetime, but also allows the agricultural use of the land to continue through grazing. Solar energy is not only sustainable, but also renewable meaning that we will never run out of it.
- 1.1.8 In 2020, Solar PV accounted for 28% of renewable electricity generation in the UK¹. In 2020 there was circa 1GW of installed capacity of solar energy in the UK, though some projects may have been deferred due to Covid-19 restrictions².
- 1.1.9 Solar farms are an effective and unobtrusive way of creating the electricity we all use – with the panels having a low visual impact on the local landscape and creating no noise, pollution, by-products or emissions. Additionally, solar farms result in minimal disturbance to the ground and can significantly enhance local biodiversity, for example through planting a species rich wildflower mixes in field margins, creating a more diverse habitat.
- 1.1.10 It is also noted that the non – intrusive nature of the proposal means that after the 40-year lifespan of the panels, they can be lifted and removed from the site and the land

¹ Digest of UK Energy Statistics (DUKES): renewable sources of energy
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/840014/Chapter_6.pdf

² Capacity of, and electricity generated from, renewable sources (DUKES 6.4)
<https://www.gov.uk/government/statistics/renewable-sources-of-energy-chapter-6-digest-of-united-kingdom-energy-statistics-dukes>

can continue to be used for agriculture.

Battery Energy Storage Systems

- 1.1.11 The National Grid experiences a large fluctuation of demand throughout the day and throughout different times of the year. During periods of high demand, the National Grid aim to increase supply to maintain a 20% supply margin which is essential in eliminating, as far as possible, the risk of power shortages and blackouts, when there is an unexpected change in demand, or a sudden loss of supply. Historically, conventional power stations could be operated with some certainty. However, as the UK moves towards a more environmentally sustainable energy supply system, with an increase in renewable energy sources, there is an increased risk of electricity supply fluctuations, depending on prevailing weather conditions, and therefore an increased need for facilities to store energy, in order to try and match the supply to the demand. Such storage facilities include Battery Energy Storage Systems (BESS).
- 1.1.12 BESS do not create carbon emissions or generate electricity but provide a balancing mechanism drawing electricity (charging) when levels of the network are above that of demand. When levels of electricity on the grid are below that of demand the electricity stored in the batteries can be fed back (discharged) onto the network to meet the demand so that there is no loss of power to end users. Smooth grid operation relies on the provision of rapid reactive power services either by generation or dedicated facilities to enable frequency stabilisation. BESS provides sub-second response times, so offer a reliable solution to a number of the Grid's balancing issues thus supporting the development and deployment of low carbon intermittent energy technologies upon which society must increasingly rely on to satisfy its energy requirements.
- 1.1.13 The Department for Business, Energy and Industrial Strategy stated in a press release in July 2020 that:
- “...flexible technologies like batteries will form part of the UK's smarter electricity grid, supporting the integration of more low-carbon power, heat and transport technologies...”*
- The key to capturing the full volume of renewables is in ensuring homes and businesses can still be powered by green energy when the sun is not shining, or the wind has stopped blowing³”.*
- 1.1.14 The National Grid note:
- “Battery storage technologies are essential to speeding up the replacement of fossil fuels with renewable energy. Battery storage systems will play an increasingly pivotal role between green energy supplies and responding to electricity supplies⁴”*
- 1.1.15 Sirius Renewable Energy Limited seeks to support the increase in renewable energy generation and its transition to a lower carbon energy supply system through developing a solar farm and BESS on land to the south of the village of Bonvilston.
- ## 1.2 PURPOSE OF THIS STATEMENT
- 1.2.1 This planning statement has been prepared by Sirius Planning on behalf of Sirius Renewable Energy (SRE) to support the planning application for the proposed

³ [Battery storage boost to power greener electricity grid - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/news/battery-storage-boost-to-power-greener-electricity-grid)

⁴ <https://www.nationalgrid.com/stories/energy-explained/what-is-battery-storage>

development of a ground mounted solar farm and Battery Energy Storage System (BESS) including associated, ancillary equipment (“the proposed development”).

1.3 PLANNING APPROACH

1.3.1 As the scheme comprises an electricity generating station with a potential generating capacity of between 10MW and 350MW, it falls within the definition of a ‘Development of National Significance’ (DNS) under section 4 of the Developments of National Significance (Specified Criteria and Prescribed Secondary Consents) (Wales) Regulations 2016⁵, for the purposes of section 62 (D) of the Town & Country Planning Act 1990 as amended by s19 of the Planning (Wales) Act 2015⁶ (“the Wales Act”).

1.3.2 The Act requires the applicant to carry out pre-application consultation before submitting the planning application to PINS. The purpose of the DNS process is to ensure timely decisions are made on those planning applications that are of the greatest significance to Wales because of their potential benefits and impacts. Future Wales: The National Plan 2040 (February 2021) is the development plan for DNS decision-making purposes.

1.4 OUTLINE DESCRIPTION OF THE SITE AND PROPOSAL

1.4.1 The proposed development encompasses three parcels of land (‘Development Areas’) which are located approximately 750m to the south of the village of Bonvilston and south west of St Nicholas. The development areas are located west and east of the A4226 (Five Mile Lane) and the application site extends to a total area of 127ha. The Application Site lies c. 12km to the west of Cardiff and is situated within the administrative area of The Vale of Glamorgan in South Wales.

1.4.2 Drawing No. **SRE1113/012/01** (Doc Ref 2.01) identifies the site location.

1.4.3 Oaklands solar farm will have an export capacity of circa 50MW of electricity, enough to power nearly 20,400 homes per year and offset approximately 20,200 tonnes of CO₂ every year, the equivalent of taking over 5,000 petrol / diesel cars off the road⁷.

1.4.4 The Battery Energy Storage System (BESS) will have a capacity to charge, store and export up to 50MVA of electricity to the local distribution network. The BESS will deliver significant environmental benefits, enabling technology for renewable generation, replacing the required for gas fired power generation and providing rapid response power to satisfy peak demand. In performing these roles, the development has the ability to reduce carbon dioxide emissions by over 20,600 metric tonnes annually whilst also providing electricity storage equivalent to supplying over 20,800 homes⁸.

1.5 THE APPLICANT

1.5.1 The applicant, Sirius Renewable Energy is developing an expanding portfolio of low carbon energy projects throughout the UK, including solar, wind and battery energy storage systems.

⁵ 2016 No. 53 (W.23)

⁶ 2015 anaw 4

⁷ Internal calculations using OFGEM Typical Domestic Consumption Values and BEIS Carbon Conversion Factors

⁸ Internal calculations using OFGEM Typical Domestic Consumption Values and BEIS Carbon Conversion Factors

1.6 PLANNING STATEMENT STRUCTURE

1.6.1 This Planning Statement has been organised into the following chapters:

- Introduction;
- The Site and Surroundings;
- The Proposed Development;
- Environmental Considerations;
- Planning Policy and Material Considerations; and
- Summary and Conclusions.

1.6.2 The following documents have been submitted in support of the planning application and should be read alongside this Planning Statement:

- Environmental Statement Volumes 1 – 3;
- Design and Access Statement;
- Non-Technical Summary;
- Outline Construction Traffic Management Statement;
- Glint and Glare Assessment;
- Soil Survey; and
- Battery Fire Safety Statement



2. THE SITE AND SURROUNDINGS

2.1 INTRODUCTION

2.1.1 This chapter provides a description of the site in terms of its location, history, and surrounding land uses. It also sets the development within the context of surrounding land uses.

2.2 LOCATION

2.2.1 The proposal is located c. 750m to the south of the village of Bonvilston and c. 950m to the south-west of the village of St Nicholas, within the administrative area of The Vale of Glamorgan. The proposal site is split into three Development Areas, two are located to the west of A4226 (Five Mile Lane) and one to the east. The site location and extent of site boundaries is presented on Drawing No. **SRE1113/02/01** (Doc Ref. 2.01) and below in **Figure 2.1**.

2.2.2 The majority of the site to the west of Five Mile Lane is allocated under Policy MG30 of the Vale of Glamorgan Local Development Plan as a "Local Search Area for Solar Energy"

Figure 2.1: Site Location



2.3 SITE AND SURROUNDINGS

2.3.1 Cumulatively the identified deployment areas cover approximately 127ha. The site and surrounding areas are rural in nature, characterised by farmland, rough scrubland and bounded by woodlands to the south of the site.

2.3.2 The three development areas as identified on Figure 2.1 above measure the following:

- Development Area 1 (Pancross) – 66ha
- Development Area 2 (Redlands) – 40ha
- Development Area 3 (Oaklands) – 21ha

2.3.3 The majority of the site comprises agricultural fields of varying size enclosed by large hedgerows or tree belts and assessed to be Grade 3b or lower in terms of Agricultural Land Quality. None of the land within the application area is classified as Best and Most Versatile (BMV) agricultural land.

- 2.3.4 Along the western boundary of the site, there is an unnamed lane. Several farms are located adjacent to the site boundaries to the north and to the south of the proposal site. To the east of the A4226, approximately 500m to the south of the site is a 6MWp solar farm that has been operational since 2018 (Planning Ref. 2014/00798/FUL).
- 2.3.5 The villages of Bonvilston and St Nicholas are the principal developed areas in proximity to the site. Bonvilston is approximately 850m north and St Nicholas, approximately 950m north-east of the parcel to the east of A4226 (Development Area 2 – Redlands Farm).

Figure 2.2 Photograph of the land to the east of A4226 and overhead powerlines



Figure 2.3 Photograph of grazing sheep within the area to the east of A4226



2.4 DESCRIPTION OF DEPLOYMENT AREA

- 2.4.1 The majority of the site to the west of Five Mile Lane is allocated under Policy MG30 of the Vale of Glamorgan Local Development Plan as a "Local Search Area for Solar Energy". The whole site is located within a Special Landscape Area and mineral safeguarding area. Approximately 19ha of the western extent of the proposal site lies within a Registered Historic Landscape.
- 2.4.2 Prior to undertaking detailed survey work, the intention was to deploy solar panels across the whole site area outlined in red. As baseline surveys and assessments were undertaken it became clear that it was necessary to not deploy in certain areas of the site.
- 2.4.3 The topographical survey work informed the landscape analysis and identified areas of the site where the land was too steep, or slopes considered adverse to allow for the deployment of solar panels.
- 2.4.4 The landscape and visual impact work which included initial Zone of Theoretical Visibility (ZTV) analysis followed by viewpoint photography advised against the deployment of solar panels to the north-west of Development Area 1 given the close proximity to a residential receptor.
- 2.4.5 Initial ecological survey work considered it necessary from an ecological perspective to create a buffer between the potential deployment area and the hedges so to allow for maintenance of the hedgerows.
- 2.4.6 A utilities search identified a high-pressure gas pipeline ran north to south within the western part of Development Area 2. Following discussions with the undertaker, Wales and West Utilities, the deployment of solar panels were therefore removed from the field in which the pipeline runs.
- 2.4.7 There is a 132kV overhead power line that run across the site, parallel to the northern

boundary in an east to west alignment with six existing electricity pylon towers located within the application boundary. In addition, there is a 33kV overhead power line running south-east to north-west and a 11kV overhead power line running north to south at the western end of Development Area 1. Buffers were created between the deployment area and the power lines where applicable.

- 2.4.8 Risk of flooding was not deemed to be a constraint as Natural Resource Wales Development Advice Maps indicates the site is located within Flood Zone A which has a low risk of flooding.
- 2.4.9 An Agricultural Land Classification (ALC) Report reviewed the quality of soils across the site. The site was considered to comprise a mixture of subgrade 3b and grade 4 quality. Therefore, this was not considered to be a constraint to development as the proposal does not involve the loss of Best and Most Versatile (BMV) land.
- 2.4.10 Below is a description of the retained development area considered for the Oaklands proposal.

2.5 RETAINED DEVELOPMENT AREA

- 2.5.1 The retained development areas comprise several agricultural fields bounded by hedgerows and interspersed with trees.
- 2.5.2 The Vale of Glamorgan Local Development Plan identifies the majority of the site to the west as being a 'Potential for Solar Energy Area'. The whole site is located within a Special Landscape Area and mineral safeguarding area. Approximately 19ha of the western extent of the proposal site lies within a Registered Historic Landscape.
- 2.5.3 The entirety of the site is located in Flood Zone A (lowest risk of flooding) where all types of development are deemed to be appropriate from a flood risk perspective.
- 2.5.4 Several farms are located adjacent to the site boundaries to the north and to the south or the proposal site. To the east of the A4226, approximately 500m to the south of the site is a 6MWp solar farm that has been operational since 2018 (Planning Ref. 2014/00798/FUL).
- 2.5.5 Adjacent to the southern boundary of the proposal site to the west of Five Mile Lane is Nant Whitton Woodlands which is a Site of Special Scientific Interest (SSSI) and Sites of Importance for Nature Conservation (SINC). A SINC is identified adjacent to the west and north-east of the proposal site.
- 2.5.6 The nearest Listed Building is the Grade II listed Ty Mawr (Great House) located approximately 850m to the north of the site and a Scheduled Ancient Monument (Ty'n-y-Coed Castle Ringwork) is adjacent to the site's northern boundary. The westmost area of the site lies within a historic landscape.
- 2.5.7 From the Vale of Glamorgan County Borough Council Definitive Map there are no public right of way within or along the boundaries of the site.

2.6 SITE ACCESS

- 2.6.1 The proposal site can be directly accessed via existing field gates off the A4226 splitting the site.

2.7 SITE HISTORY

- 2.7.1 Due to the nature of the proposal site as agricultural land, there is little planning history.

- 2.7.2 Planning history across the site includes the approved renewal of application number 86/00795/FUL (planning reference 1990/01237/FUL) 5 February 1991. The application refers to raising level of land to provide safer and more beneficial agricultural use. On 14 January 1992, approval was given for outline permission for a detached farmhouse (planning reference 1990/01264/OUT).



3. THE PROPOSED DEVELOPMENT

3.1 INTRODUCTION

3.1.1 The proposal relates to the construction, operation, maintenance and decommissioning of a ground mounted solar farm and Battery Energy Storage System (BESS) plus ancillary equipment comprising the following main elements:

- Photovoltaic (PV) panels to a maximum height of circa 3m;
- Mounting frames - matt finished small section metal structure;
- BESS compound; containing c. 20 battery storage units set in bays of two surrounded by 3m high concrete firewalls, associated infrastructure, car parking and surrounded by c. 4m high acoustic fence and c. 2.4m high palisade fencing.
- Scheme of landscaping and biodiversity enhancement;
- Inverters and transformers will be housed together in prefabricated containers Substations (DNO and Customer) and associated cabling (below ground);
- Point of connection;
- Stock fencing up to a height of circa 2m to secure the development areas;
- Infra-red CCTV (CCTV cameras would operate using motion sensors and would be positioned inward only to ensure privacy to neighbouring land and property);
- Temporary set down areas;
- Internal service roads; and
- Site access for the construction, operational and decommissioning phases.

3.1.2 Oaklands solar farm will have an export capacity of circa 50MW of electricity, enough to power approximately 20,400 homes per year and offset over 20,200 tonnes of CO₂ ever year, the equivalent of taking around 5,000 petrol / diesel cars off the road. The scheme will be operational for 40 years after which all equipment can be removed from site.

3.1.3 The Battery Energy Storage System (BESS) will have a capacity to charge, store and export up to 50MVA of electricity to the local distribution network. The BESS will deliver significant environmental benefits, enabling technology for renewable generation, replacing the required for gas fired power generation and providing rapid response power to satisfy peak demand. In performing these roles, the development has the ability to reduce carbon dioxide emissions by over 20,600 metric tonnes annually whilst also providing electricity storage equivalent to supplying over 20,800 homes.

3.1.4 The panels will be arranged in rows in an east-west alignment across the plots and orientated south. The scheme will be operational for 40 years after which the development will be decommissioned and all equipment will be removed from site.

3.2 SITE DESIGN AND LAYOUT

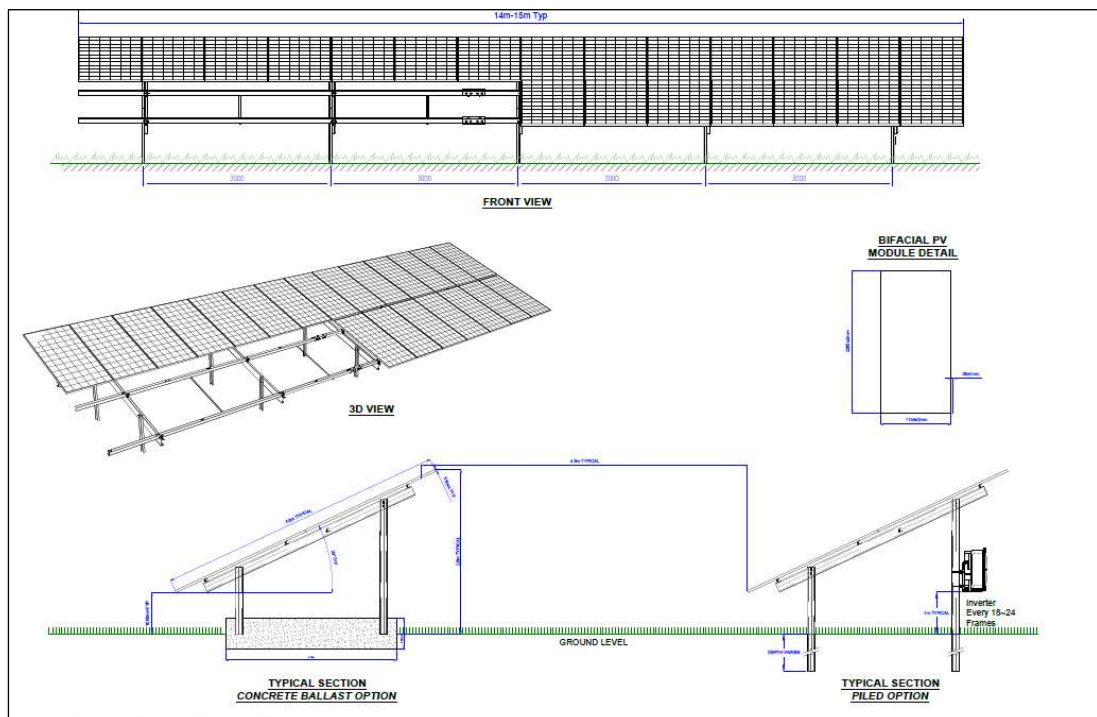
3.2.1 The proposed layout is shown on Drawing No. **SRE1113/02/03** (Doc Ref. 2.03). Due to commercial constraints, potential changes in solar panel, inverter, transformer and substation manufacturer during the determination process, an element of flexibility is

required in relation to their dimensions, appearance and arrangement. The submitted layout is therefore indicative as the detailed layout and phasing of construction will be agreed with the Local Planning Authority (LPA) by way of planning condition following grant of planning permission. This approach is commonplace in solar farm planning permissions.

Solar Farm Proposals

- 3.2.2 The panels will be arranged in rows in an east-west alignment across the deployment areas and will be angled between 10° and 30° to the horizontal and orientated with panels facing south. The height of the panels will be up to 3m above ground level; the lowest part of the panel will measure approximately 0.9m above ground level. The rows of panels will be set approximately 3.2m apart to avoid shadowing and allow for scheduled maintenance, this will be dependent on local topography.
- 3.2.3 During construction, operation and decommissioning a buffer zone where no development will take place will be established from the hedgerow, ponds and streams.
- 3.2.4 There will be two types of mounting frames used on site. The majority will be matt finished galvanised steel that will be fixed to the ground employing a pile mounting system, the piles will be pushed into the ground via a mobile piling rig. Where there is the potential presence of archaeological findings on some parts of the site, the panel frames will be mounted on ballast blocks to ensure stability of the panels and frames without the need for penetrating the ground. Drawing **SRE1113/02/05** (Doc Ref. 2.05) and **Figure 3.1** below provide a specification of the panel and frames.

Figure 3.1: Panel and Frames Specification



- 3.2.5 The solar panels will be connected to central inverter units. The inverters convert electricity from Direct Current (DC) to Alternative Current (AC). The inverters then feed the transformers which step up the voltage ready to export to the local distribution network via the substation buildings and connecting cables. Details of the proposed

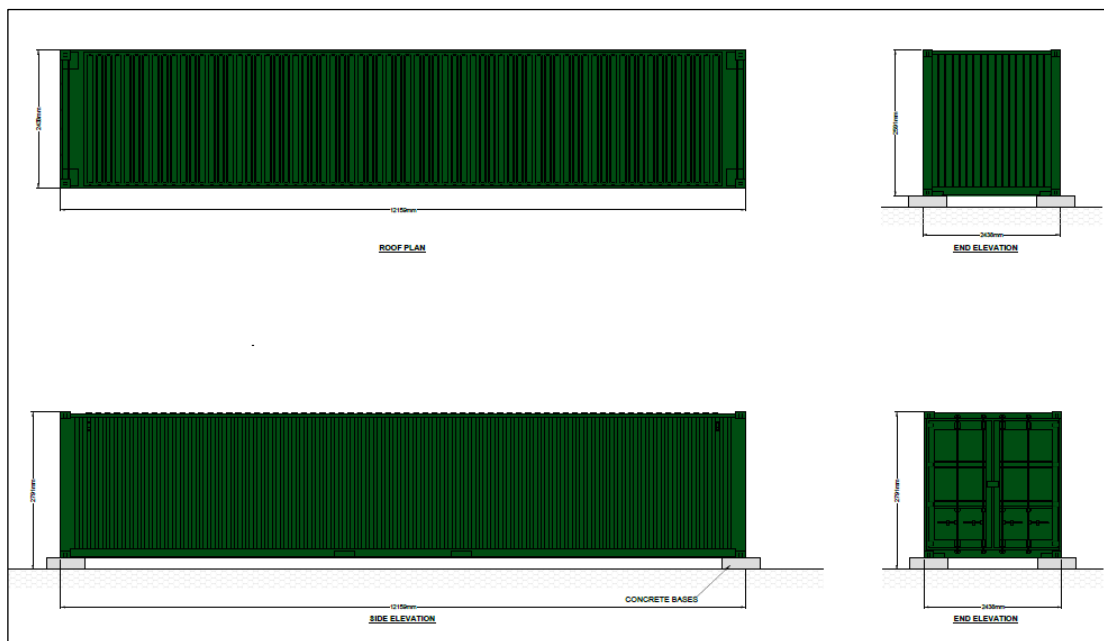
ancillary equipment within the site are provided on Drawing No's. **SRE1113/02/06 – 08** (Doc Ref. 2.06-08).

- 3.2.1 Cabling from the inverters to the substation for each deployment area will be below ground. An earth cable will be required around the perimeter of each deployment area. Trench depths will vary from 0.4m to 1.3m depending on whether they are for earthing or AC cabling.

Battery Energy Storage System (BESS)

- 3.2.2 National Grid owns and operates the national electricity transmission network. They are obliged to ensure that the electricity supply system runs within specified limits. Many factors change these operating conditions, but none more so than the balance between the electricity being demanded by customers connected to the national network and the electricity generators available to produce the electricity they require.
- 3.2.3 The proposed Battery Energy Storage System (BESS) will have a capacity to charge, store and export up to 50MVA of electricity to the local distribution network. The facility will provide balancing services to National Grid to ensure the future security of the country's electricity supply. The facility will provide power to the local distribution network in a short space of time when demand is greater than available supply.
- 3.2.4 The BESS compound is located within Development Area 1 (Pancross Farm), directly adjacent to the Point of Connection (POC) and near to the site access with Five Mile Lane. The BESS compound measures approximately 1ha and will be surfaced in gravel. The BESS will comprise of c. 20 battery container units with each battery container accommodating 2.5MW of capacity. The battery container units have a similar appearance to shipping containers and measure typically 18.6m in length (including the air cooling and heating units at either end), 2.44m wide and 3.1m in height. Drawing No. **SRE1113/02/11** (Doc Ref 2.11) and **Figure 3.2** below provide a specification for the battery container units.

Figure 3.2: Battery Container Unit Specification



- 3.2.5 The batteries will sit in bays of two surrounded by 3m high concrete firewalls.

- 3.2.6 The batteries will operate whenever called upon by the National Grid. But as electrical demand is greatest in the morning and early evening this is when the facility is most likely to be delivering power to the grid.
- 3.2.7 The BESS compound also comprises two switchgear cabins, two spare storage cabins and four containers, details of which are shown on Drawing No. **SRE1113/02/04** (Doc Ref. 2.04), along with 16 car parking spaces.
- 3.2.8 A c.4m high acoustic fence will surround the BESS compound, details of which are provided on Drawing No. **SRE1113/02/21** (Doc Ref. 2.21).

3.3 POINT OF CONNECTION AND CABLE ROUTE

- 3.3.1 The proposed point of connection is located at one of the six onsite pylons situated within Development Area 1 immediately north of the proposed BESS compound. A customer substation is to be located within the BESS compound and from here a cable will connect directly to the existing onsite pylon. Development Area 2 and Development Area 3 will be connected to the main customer substation at Development Area 1 by underground cabling which will be located within the adopted highway or within land where a lease agreement is in place with the landowner.
- 3.3.2 The indicative cable routes are presented in Drawing No's **SRE1113/02/14** (Doc Ref 2.14). The drawings show a 'corridor' within which the cable will be laid. The exact alignment of the route is to be confirmed at the detailed design stage via separate authorisation from the Local Highway Authority.

3.4 SITE SECURITY

- 3.4.1 Once operational, the solar farm deployment areas will be secured by a c. 2m high stock fence or similar. Infra-red (non-visible at night), inward facing pole mounted CCTV cameras (c. 2.5m – 3m in height) will also be provided at between 50m and 100m intervals along the boundary fence. These will enable remote surveillance of the site. Fencing and CCTV camera details are presented on Drawing No. **SRE1113/02/16** (Doc Ref. 2.16). The CCTV cameras will be positioned to avoid views of any private property.
- 3.4.2 The BESS compound will be secured by a 4m high acoustic fence as illustrated on Drawing No. **SRE1113/02/21** (Doc Ref. 2.21).

3.5 CONSTRUCTION PROGRAMME

- 3.5.1 The construction of the proposed development is expected to last approximately 6 months and employ up to 80 staff over the construction period. An outline Construction Traffic Method Statement (CTMS) accompanies the application at **Appendix 12.2** (Doc Ref. 4.01.12b). This outline CTMS provides details of proposed access arrangements, the anticipated build programme, construction vehicle numbers and type, construction worker numbers and the proposed construction hours. The outline CTMS will be subject to final approval by the LPA post-consent under the terms of an appropriately worded planning condition.

3.6 SITE ACCESS

- 3.6.1 Access to the Development Areas will be achieved from Five Mile Lane (A4226). The A4226 provides a link between the main A48 trunk route to the north and Barry to the south. One site access point is proposed off Five Mile Lane for each Development Area once operational providing a total of 3 access points. Only 2 access points will

be required during construction.

- 3.6.2 The A4226 is a single-track, two-way road and is subject to the National Speed Limit. The topography of the A4226 in both directions of the site access points is predominantly flat, whilst the alignment of the road has a slight bend towards the west, north of the site. A vehicle swept-path analysis showing a large articulated vehicle entering and existing the proposed site access points in a forward gear is presented in the outline CTMS at **Appendix 12.2** (Doc Ref. 4.01.12b).
- 3.6.3 To minimise the number of vehicle movements crossing the A4226 between plots, temporary set down areas will be provided both sides of the A4226. Drawing No. **SRE1113/02/24** (Doc Ref. 2.24) identifies the locations of the temporary set down areas.
- 3.6.4 Within the site, internal service roads will be constructed to access all areas of the site. The roads will be approximately 4m wide and will be finished with compacted crushed stone.
- 3.6.5 After commissioning and once operational, the site will only be visited during routine monthly maintenance checks. The access during the operational phase will be as per the construction routes.
- 3.6.6 The proposed development will have restricted public access. In designing the proposed development emphasis will be placed on security. The design ensures the site is secure and not readily accessible to the public through the installation of deer fencing and infra-red CCTV. Access to the site will be through invitation only.
- 3.6.7 Details of the proposed access arrangements during construction are presented in the outline CTMS (**Appendix 12.2**, Doc Ref. 4.01.12b)). Once operational, the proposal will generate minimal traffic flow from monthly inspections and maintenance. The CTMS will be subject to final approval by the LPA post-consent under the terms of an appropriately worded planning condition.

Car Parking

- 3.6.8 During construction of the development, it is expected that the site will provide sufficient available land for temporary parking, storage and lay-down for the construction phase. See drawing **SRE1113/02/24** (Doc Ref. 2.24) for details. Employees will access site via minibus that will be arranged by the contractor.
- 3.6.9 Once operational, the site will be manned remotely offsite. However, the site will be required to have monthly maintenance checks.

3.7 PUBLIC RIGHT OF WAY

- 3.7.1 There are no Public Rights of Way which run either through or adjacent to the site. The nearest Public Right of Way is located approximately 130m to the north-east of the site and runs in a north-east to south-west direction.

3.8 BIODIVERSITY ENHANCEMENTS AND LANDSCAPING

- 3.8.1 Biodiversity and landscape enhancements are at the forefront of the Oaklands solar and BESS proposals. In addition to land between and beneath the panels, there will be some areas of non-development land located within the application site that will be brought under formal management for the life of the scheme.
- 3.8.2 The Landscape and Visual Impact Assessment (LVIA) and Ecology and Nature

Conservation chapters (ES chapters 7 and 11 respectively) provide full details of the enhancement proposals, but in summary these include:

- Management of grassland within the solar deployment zones to create a diverse sward between and around the solar arrays, of tussock grassland;
- Management of grassland margins outside of the solar deployment zones for biodiversity, the grassland fringes (low maintenance perennial meadow mix) will provide enhanced habitat fringes and contribute to increasing biodiversity levels in the local area;
- Reinforce existing hedgerows to improve visual containment of solar deployment areas (gapping up and growth to a greater height) Where appropriate on the boundary adjoining receptors (residential, roads and footpaths) the hedge will be allowed to grow up to at least c.3m tall to help to screen visibility from publicly accessible areas to the solar farm;
- Improve landscape structure of Development Area 1 (Pancross Farm) with the reinstatement of some lost historic hedgerows to restore the historic field structure, for both landscape / visual and ecological benefits;
- Additional standard sized hedge trees to be planted along the new hedgerows within the western area of Development Area 1, the Llancarfen Historic Landscape Area at random spacings. The planting will increase local tree coverage, filter visibility from sensitive receptors and provide green links between existing woodland areas.

3.8.3 A Landscape Mitigation Plan is included as Drawing No. **SRE1113/02/18** (Doc Ref. 2.18).

3.9 SITE WASTE MANAGEMENT PLAN

3.9.1 A Construction Environmental Management Plan (CEMP) will be prepared prior to the development works commencing on site. A Site Waste Management Plan (SWMP) will be prepared as part of the CEMP. The SWMP will detail:

- Actions to meet the waste hierarchy;
- Identify the person with responsibility for the SWMP;
- Details of the types and quantities of waste that will be produced by the Contractor as part of the construction phase; and
- Details of all consignments made for example a WRAP waste recording and reporting spreadsheet.

3.10 SURFACE WATER MANAGEMENT

3.10.1 Although the solar panels will divert the downward path of falling rain, being raised off the ground on frames, they will not reduce the permeable area where they are sited. Rainfall that does fall onto the site will, as now, infiltrate into the soil substrate. Therefore, the surface water runoff from the developed site will be no different pre and post-development. There will be no increase in surface water run-off or exacerbation of off-site risk as a result of the proposals.

3.10.2 A separate application for Sustainable Drainage Approval Body (SAB) will be made.

3.11 DECOMMISSIONING

3.11.1 After 40 years of operation, the panels and associated infrastructure will be removed

from site. The outline CTMS presented in **Appendix 12.2** (Doc Red. 4.01.12b) details the programme and anticipated vehicle movements associated with this phase of the development.



4. POLICY CONTEXT

4.1 INTRODUCTION

4.1.1 This section presents the key policy, legislation and guidance relevant to the proposed development. Section 38(6) of the Planning and Compulsory Purchase Act 2004 states that:

“...if regard is to be had to the development plan for the purpose of any determination to be made under the Planning Acts the determination must be made in accordance with the plan unless material considerations indicate otherwise”.

4.1.2 The following section considers relevant national strategies, policy and guidance, and development plans as far as they are relevant to the proposed development. This relates to matters of energy and planning.

4.2 NATIONAL ENERGY CONTEXT

Climate Change Act

4.2.1 The Climate Change Act 2008 required long term targets for the UK to achieve an 80% reduction in greenhouse gases by 2050 against 1990 levels. In June 2019, the Climate Change Act 2008 (2050 target Amendment) Order came into effect which required the net UK carbon account for the year 2050 to be 100% of 1990 levels.

4.2.2 The UK Act requires governments to set legally binding 'carbon budgets'. Each budget provides a five-year cap on total greenhouse emissions; in order to meet the UK's emission reduction commitments caps should not be exceeded.

4.2.3 The first carbon budget (2008-12) and the second (2013-17) have been met and the UK is on track to outperform the third (2018-22). However, it is not on track to meet the fourth (2023-27) or the fifth (2028-32).

The Clean Growth Strategy: Leading the Way to a Low Carbon Future

4.2.4 The Clean Growth Strategy sets out a comprehensive set of policies and proposals that aim to accelerate the pace of clean growth. In order to meet the fourth and fifth carbon budgets (covering the periods of 2023-2027 and 2028-2032) the Government will need to drive a significant acceleration in the pace of decarbonisation and this Strategy sets out the policies that keep the UK on track to meet the carbon budgets.

COP26 and the Net Zero Strategy

4.2.5 The UK hosted the 26th United Nations Climate Change Conference of the Parties (COP26) in Glasgow on 31 October – 13 November 2021. The COP 26 summit brought together 120 world leaders and representatives from 194 countries to accelerate action towards the goals of the Paris Agreement and the UN Framework Convention on Climate Change. COP26 secured near-global Net Zero commitments from 153 countries. As stated during the recent COP26 event in Glasgow, *“We cannot afford to wait to act against the threat of climate change. We must work together to protect our planet and people and ensure a greener, more resilient future for us all”.*

4.2.6 In October 2021, the UK Government launched its Net Zero Strategy: Build Back Greener which will be submitted to the United Nations Framework Convention on Climate Change (UNFCCC) as the UK's second Long Term Low Greenhouse Gas Emission Development Strategy under the Paris Agreement and includes the target for decarbonising the UKs electricity grid by 2035. To deliver the strategy, overall electricity demand is expected to increase 40-60% by 2035, all met from low carbon

source.

4.2.7 The 'Net Zero Strategy'⁹ commits the UK to be powered entirely by clean electricity by 2035, which in addition to a significant increase in renewable energy generation capacity, will require the deployment of new flexibility measures including energy storage to help smooth out power supply and future price spikes.

4.2.8 The British Energy Security Strategy was published in April 2022, in response to rising global energy prices, provoked by surging demand following the Covid-19 pandemic as well as Russia's invasion of Ukraine. This strategy is designed to reduce the UK's reliance on expensive fossil fuels, which are subject to volatile gas prices set by international markets we are unable to control and boost its diverse sources of homegrown renewable energy to deliver greater energy security in the long-term. The strategy commits to a fivefold increase in solar deployment, with up to 70GW installed capacity by 2035. The paper sets out that by 2050, the Government ambition is to have a low-cost net zero consistent electricity system, most likely to be composed of predominantly wind and solar generation.

Environmental (Wales) Act 2016

4.2.9 The Act provides the necessary legislation to improve planning and management of natural resources in Wales. Part 2 of the Act relates to Climate Change and places an obligation on Welsh Ministers to reduce greenhouse gas emissions such that in the year 2050 they are at least 80% lower than baseline figures for 1990 or 1995, depending on the type of GHG.

Advice Report: Path to a Net Zero Wales

4.2.10 Required under the Environmental (Wales) Act 2016, the Report provides ministers with advice on Wales' climate targets between now and 2050 and assesses progress on reducing emissions to date. Prepared in December 2020 by the Climate Change Committee (an independent statutory body) the report states that meeting the Net Zero target in Wales requires action across four key areas; Reducing demand for carbon-intensive activities; Take-up of low-carbon solutions; Expansion of low-carbon energy supplies; Land; and Flexibility to meet Net Zero.

4.2.11 In April 2019, the Welsh Government Minister for the Environment, Energy and Rural Affairs, Lesley Griffiths AM declared a climate change emergency in Wales. The Welsh Government initially committed to a 95% reduction in emissions by 2050, but in February 2021 amended this to a legal commitment to achieve net zero emissions by 2050, with a stated ambition to "*get there sooner*". IACC declared a climate emergency in September 2020.

Prosperity for All: A Low Carbon Wales

4.2.12 The Environment (Wales) Act 2016 requires Welsh Government to reduce emissions of greenhouse gases (GHGs) in Wales by at least 80% for the year 2050 from 1990 levels with a system of interim emissions targets and carbon budgets. The Plan sets out how Wales aims to meet the first carbon budget (2016-2020) and consequently the 2020 interim target through 100 policies and proposals across Ministerial portfolios.

The Well-being of Future Generations (Wales) Act 2015

4.2.13 In addition to the policy provisions outlined above, under the Well-being of Future

⁹ <https://www.gov.uk/government/publications/net-zero-strategy>

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 need to demonstrate how they align with the seven well-being goals:

- A Prosperous Wales
- A Resilient Wales
- A More Equal Wales
- A Healthier Wales
- A Wales of Cohesive Communities
- A Wales of Vibrant Culture and Thriving Welsh Language
- A Globally Responsible Wales.

4.2.14 One of the well-being goals set in the Act is for a globally responsible 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.

4.3 NATIONAL PLANNING POLICY CONTEXT

Futures Wales: The National Plan 2040

4.3.1 Future Wales: The National Plan 2040 (adopted February 2021) sets the direction of development in Wales to 2040. Future Wales constitutes the development plan for Developments of National Significance (DNS) in line with s38(6) of the Planning and Compulsory Purchase Act 2004. It states:

“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”.

4.3.2 As set out in legislation (Planning & Compulsory Purchase Act 2004 as amended by the Planning (Wales) Act 2015), applications for DNS must be determined in accordance with Future Wales, which is the national development plan for Wales.

4.3.3 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.

4.3.4 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.”

4.3.5 Furthermore, Future Wales sets ambitious targets for the generation of renewable

energy including for 70% of electricity consumption to be generated from renewable energy by 2030.

4.3.6 The National Plan includes Policies 17 and 18 which are strategic spatial and detailed criteria-based policies respectively and should be considered together in the determination of applications.

4.3.7 Policy 17 demonstrates the Welsh Government's support in principle for all renewable energy projects and technologies. Proposals should ensure there is no significant unacceptable detrimental impact on the surrounding natural environment and local communities and that the development delivers positive social, environmental, cultural and economic benefits. Policy 17 - Renewable and Low Carbon Energy and Associated Infrastructure states:

"The Welsh Government strongly supports the principle of developing renewable and low carbon energy from all technologies and at all scales to meet our future energy needs. 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..."

Proposals should describe the net benefits the scheme will bring in terms of social, economic, environmental and cultural improvements to local communities..."

4.3.8 Policy 18 provides a decision-making framework for renewable and low carbon energy technologies. Policy 18 - Renewable and Low Carbon Energy Developments of National Significance states:

"Proposals for renewable and low carbon energy 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 or Overriding Public Interest (IROPI) 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 and 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;

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.

Planning Policy Wales Edition 11

4.3.9 The Welsh Government published Planning Policy Wales Edition 11 (PPW) in February 2021. This provides the overarching national level source of planning policy for Wales and is a material consideration alongside Futures Wales. It has been updated to take into account Futures Wales and the Wellbeing of Futures Generations Act which incorporates 7 wellbeing goals. It seeks to support the requirement for sustainable development via the planning system whereby the presumption in favour of sustainable development forms the overarching role together with a firm view on improving population wellbeing.

4.3.10 PPW sets out the specific planning policies for achieving sustainable development across Wales. Figure 4 sets out the key planning principles of this national policy, stating that:

"The planning system has a vital role to play in making development resilient to climate change, decarbonising society and developing a circular economy for the benefit of both the built and natural environments and to contribute to the achievement of well-being goals".

4.3.11 Chapter 5 (Providing and Enterprising Places) of the PPW sets out the Welsh Government's policies regarding Enterprising Placemaking and Wellbeing across Wales. One of the key aims in relation to energy is for Wales to generate 70% of its electricity consumption from renewable generation by 2030;

4.3.12 Chapter 5 of the PPW outlines the importance of the planning system to deliver these targets, paragraph 5.7.15 states:

"The planning system has an active role to help ensure the delivery of these targets, in terms of new renewable energy generating capacity and the promotion of energy efficiency measures in buildings."

4.3.13 Paragraph 5.9.19 states that:

"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.*

4.3.14 Paragraph 5.9.20 continues stating:

"Planning authorities should also identify and require suitable ways to avoid, mitigate or compensate adverse impacts of renewable and low carbon energy development. The construction, operation, decommissioning, remediation and aftercare of proposals should take into account:

- *The need to minimise impacts on local communities, such as from noise and air pollution, to safeguard quality of life for existing and future generations;*
- *The impact on the natural and historic environment;*
- *Cumulative impact;*
- *The capacity of, and effects on the transportation network;*
- *Grid connection issues where renewable (electricity) energy developments are proposed; and*
- *The impacts of climate change on the location, design, build and operation of renewable and low carbon energy development. In doing so, consider whether measures to adapt to climate change impacts give rise to additional impacts."*

4.3.15 Chapter 5 also outlines that before an application is submitted "...developments should, where possible, consider how to avoid, or otherwise minimise, adverse impacts through careful consideration of location, scale, design and other measures". Furthermore, active engagement with the local community should be undertaken at pre-application stage.

4.3.16 Paragraph 5.9.15 of Planning Policy Wales Edition 11 confirms that the need for renewable energy generation is not a material planning consideration. It states:

"...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."

4.4 LOCAL CONTEXT

4.4.1 The Vale of Glamorgan County Borough Council Local Development Plan (LDP) was adopted in June 2017 and provides the overarching strategic planning framework for the county area to 2026.

4.4.2 As Future Wales is the national, and highest, tier of development plan in Wales, Local Development Plans are required to be in accordance with it. S38(5) of the Planning & Compulsory Purchase Act confirms that:

"If to any extent a policy contained in a development plan for an area conflicts with another policy in the development plan, the conflict must be resolved in favour of the policy which is contained in the last document".

4.4.3 For this application, the last document is Future Wales.

4.4.4 The key policies relating to sustainable development and renewable energy at the local level are:

- Policy SP1 – Delivering the Strategy
- Policy SP10 – Built and Natural Environment
- Policy MG17 – Special Landscape Areas
- Policy MG22 – Development in Mineral Safeguarding Areas
- Policy MG30 – Local Search Areas for Solar Energy
- Policy MD1 – Location of New Development
- Policy MD2 – Design of New Development
- Policy MD7 – Environmental Protection
- Policy MD8 – Historic Environment
- Policy MD89 – Promoting Biodiversity
- Policy MD19 – Low Carbon and Renewable Energy Generation

4.4.5 Each of the above policies are detailed below.

4.4.6 **Policy SP1 – Delivering the Strategy** is the Council's strategic policy in relation to providing sustainable development. It states that:

"The strategy will seek to improve the living and working environment, promote enjoyment of the countryside and coast and manage important environmental assets. This will be achieved by: ...

6. Protecting and enhancing the built, natural and coastal environment;

8. Favouring development that promotes healthy living."

4.4.7 **Policy SP10 – Built and Natural Environment** is a strategic policy in relation to environmental assets and reinforces that sensitive design and choice of location of new development can have a positive effect. It states that:

"Development proposals must preserve and where appropriate enhance the rich and diverse built and natural environment and heritage of the Vale of Glamorgan including:

1. The architectural and / or historic qualities of buildings or conservation areas, including locally listed buildings;

2. Historic landscapes, parks and gardens;

3. Special landscape areas;

4. The Glamorgan Heritage Coast;

5. Sites designated for their local, national and European nature conservation importance; and

6. Important archaeological and geological features."

4.4.8 **Policy MG17 – Special Landscape Areas** is a specific policy to the protection of the designated Special Landscape Areas, which states that:

"The following areas are designated as special landscape areas:

1. Castle Upon Alun;
2. Upper & Lower Thaw Valley;
3. Ely Valley & ridge slopes;
- 4. Nant Llancarfan;**
5. Dyffryn basin & ridge slopes;
6. Cwrt-yr-Ala basin.

Within the special landscape areas identified above, development proposals will be permitted where it is demonstrated they would cause no unacceptable harm to the important landscape character of the area.”

4.4.9 **Policy MG22 – Development in Mineral Safeguarding Areas** is a specific policy safeguarding mineral areas, which it states:

“New development will only be permitted in an area of known mineral resource where it has first been demonstrated that:

... 3. The development would have no significant impact on the possible working of the resource by reason of its nature or size.”

4.4.10 **Policy MG30 – Local Search Areas for Solar Energy** is one of the most directly relevant policy to the proposed development. It states that:

“Local search areas for solar energy are shown on the Proposals map. In these areas proposals for solar energy generation schemes up to 50 mw will be permitted provided there are no unacceptable effects on amenity, heritage assets or the environment.”

4.4.11 **Policy MD1 – Location of New Development** is a strategic policy which sets out the framework for future development to take place on unallocated sites within the Vale of Glamorgan. It states that:

“New development on unallocated sites should:

1. *Have no unacceptable impact on the countryside;*
9. *Have no unacceptable impact on the best and most versatile agricultural land.”*

4.4.12 **Policy MD2 – Design of New Development** is the Council’s strategic policy in relation to the key principles that developers should consider in respect of design, amenity and access which together contribute to attractive, safe and accessible environments. It states that:

“In order to create high quality, healthy, sustainable and locally distinct places development proposals should:

1. *Be of a high standard of design that positively contributes to the context and character of the surrounding natural and built environment and protects existing features of townscape or landscape interest;*
 2. *Respond appropriately to the local context and character of neighbouring buildings and uses in terms of use, type, form, scale, mix, and density;*
- ... 8. Safeguard existing public and residential amenity, particularly with regard to privacy, overlooking, security, noise and disturbance;*

... 10. Incorporate sensitive landscaping, including the retention and enhancement where appropriate of existing landscape features and biodiversity interests;

... 12. Mitigate the causes of climate change by minimising carbon and other greenhouse gas emissions associated with their design, construction, use and eventual demolition, and include features that provide effective adaptation to, and resilience against, the current and predicted future effects of climate change.”

4.4.13 **Policy MD7 – Environmental Protection** is a strategic policy protecting people, residential amenity, property and / or the natural environment. It states that:

“Development proposals will be required to demonstrate they will not result in an unacceptable impact on people, residential amenity, property and / or the natural environment from either:

1. Pollution of land, surface water, ground water and the air;
2. Land contamination;
3. Hazardous substances;
4. Noise, vibration, odour nuisance and light pollution;
5. Flood risk and consequences;
6. Coastal erosion or land stability;
7. The loss of the best and most versatile agricultural land; or
8. Any other identified risk to public health and safety.

Where impacts are identified the Council will require applicants to demonstrate that appropriate measures can be taken to minimise the impact identified to an acceptable level. Planning conditions may be imposed or legal obligation entered into, to secure any necessary mitigation and monitoring processes.”

4.4.14 **Policy MD8 – Historic Environment** is a strategic policy protecting and enhancing the historic environment. It states that:

“Development proposals must protect the qualities of the built and historic environment of the Vale of Glamorgan, specifically:

1. Within conservation areas, development proposals must preserve or enhance the character or appearance of the area;
2. For listed and locally listed buildings, development proposals must preserve or enhance the building, its setting and any features of significance it possesses;
3. Within designated landscapes, historic parks and gardens, and battlefields, development proposals must respect the special historic character and quality of these areas, their settings or historic views or vistas;
4. For sites of archaeological interest, development proposals must preserve or enhance archaeological remains and where appropriate their settings.”

4.4.15 **Policy MD9 – Promoting Biodiversity** is a permissive, criteria-based policy which seeks to enable appropriate proposals in line with biodiversity conservation. It states

that:

“New development proposals will be required to conserve and where appropriate enhance biodiversity interests unless it can be demonstrated that:

- 1. The need for the development clearly outweighs the biodiversity value of the site; and*
- 2. The impacts of the development can be satisfactorily mitigated and acceptably managed through appropriate future management regimes.”*

4.4.16 **Policy MD19 – Low Carbon and Renewable Energy Generation** is the Council’s strategic policy in relation to renewable energy. It states that:

“Proposals for the generation of low carbon and renewable energy will be permitted where it can be demonstrated that there is no unacceptable impact on the interests of:

Best and most versatile agricultural land;

Aviation safeguarding;

Electrical, radio or other communication systems;

Landscape importance;

Natural and cultural heritage;

Nature conservation;

Residential amenity; and

Soil conservation.

In assessing such proposals, the cumulative impacts of renewable energy schemes will be an important consideration. Where necessary, proposals should be informed by a landscape and visual impact assessment.

Favourable consideration will be given to proposals that provide opportunities for renewable and low carbon energy and / or heat generation to be utilised within the local community.”



5. POLICY APPRAISAL

5.1 INTRODUCTION

5.1.1 This section provides an appraisal of the proposed development against the development plan and other material considerations, to determine if planning permission should be granted. The structure of the chapter is as follow:

- Principle of development;
- Landscape and visual;
- Hydrology and flood risk;
- Noise;
- Historic environment;
- Ecology
- Agricultural Land Classification
- Traffic and Transport
- Air Quality; and
- Glint and Glare

5.2 PRINCIPLE OF DEVELOPMENT

5.2.1 National and local planning policy is overwhelmingly supportive of renewable energy developments and therefore the 'in principle' acceptability of the proposed development is considered to be established.

5.2.2 Policy 17 of Futures Wales states "The Welsh Government strongly supports the principle of developing renewable and low carbon energy from all technologies and at all scales to meet our future energy needs". The proposal will make a significant contribution to meeting the target of "70% of consumed electricity by renewable means by 2030".

5.2.3 Policy 18 takes a positive approach to proposals for renewable energy development so long as it meets environmental criteria. Overall, potential environmental effects are limited to a small number of localised recreational visual receptors and local heritage features. However, it is considered the enhancements to local biodiversity (including a potential net gain of 173.02%) and the positive effects to the local economy far outweigh the limited adverse effects. The potential effects have been fully assessed and where appropriate mitigated as a result of an iterative design process for the development, and through careful consideration of environmental control, abatement techniques, and high-quality process and landscape design.

5.2.4 Planning Policy Wales 11 (PPW11) reinforces the support for renewable energy by stating "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". Paragraph 5.9.6 of PPW11 states that:

"Targets must not be seen as maximum limits, but rather used as a tool to maximise available resource. Planning applications should not be refused on the basis of exceeding a renewable energy target".

5.2.5 The renewable share of Wales' total electricity generation increased from 25% in 2018

to 27% in 2019¹⁰. The Energy Generation in Wales 2019 Report also estimates that 51% of electricity consumption comes from renewable sources. As mentioned above, Welsh Government have a target to increase this to 70% by 2030. Paragraph 5.9.15 of PPW11 confirms that the need for renewable energy generation is not a material planning consideration as such the proposal will 'optimise renewable and low carbon energy generation'.

- 5.2.6 There is clear policy support for new energy development within the Vale of Glamorgan, evidenced through the Council's declaration of a Climate Emergency in July 2019 with an aim to reduce the Council's carbon emissions to net zero by 2030.
- 5.2.7 The Vale of Glamorgan Local Development Plan allocates the majority of the development areas (DA1 and DA3) to the west of Five Mile Lane as a 'Search Area for Solar Energy' and as stated in Policy MG30, in these areas, solar proposals up to 50MW will be permitted provided there are no unacceptable effects.
- 5.2.8 Chapter 5 of the ES and the Design and Access Statement sets out how the proposal has evolved following detailed non-statutory consultation with the Local Planning Authority, local stakeholders and statutory consultees.
- 5.2.9 This application is accompanied by an Environmental Impact Assessment which demonstrates the significant benefits of the proposals and that the identified adverse impacts can be addressed through thoughtful design and mitigation and a careful approach to construction and the reversible nature of the proposal.
- 5.2.10 Renewable energy generation has an important role in achieving sustainable development. As part of de-carbonising the Welsh economy, the proposal will provide economic, social and environmental enhancements. Economic benefits will include the creation of temporary jobs, supporting supply chains during the construction phase and support the renewable energy as a key growth sector in The Vale of Glamorgan. 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.
- 5.2.11 Therefore, the proposal demonstrates that the requirements of Policy 17 and 18 of Future Wales, and policies SP1, MD1, MG30 and MD19 of the Local Development Plan would be satisfied and that the principle of development is supported.

5.3 LANDSCAPE AND VISUAL AMENITY

- 5.3.1 Chapter 7 of the ES presents the Landscape and Visual Impact Assessment (LVIA).
- 5.3.2 Policy 18 of Futures Wales states that "*proposals for renewable and low carbon energy 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"

¹⁰ <https://gov.wales/sites/default/files/publications/2021-01/energy-generation-in-wales-2019.pdf>

5.3.3 Chapter 6 of PPW is most relevant to landscape with paragraph 6.3.3 stating that:

Considering landscape at the outset of formulating strategies and policies in development plans and when proposing development is key to sustaining and enhancing their special qualities, and delivering the maximum well-being benefits for present and future generations as well as helping to deliver an effective and integrated approach to natural resource management over the long term. Collaboration and engagement with adjacent planning authorities, Natural Resources Wales (NRW), Cadw and the third sector will be necessary to draw on a wide range of expertise and evidence. This means:

- *Ensuring Wales contributes to meeting international responsibilities and obligations for landscapes*
- *Ensure statutory and non-statutory designated sites are properly protected and managed;*
- *Ensuring that the value of all landscapes for their distinctive character and special qualities is protected; and*
- *Ensuring the opportunities landscapes provide for tourism, outdoor recreation, local employment, renewable energy and physical and mental health and well-being are taken into account and multiple well-being benefits for people and communities secure.”*

5.3.4 Strategic Policy SP10 of the LDP states that “development proposals must preserve and where appropriate enhance the rich and diverse built and natural environment and heritage of the Vale of Glamorgan including: ...

2. Historic landscapes, parks and gardens;

3. Special landscape areas...”

5.3.5 Policy MG17 of the LDP relates to Special Landscape Areas. The whole site is located within the Nant Llancarfan Special Landscape Area.

5.3.6 Policy MG30 of the LDP relates to local search areas for solar energy and is one of the most directly relevant policy to the proposal. It states that:

“Local search areas for solar energy are shown on the Proposals map. In these areas proposals for solar energy generation schemes up to 50 mw will be permitted provided there are no unacceptable effects on amenity, heritage assets or the environment.”

Search Area 3 – Land West of Five Mile Lane

*This search area measures approximately 86 hectares and is located to the west of the A4226 (Five Mile Lane) and south of Bonvilston and lies in the open countryside. **The search area is located within the Nant Llancarfan Special Landscape Area where detailed development proposals will need to carefully consider the extent of landscape and visual impacts.** The identified solar energy resource in this area adjoins a number of other potential constraints that will need consideration in the preparation and assessment of detailed proposals. In addition, a Scheduled Ancient Monument (Ty’n-y-Coed castle ringwork) and boundary of the Llancarfan Landscape of Outstanding Historic Interest lay in close proximity to the north and south west of the search area respectively.*

5.3.7 Policy MD2 of the LDP relates to design and states that “in order to create high quality,

healthy, sustainable and locally distinct places development proposals should:

1. Be of a high standard of design that positively contributes to the context and character of the surrounding natural and built environment and protects existing features of townscape or landscape interest;

2. Respond appropriately to the local context and character of neighbouring buildings and uses in terms of use, type, form, scale, mix, and density;

... 8. Safeguard existing public and residential amenity, particularly with regard to privacy, overlooking, security, noise and disturbance;

... 10. Incorporate sensitive landscaping, including the retention and enhancement where appropriate of existing landscape features and biodiversity interests..."

5.3.8 Policy MD19 refers to low carbon and renewable energy generation which states that "Proposals for the generation of low carbon and renewable energy will be permitted where it can be demonstrated that there is no unacceptable impact on the interests of:

Landscape importance; ...

Residential amenity; and

Landscape Character

5.3.9 Whilst the development would have an impact on the characteristics of the Special Landscape Area, it was concluded that due to the limited vertical scale of the solar arrays and the rolling farmland landscape, with hedgerow field boundaries and woodland blocks to adjoining slopes and valleys, the effects on the SLA are concentrated to the site and its immediate setting and defined areas of intervisibility. It is considered that the landscape effects upon the setting of the SLA, as a result of the development would be Moderate at Year 1 reducing to Minor at Year 10 (following successful establishment of mitigation hedgerows and tree planting) which are 'Not Significant' Landscape effects.

5.3.10 As effects on historic features would be localised and likely to be of a lower level than that which could potentially occur and that the historic field systems outside of the site would not be adversely affected it is considered that the landscape effects upon the setting of Llancarfan Historic Landscape Area, as a result the development would be Minor (in landscape terms)– a 'Not Significant' Landscape effect.

5.3.11 A 'Moderate' significance of landscape effect is concluded overall, this is a 'Not Significant' effect. Although not significant effects are stated, adverse landscape effects are acknowledged and the moderate effects are still of a level to form an important consideration (although not in itself material) in the overall planning decision making process.

Visual Amenity

5.3.12 The main residential visual receptors within c.500m of the site have been assessed. The visual assessment established that no residential receptors would experience effects of a 'Significant' nature.

5.3.13 The viewpoint assessment considered an extensive range of publicly accessible locations to illustrate the greatest (and representative) levels of visibility to the 3 solar Development Areas within the study area. All locations were agreed in consultation with Vale of Glamorgan County Borough Council. In total 17 no. viewpoint locations have been assessed, the viewpoints considered close range views to the DAs and also the potential visibility of multiple DAs distributed within the study area.

5.3.14 A single viewpoint was considered to experience visual effects of a 'significant' nature (VP 5). The slightly elevated (in relation to the site) close range viewpoint is located in the field c.300m from the northern site boundary in the small-scale pastures between the sites and A48 road corridor (Bonvilston).

Summary Conclusion

5.3.15 The LVIA demonstrates that the proposed Development Areas of Oaklands Solar Farm could be successfully integrated into the local landscape of the Vale of Glamorgan (partially within an area identified as a 'Solar Area of Search') without causing significant and wide scale harm to the landscape character. No significant landscape effects are concluded upon the identified landscape receptors. The development allows for opportunities for enhanced mitigation, the reinstatement of lost historic field structure and management of the unused areas of the development site.

5.3.16 Whilst one 'significant' visual effect is noted, this is upon a near PROW and focussed to a particular location with the most open visibility. It should be noted that whilst an effect may be significant, that does not necessarily mean that such an impact would be unacceptable. Overall, the assessment has established that visual effects of the greatest magnitude (major/moderate) would be focussed upon a limited number of residential and recreational (PROW) receptors only, that are close to, or have views over, the site boundary. Outside of this near zone, visual effects reduce further, and continue to be of a 'Not Significant' level. It is expected that the extensive proposed planting mitigation and management of existing perimeter vegetation over time will further filter views to the 3 Development Areas and reduce the level of visual effects.

5.3.17 Therefore, the proposed development is considered to be compliant with national and local planning policy from a landscape perspective.

5.4 HYDROLOGY AND FLOOD RISK

5.4.1 Paragraph 5.9.20 of PPW outlines considerations to be taken into account for renewable and low carbon energy developments which includes the impact on the natural environment and impacts of climate change on the location of the development.

5.4.2 Policy MD7 of the Vale of Glamorgan County Borough Council Local Development Plan relates to environmental protection and states that

"Development proposals will be required to demonstrate they will not result in an unacceptable impact on people, residential amenity, property and / or the natural environment from either: ...

5. Flood risk and consequences..."

5.4.3 A Flood Consequence Assessment (FCA) has been carried out for the proposed development in accordance with guidance contained in Planning Policy Wales and TAN15. The FCA identifies and assesses the risks of all forms of flooding to and from the development and demonstrates how these flood risks will be managed so that the development remains safe throughout its lifetime taking climate change into account.

5.4.4 The FCA identifies that the site is not at risk of flooding from a major source (e.g. fluvial and/or tidal). The majority of the site is located within Zone A with a very small proportion of the site, to the west and east located within Zone B. It has been concluded that the site has not historically flooded.

5.4.5 The Flood Map for Planning (FMfP) shows that the site is located within Flood Zone 1 for rivers and sea flooding. The majority of the site is located within Flood Zone 1 for surface water and / or small watercourses however, a small proportion of the site is

located within Flood Zone 3 with more than a 1 in 100 (1%) change of flooding from surface water and / or small watercourses in a given year, including the effects of climate change. This is associated with small watercourses and it should be noted that the proposed built development will be located within Flood Zone 1. The floodwater is shown to be retained within the channel of the watercourses.

- 5.4.6 The proposed development is classified as 'less vulnerable', 'less vulnerable' uses are appropriate within Development Advice Map Zones A and B. There are no constraints relating to flooding from rivers of the sea, other than to avoid increasing risk elsewhere. The justification test is therefore not applicable.
- 5.4.7 The proposed development would not result in any net loss to flood storage capacity or impact on movement of flood water across the site.
- 5.4.8 The FCA concludes that the proposed development would be operated with minimal risk from flooding, would not increase flood risk elsewhere and is compliant with the requirements of TAN15.
- 5.4.9 In terms of surface water runoff, the proposals will not increase the impermeable area on the site, as the size of the inverter housing and PV modules are considered to be negligible in the context of the size of the site. Research into the impact of the solar farm panels on runoff rates and volumes indicates that the solar panels will not have a significant impact on runoff volumes, peak rates or time to peak rates when the ground below panels is vegetated. Therefore, the solar panels themselves will not have a significant impact on the runoff volumes, peaks or time to peak.
- 5.4.10 The hydrology chapter of the ES (chapter 10) concludes that there should be no perceivable changes to the upstream or downstream hydrology and to flood risk as a result of the proposals. The potential impacts associated with the construction/decommissioning and operational phases of the development on identified hydrological receptors can be adequately controlled by proposed mitigation resulting in only negligible impacts.
- 5.4.11 Therefore, the proposed development is considered to be compliant with national and local planning policy from a hydrology and flood risk perspective.

5.5 NOISE & VIBRATION

- 5.5.1 Four noise sensitive locations were identified within the vicinity of the development area, including residential properties. Noise surveys were simultaneously carried out at these locations to understand the local noise climate. These background levels were then compared with likely sound levels generated during the construction, operational and decommissioning phases of the proposal.
- 5.5.2 During the construction and decommissioning phases, there would be a variety of noise sources from various activities at different times such as deliveries, trenching or constructing the arrays and associated equipment. The highest noise levels relative to nearest receptors are likely to occur during the site preparation and infrastructure activities. However, the proposed mitigation will ensure noise levels are kept to acceptable levels. Such measures include:
- Restricting activity to current permitted hours during the daytime;
 - Regular maintenance of plant;

- Where required, use of local screening where plant is being used in close proximity to sensitive receptor boundaries or around plant (e.g. within 50m of sensitive boundary) using temporary hoarding.
- 5.5.3 During the operational phase noise levels will be low at identified receptor locations. This is due to the relatively quiet nature of the operational equipment. In addition, an acoustic screen will surround the battery compound on all four sides to a height of 4m minimising impacts.
- 5.5.4 Due to the nature of the construction techniques and the distance to sensitive receptors, the potential for vibration effects are considered unlikely.
- 5.5.5 Policy 18 of Futures Wales: The National Plan 2040 states that:
- “Proposals for renewable and low carbon energy projects (including repowering) qualifying as Developments of National Significance will be permitted subject to...*
- 7. there are no unacceptable adverse impacts by way of...noise..”.*
- 5.5.6 Paragraph 5.9.20 of PPW11 states that:
- “Planning authorities should also identify and require suitable ways to avoid, mitigate or compensate adverse impacts of renewable and low carbon energy development. The construction, operation, decommissioning, remediation and aftercare of proposals should take into account:*
- The need to minimise impacts on local communities, such as form noise and air pollution, to safeguard quality of life for existing and future generations”.*
- 5.5.7 Policy MD7 of the LDP relates to environmental protection and states that “development proposals will be required to demonstrate that they will not result in an unacceptable impact on people, residential amenity, property and / or the natural environment from either: ... noise, vibration...”. In addition, policy MD19 of the LDP relates to low carbon and renewable energy generation and states that “proposals for the generation of low carbon and renewable energy will be permitted where it can be demonstrated that there is no unacceptable impact on the interests of; ... residential amenity...”.
- 5.5.8 Solar farms and BESS are inherently quiet operations, with only the air-cooling systems associated with the inverters, substations and battery units and the general operation of the transformers generating sound power levels. The noise assessments undertaken for the project are reported in the ES Volume 1.
- 5.5.9 Chapter 8 of the ES demonstrates that there will be no significant impacts due to noise on any sensitive receptors in the construction or operational phases. The project is therefore considered to satisfy the requirements for noise protection afforded by Policy 18 of Futures Wales, PPW11 and policies MD7 and MD19 of the LDP.

5.6 HISTORIC ENVIRONMENT

- 5.6.1 Following the Desk-Based Assessment (**Appendix 9.1**) and the guidance provided in the EIA Scoping Direction for the proposed development archaeological evaluation was conducted within the Development Areas to help determine the level of subsurface archaeology present. The archaeological evaluation was a two staged process that

comprised a geophysical survey (**Appendix 9.2**) undertaken in 2021. Subsequent to the conclusion of the survey 52 trial trenches were excavated in early 2022 to investigate a cropmark enclosure on the geophysical survey, results of which can be found in **Appendix 9.3**. During the initial investigations, a number of archaeological features were exposed including further evidence of the cropmark enclosure GGAT03998s; NPRN 309275 as well as a Bronze Age cremation urn within a burial pit.

- 5.6.2 The DBA identified 136 previously recorded sites of archaeological interest including eight Scheduled Monuments and ten Listed Buildings within 1km of the development. The assessment determined that 14 of these sites are located within the proposed development area.
- 5.6.3 The proposed site is not located within any Conservation Area or Registered Park and Garden. The Registered Historic Landscape of Llancarfan (HLW (SG) 1) is partially located within the western extent of Area 1 of the proposed development site. This landscape is separated into twelve Historic Landscape Characterisation Areas (HLCAs), and the site is located within HLCA 010 Bonvilston Amalgamated Fieldscape. The Registered Historic Landscape of Llancarfan (HLW (SG) 1) will be directly and indirectly affected by the proposed development.
- 5.6.4 There are potential direct and indirect impacts on the Registered Historic Landscape of Llancarfan which is assessed as having a High value, the significance of the impact, following an ASIDOHL Study (**Appendix 9.4**) is considered to be Slight for HLCA 009 and HLCA 012, Moderate for HLCA 008 and HLCA 011, and the impact on HLCA 010 is Large. This, however, can be moderated with the appropriate mitigation.
- 5.6.5 There is very limited intervisibility between the listed buildings situated within the conservation areas: Bonvilston, Llancarfan, Llantrithyd, Peterston-Super-Ely, St Nicholas, and Drope, and the proposed development site.
- 5.6.6 No Scheduled Monument (SM) will be directly affected by the proposed development. Three SMs will be indirectly (visually) affected by the proposed development due to the distance the monuments are situated. Visual impact is likely in relation to the two Scheduled Monuments: Castle Ringwork (GM613), approximately 42m north-east of Development Area 1's northern boundary and similarly, Coed y Cwm Ringwork (GM117) approximately 10m from the northern boundary of Development Area 2 within Landscape of Llancarfan (HLW (SG) 1) however with appropriate mitigation this should be Slight.
- 5.6.7 The field evaluation targeted the cropmark enclosure which produced evidence of Roman date for the feature. This feature is of Medium archaeological value, and development on this site may have a Moderate direct impact upon it. The magnitude of the impact will be similar during all phases of construction, use and decommission. The proposed development will not produce any impact after the decommission of the solar farm.
- 5.6.8 There is potential that further evidence could be revealed as a result of groundworks in the undisturbed areas of the proposed development site including, but not limited to, sites associated with the cremation burial pit which was revealed during the evaluation works. The impact is currently Unknown, which means significance cannot be assigned

at this time.

- 5.6.9 The mitigation required for the proposed development involves the exclusion of vegetation, field patterns, boundaries, and treeline areas from development in order to protect the character of the Registered Historic Landscape of Llanarf (HLW (SG) 1) and other designated assets. Much of the proposed mitigation has been implemented at the design stage.
- 5.6.10 To mitigate the effect of the development on the buried archaeological resource an agreed programme of Strip, Map and Excavate would be carried out in advance of the groundworks and piling. Areas of open trenching and stripping for the substation compound would be monitored by an archaeological watching brief. It should be noted that where there is the potential presence of archaeological findings on some parts of the site, the panel frames will be mounted on ballast blocks to ensure stability of the panels and frames without the need for penetrating the ground.
- 5.6.11 Policy 18 of Futures Wales 2040 states that “Proposals for renewable and low carbon energy projects (including repowering) qualifying as Developments of National Significance will be permitted subject to...

“6. There are no unacceptable adverse impacts on statutorily protected built heritage assets;”

- 5.6.12 Paragraph 5.9.20 of PPW11 states:

“Planning authorities should also identify and require suitable ways to avoid, mitigate or compensate adverse impacts of renewable and low carbon energy development. The construction, operation, decommissioning, remediation and aftercare of proposals should take into account:

The impact on the natural and historic environment;”

- 5.6.13 Strategic Policy SP10 of the Local Development Plan relates to the Built and Natural Environment and states that “Development proposals must preserve and where appropriate enhance the rich and diverse built and natural environment and heritage of the Vale of Glamorgan including:

1. The architectural and / or historic qualities of buildings or conservation areas, including locally listed buildings;

2. Historic landscapes, parks and gardens; ...

6. Important archaeological and geological features.”

- 5.6.14 Policy MD8: Historic Environment of the Local Development Plan states that:

“Development proposals must protect the qualities of the built and historic environment of the Vale of Glamorgan, specifically:

1. Within conservation areas, development proposals must preserve or enhance the character or appearance of the area;

2. For listed and locally listed buildings, development proposals must preserve or enhance the building, its setting and any features of significance it possesses;

3. Within designated landscapes, historic parks and gardens, and battlefields, development proposals must respect the special historic

character and quality of these areas, their settings or historic views or vistas;

4. For sites of archaeological interest, development proposals must preserve or enhance archaeological remains and where appropriate their settings.”

- 5.6.15 In addition, Policy MD19 of the LDP relates to Low Carbon and Renewable Energy Generation and states that proposals will be permitted where it can be demonstrated that there is no unacceptable impact on the interests of natural and cultural heritage.
- 5.6.16 The ES chapter (Chapter 9) concludes that the majority of the potential effects of the development are Slight or Moderate in significance which can be reduced with appropriate mitigation. The only impact with a significance effect is that on the Registered Historic Landscape of Llancarfan (HLW (SG 1)). The results of the ASIDOHL Study concluded a Significant Impact on HLCA 010 and a potentially Significant visual impact on HLCA 011 due to the temporary disturbance of historic land-use and setting of the Landscape, however, should be minimal and temporary in nature and it should be taken into account the reversibility of certain impacts of the development.

5.7 ECOLOGY

- 5.7.1 There are no statutory or non-statutory designated sites for wildlife on the site.
- 5.7.2 There are six statutory designated sites for wildlife within 2km of the site, the nearest being Nant Whitton Woodlands Site of Special Scientific Interest (SSSI) which is considered to be of national importance. The SSSI comprises 22.2 hectares of a narrow strip of sloped woodland primarily comprising Ash and Oak trees. Works are not anticipated to affect this woodland either directly or indirectly and the magnitude of effect is therefore not applicable.
- 5.7.3 There are twenty-six non-statutory designated sites, the nearest located 20m south west of the site. This is referred to as 'land along Nant Llancarfan Site of Importance for Nature Conservation (SINC)'. Whilst there are SINC sites located immediately adjacent to the site boundary of the scheme they are all designated for the presence of woodland and semi-improved grassland habitats which will not be affected by the installation of the solar panels either directly or indirectly. The magnitude of effect on these non-statutory designated sites is therefore not applicable.
- 5.7.4 The following surveys have been carried out at the site:
- Phase 1 Habitat Survey and further botanical surveys;
 - Badger Survey;
 - Bat Surveys;
 - Great Crested Newt Surveys;
 - Breeding Bird Surveys; and
 - Wintering Bird Surveys.
- 5.7.5 The site is formed by three farms, Oaklands, Pancross and Redlands, each with differing management practices which has influenced the habitat types found
- 5.7.6 F10 and F11 at Pancross were assessed as being semi-improved grassland on account of species richness and that they showed signs of being less intensively

managed in recent years. This habitat is not a Priority Habitat, however, species-rich examples with a significant number of lowland grassland indicator species can be considered candidates for designation in Wales as an SINIC.

5.7.7 All of the existing areas of woodland, scrub, hedgerows, trees, ponds and watercourses within the site boundary will be retained throughout the construction, operational and decommissioning stages of the scheme. There are anticipated to be no impacts either directly or indirectly on these habitats and therefore the magnitude of effect is negligible.

5.7.8 Policy 18 of Future Wales 2040 states that "Proposals for renewable and low carbon energy projects (including repowering) qualifying as Development of National Significance will be permitted subject to:

"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 for Overriding Public Interest (IROPI) and appropriate compensatory measures have been secured);

4. there are no unacceptable adverse impacts on nationally statutory designated sites for nature conservation (and the features for which they have been designated), protected habitats and species..."

5.7.9 Paragraph 5.9.20 of PPW11 states:

"Planning authorities should also identify and require suitable ways to avoid, mitigate or compensate adverse impacts of renewable and low carbon energy development. The construction, operation, decommissioning, remediation and aftercare of proposals should take into account:

The impact on the natural and historic environment;"

5.7.10 Strategic Policy SP10 of the Local Development Plan relates to the Built and Natural Environment and states that "Development proposals must preserve and where appropriate enhance the rich and diverse built and natural environment and heritage of the Vale of Glamorgan including:

5. Sites designated for their local, national and European nature conservation importance; and..."

5.7.11 Policy MD9: Promoting Biodiversity of the Local Development Plan states:

"New development proposals will be required to conserve and where appropriate enhance biodiversity interests unless it can be demonstrated that:

1. The need for the development clearly outweighs the biodiversity value of the site; and

2. The impacts of the development can be satisfactorily mitigated and acceptably managed through appropriate future management regimes."

5.7.12 In addition, Policy MD19 of the LDP relates to Low Carbon and Renewable Energy Generation and states that proposals will be permitted where it can be demonstrated that there is no unacceptable impact on the interests of nature conservation.

5.7.13 No specific mitigation has been proposed for the scheme. It is considered that the

scheme will have minimal impacts on the ecological features identified within the Zol in the absence of mitigation measures and therefore specifically designed measures are not required to be implemented.

- 5.7.14 Some of the existing areas of arable land, improved grassland, semi-improved neutral grassland, poor semi-improved neutral grassland and marshy grassland will be lost as a result of the installation of solar panels within the fields. These habitats are all of local or sub-local importance in terms of their ecological value. It is considered that there will be sufficient areas of these grassland habitats remaining in the buffer zones and between the panels within the fields that the underlying character of the baseline condition will not be significantly altered. In addition, enhancement measures to improve the grassland habitat in the buffer zones and sympathetically manage the retained grassland around the site are proposed and expected to improve the habitat value of the grassland.
- 5.7.15 A Biodiversity Net Gain Assessment has been undertaken (**Appendix 11.2**) which concludes a potential net gain of 173.02% to be secured through a detailed Landscape Environmental Management Plan (LEMP) proposed to be dealt with by a suitably worded planning condition. In addition, additional hedgerow units of 14.81% will be delivered through 'gapping up' planting of existing hedgerows and the planting of new species rich native hedgerow and trees.
- 5.7.16 As such, it is considered that the proposed development meets the objectives of Futures Wales, PPW11 and policies SP10, MD9 and MD19 of the LDP.

5.8 AGRICULTURAL LAND CLASSIFICATION

- 5.8.1 Development Areas 1 (Pancross) and 2 (Redlands) were subject to a Welsh Government Agricultural Land Survey (ref. 021-90) in 1990 in which a mixture of subgrade 3b and 4 land quality was found.
- 5.8.2 An Agricultural Land Classification (ALC) Survey has been undertaken across Development Area 3 (Oaklands) in support of this application. The assessment along with the Welsh Government 1990 survey is presented in **Appendix 6.1** (report reference 1886/1) to this ES.
- 5.8.3 Paragraph 3.58 of PPW11 states that “Agricultural land of grades 1, 2 and 3a of the Agricultural Land Classification system (ALC)¹⁶ is the best and most versatile, and should be conserved as a finite resource for the future”. Paragraph 3.59 continues to state that “...If land in grades 1, 2 and 3a does need to be developed, and there is a choice between sites of different grades, development should be directed to land of lowest grade”. Policy MD1 of the LDP refers to location of new development and states that “new development on unallocated sites should: ... have no unacceptable impact on the best and most versatile agricultural land”. In addition, policy MD19 of the LDP relates to low carbon and renewable energy generation and states that “proposals for the generation of low carbon and renewable energy will be permitted where it can be demonstrated that there is no unacceptable impact on the interests of; best and most versatile agricultural land...”.
- 5.8.4 The ALC Survey concludes that ALC grades 3b and 4 occur across approximately 124ha of the Development Areas due to wetness constraints with ‘other land’, including farm tracks, blocks of woodland and water bodies, accounting for approximately 2.1ha.

- 5.8.5 The assessment has determined that the Development Areas do not contain 'Best and Most Versatile' (BMV) agricultural land. In addition, given the temporary nature of the development, there will be little impact on land quality as the fields can be returned to agricultural use on removal of the solar farm and BESS. The proposed development does not therefore result in a detrimental impact on land quality or the supply of 'Best and Most Versatile' land.
- 5.8.6 As such, it is considered that the proposed development meets the objectives of PPW11 and policy MD19 of the LDP.

5.9 TRAFFIC AND TRANSPORT

- 5.9.1 The Transport Statement (which incorporates a Construction Traffic Method Statement) sets out the current proposed access arrangements to the three development areas which form the application site, the anticipated construction programme, construction vehicle numbers and routing of deliveries, construction worker numbers and the proposed construction hours.
- 5.9.2 The construction of the solar farm and BESS is expected to last 6 months. During this period, there will be journeys associated with the arrival and departure of site staff and the delivery of parts and construction materials.
- 5.9.3 It is anticipated that the construction phase will generate approximately 740 HGV deliveries or 1,480 two-way movements (in and out). The first month will see the highest deliveries to site at 225 which is the equivalent of a maximum 1 movement every hour.
- 5.9.4 To minimise the number of vehicle movements crossing the A4226 between plots, temporary set down areas will be provided both sides of the A4226
- 5.9.5 During the construction period, up to 80 staff will be on-site depending on the phase of the development. Staff will arrive and depart the Development Areas in transit vans with a 'crew cab', with an expected minimum capacity of 6 persons. Given this, there would be approximately 14 vehicles arriving to the Development Areas in a morning and 14 departing in an evening.
- 5.9.6 Policy 18 of Future Wales: The National Plan 2040 states that "Proposals for renewable and low carbon energy projects (including repowering) qualifying as Developments of National Significance will be permitted subject to: ...
- "9. There are no unacceptable adverse impacts on the transport network through the transportation of components or source fuel during its construction and / or ongoing operation..."*
- 5.9.7 Paragraph 5.9.20 of PPW11 states that:
- "The construction, operation, decommissioning, remediation and aftercare of proposals should take into account:
the capacity of, and effects on the transportation network..."*
- 5.9.8 Whilst there are no specific transport policies within the LDP, policy MD7 refers to environmental protection and states that "Development proposals will be required to demonstrate they will not result in an unacceptable impact on people, residential amenity, property and / or the natural environment from either: ...

8. Any other identified risk to public health and safety".

5.9.9 Solar farms do not generate large amounts of traffic even during the construction phase which in this case is estimated to be a 6-month period. The extent of proposed mitigation measures will be dependent on the appointed contractor for the construction of the facility. However, the CTMS outlines several broad measures that could be readily implemented which include:

- The use of banksman to help guide deliveries into sites;
- Advisory temporary signage on the highway for works in the area;
- Temporary signage along the proposed route to ensure deliveries follow agreed routes;
- Provide sufficient parking areas within the development areas so there is no parking on the highway or potential blockage to access tracks;
- Vehicles carrying loose material shall be sheeted;
- The use of bowsers / sprays as necessary during dry conditions to prevent dust and the use of wheel cleaning facilities to prevent transfer on the highway as required;
- Secure the site to prevent unauthorised access;
- Regularly monitor the condition of the highway for spoil transfer or damage and rectify as required;
- Contact local residents prior to construction works commencing advising of anticipated duration and a contact number to advise of any issues / concerns; and
- Turning engines off when not in use.

5.9.10 Chapter 12 of the ES concludes that the proposal would not have a discernible impact upon the adjacent highway network and surrounding area. As such, it is considered that the proposed development meets the objectives of Policy 18 of the Future Wales, PPW11 and policy MD7 of the LDP.

5.10 AIR QUALITY

5.10.1 Possible impacts to the local air quality only have the potential to occur during the short period of the construction and decommissioning phase through vehicular and plant emissions and through the creation of dust.

5.10.2 The site is not within or near an Air Quality Management Area and proposed traffic generation during the limited duration of the construction period will not lead to significant vehicle emissions. Excessive dust is unlikely to be generated through anchoring of the frames to the ground as the majority of the frames will be secured by piles that will be pushed into the ground. Excavation is limited to scraping of top and sub soil for proposed tracks, BESS compound and foundations for the inverters, transformers and substation bases and trenching thus minimising the potential for ground disturbance and the liberation of dust emissions. Vehicle movements on site will be limited to transportation of equipment to/ and across site.

5.10.3 An outline Construction Environmental Management Plan (CEMP) is presented in **Appendix 6.3**. A detailed CEMP will be implemented during the construction period. The mitigation measures outlined below are proposed to ensure that adequate

mitigation procedures are in place for dust mitigation during the construction phase:

- Wheel washing equipment will be available and used on-site, as required, to prevent the transfer of dirt and debris onto the public highway;
- Dust generating activities will be minimised during dry, windy conditions where possible;
- Where required, loads into and out of the site will be sheeted;
- Soil stockpiles will be covered when left for extended periods;
- Where necessary a dust suppression / water spray system will be available; and
- Implementation a dust monitoring scheme as required.

5.10.4 Given the limited duration of the proposed construction works and the nature of works during the construction phase the potential for dust creation will be relatively low. The potential impacts during the decommissioning phase are expected to be similar to those identified for the construction phase.

5.10.5 Policy 18 of Futures Wales: The National Plan 2040 states that “proposals for renewable and low carbon energy projects (including repowering) qualifying as Developments of National Significance will be permitted subject to policy 17 and the following criteria:...

7. there are no unacceptable adverse impacts by way of... air quality...”.

5.10.6 Paragraph 5.9.20 of PPW11 states that “The construction, operation, decommissioning, remediation and aftercare of proposals should take into account: ...

The need to minimise impacts on local communities, such as from... air pollution, to safeguard quality of life for existing and future generations”.

5.10.7 Policy MD7 ‘Environmental Protection’ of the LDP states that “development proposals will be required to demonstrate they will not result in an unacceptable impact on people, residential amenity, property and / or natural environment from either:

1. Pollution of ... the air.”

5.10.8 The proposed development will not result in any adverse impacts on local air quality and is considered to be compliant with national policy and policy MD7 of the LDP.

5.11 GLINT AND GLARE

5.11.1 The Glint and Glare assessment, presented in **Appendix 6.2**. Analysis of the site has determined that reflected light is of a low intensity, scattered and is generally reflected upwards away from roads and residential properties. However, there exists conditions in early and late summer when the sun is low in the sky in which reflected sun rays can travel in a direction parallel to the ground. Under these conditions, rays (which are scattered at the surface of the module) will, for drivers on local roads be caught by existing hedgerows surrounding the site. The assessment concludes that the proposed solar farm will not give rise to any additional hazardous or troublesome reflections beyond those that already exist in the natural environment.

5.11.2 Therefore, the proposed development meets the requirements of Futures Wales 2040 Policy 18 ‘Renewable and Low Carbon Energy Development of National Significance’ in that “*there are no unacceptable adverse impacts by way of...reflected light...*” and

“there are no unacceptable impacts on the operations of defence facilities and operations (including aviation and radar)...”. Furthermore, the proposed development will be in accordance with policy MD19 of the LDP in relation to low carbon and renewable energy developments as it can be demonstrated that “there is no unacceptable impact on the interests of...aviation safeguarding...”.

5.12 SUMMARY OF KEY PLANNING ISSUES

5.12.1 This policy appraisal has considered the key planning issues associated with the proposed development. The principle of development is supported strongly by national and local planning policies. In addition, the Vale of Glamorgan Local Development Plan allocates the majority of the development areas to the west of Five Mile Lane as a ‘Search Area for Solar Energy’.

5.12.2 The LVIA demonstrates that the proposed Development Areas of Oaklands Solar Farm could be successfully integrated into the local landscape of the Vale of Glamorgan (partially within an area identified as a ‘Solar Area of Search’) without causing significant and wide scale harm to the landscape character. Whilst one ‘significant’ visual effect is noted, this is upon a near PROW and focussed to a particular location with the most open visibility. It should be noted that whilst an effect may be significant, that does not necessarily mean that such an impact would be unacceptable. It is expected that the extensive proposed planting mitigation and management of existing perimeter vegetation over time will further filter views to the 3 Development Areas and reduce the level of visual effects.

5.12.3 The Heritage Assessment concludes that the majority of the potential effects of the development are Slight or Moderate in significance which can be reduced with appropriate mitigation. A moderate adverse impact is predicted on the Registered Historic Landscape of Llancafarn following the implementation of mitigation measures.

5.12.4 The Ecology Assessment confirmed that all of the existing areas of woodland, scrub, hedgerows, trees, ponds and watercourses within the site boundary will be retained throughout the construction, operational and decommissioning stages of the scheme. There are anticipated to be no impacts either directly or indirectly on these habitats. In addition, the Biodiversity Net Gain (BNG) Assessment concluded a potential net gain of 173.02% and additional hedgerow units of 14.81%.

5.12.5 The policy appraisal summarises there will be no adverse impact to the following environmental topics:

- Hydrology and Flood Risk
- Noise and Vibration
- Ecology
- Agricultural Land
- Traffic and Transport
- Air Quality
- Glint and Glare

5.12.6 The proposed development is considered, on balance, to be in accordance with the Development Plan Policies.



6. CONCLUSION

6.1 INTRODUCTION

6.1.1 This Planning Statement describes a proposal by Sirius Renewable Energy to construct and operate a solar farm and Battery Energy Storage System (BESS) on across three development areas comprising approximately 127ha of land. The Vale of Glamorgan Local Development Plan allocates the majority of the development areas to the west of Five Mile Lane as a 'Search Area for Solar Energy' development.

6.2 ENVIRONMENTAL EFFECTS

6.2.1 Of the environmental topic areas considered as part of the EIA, the significance of impacts from the proposed operations considered to be greater than negligible are limited to:

- Landscape and Visual;
- Noise and Vibration;
- Historic Environment;
- Ecology; and
- Climate Change.

6.2.2 The potential impacts on landscape character and visual amenity were identified during the construction and decommissioning phase as minor (negative) due to the short duration. During the operational phase whilst adverse landscape effects are acknowledged, a moderate significance of landscape effect is concluded, this is not significant in EIA terms. In terms of visual amenity, up to and including major adverse significant impacts will be limited to one locally elevated position along a PROW and focussed to a particular location with the most open visibility.

6.2.3 With regards to Noise and Vibration impacts during the construction and decommissioning phases a minor adverse impact is expected. However, this is a temporary impact and measures to control noise will be implemented.

6.2.4 In terms of the Historic Environment, during the construction/decommissioning period a temporary moderate adverse impact is predicted on the Registered Historic Landscape of Llancarfan following the implementation of mitigation measures. During the operational period, following implementation of mitigation measures, a moderate adverse impact is predicted on the Registered Historic Landscape of Llancarfan and a minor adverse impact is predicted on Coed y Cwm Ringwork and Castle Ringwork.

6.2.5 In terms of ecology, during the construction/decommissioning and operational periods, following implementation of mitigation measures, no significant residual ecological effects have been identified from the scheme. The only residual impacts that have been identified are minor adverse and result from the loss of areas of grassland habitat under the direct footprint of the solar panels. However, through proposed enhancements, a 173% net gain in habitats will be delivered and a 14.81% gain in hedgerows. This is considered a significant beneficial effect.

6.2.6 In terms of climate change, during the operational phase of the solar farm the potential impact will be significantly beneficial through the generation of renewable energy. The proposed development will be operational for 40 years, generating significant renewable energy benefits. Following this period, the site will be restored back to

agriculture.

6.3 PLANNING POLICY

- 6.3.1 This policy appraisal has considered the key planning issues associated with the proposed development. The principle of development is supported strongly by National and Local planning policy.
- 6.3.2 The proposed development is considered to be entirely in accordance with Policies 17 and 18 of Futures Wales, Planning Policy Wales 11 and the adopted Local Development Plan.

6.4 CONCLUSION

- 6.4.1 It is demonstrated in this Planning Statement that the proposed development will realise substantial benefits in terms of renewable electricity, enhanced local biodiversity and improved socio-economic opportunities for the area and it is considered, on balance, to be in accordance with the development plan.
- 6.4.2 The proposal will contribute towards the Wales and UK targets of becoming net zero. Consequently, it is considered that planning permission should be granted.

