Doc Ref: WN1011
Date: July 2025

3

ENVIRONMENTAL STATEMENT VOLUME 3: NON-TECHNICAL SUMMARY ELY VALLEY SOLAR FARM

LAND OFF ELY VALLEY ROAD | YNYSMAERDY | NR LLANTRISANT

PREPARED BY

PREPARED FOR

WINDEL SOLAR 8 Ltd

REPORT NUMBER	REPORT STATUS	REVISION	REPORT DATE
WN1011/NTS	DRAFT		JULY 2025

PREPARED BY
Rachel Dodd | Senior Planner

REVIEWED & APPROVED BY
James Cook | Associate Planner

AUTHORISED BY
Sirius Planning

CONTENTS

DRAWING SCHEDULE

Drawing Number	Title	
WN1011/04/01	Site Location Plan	1:2,500 and 1:25,000
WN1011/04/02	Planning Application Boundary	1:25,000
WN1011/04/03	Site Layout	1:2,000
WN1011/04/04	PV Panel Details	1:50
WN1011/04/05	DNO Substation Detail	1:50
WN1011/04/06	Transformer and Control Equipment Details	1:50
WN1011/04/07	Customer Cabin Details	1:50
WN1011/04/08	Spares Cabin Details	1:50
WN1011/04/09	Fencing and Security Details	1:2,000
WN1011/04/10	Deer Mesh Fencing Details	1:100
WN1011/04/11	Palisade Fencing Details	1:25
WN1011/04/12	Temporary Site Set Down Area Details	1:500
WN1011/04/13	Proposed Cable Route	1:4,000
WN1011/04/14	Internal Access Track Construction Detail	1:20

APPENDIX SCHEDULE

Appendix No.	Title
A	Scoping Opinion
B	Pre-Application Response
C	Transport Statement
D	Agricultural Land Quality Report
E	Coal Mining Risk Assessment
F	Flood Consequences Assessment
G1	LVIA Methodology and Assessment Tables
G2	LVIA Figures
G3	Photomontages
H	Ecology Appendix
I	Heritage Desk Based Assessment
J	Noise Appendix
K	Green Infrastructure Strategy

1. INTRODUCTION

1.1 INTRODUCTION

1.1.1 This Non-Technical Summary (NTS) presents, in a simplified form, the results of a detailed assessment of the potential environmental effects from the proposal to construct and operate a solar farm on land located c.0.4km north of Ynysmaerdy and 0.8km east of Coedely. The application site totals approximately 20.9ha.

1.1.2 The proposed solar farm will have a generating capacity of up to 9.9MW renewable electricity, enough to power over 2,678 homes[1] per year and offset nearly 2,850 tonnes[2] of CO2 every year.

1.2 THE APPLICANT

1.2.1 Ely Valley Solar has been established by Windel Solar 8 Limited (a project developed by Windel Energy Ltd alongside Recurrent Energy Ltd).

1.2.2 Founded in 2018, Windel Energy is a privately held company that specialises in the development and asset management of renewable energy projects and low carbon technologies.

1.2.3 With more than 3 gigawatts (GW) of clean, renewable power and battery energy storage in various stages of development, Windel is at the forefront of low carbon technologies including solar, energy storage, and onshore wind, and are helping to pave the way to achieve the UK's net zero target.

1.3 WHY SOLAR?

1.3.1 In October 2021, the UK Government launched its Net Zero Strategy: Build Back Greener[3] which includes the target for decarbonizing the electricity grid by 2035. To deliver the strategy overall electricity demand is expected to increase 40-60% by 2035, all met from low carbon sources.

1.3.2 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, and also allows the agricultural use of the land to continue through livestock grazing. Solar energy is not only sustainable; it is renewable meaning that we will never run out of it.

1.3.3 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 mix in field margins, creating a more diverse habitat.

---

[1] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/295244/Revisions_to_DECC_domestic_energy_bill_estimates.pdf

[2] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/715425/Conversion_Factors_2018_-_Condensed_set__for_most_users__v01-01.xls

[3] https://www.gov.uk/government/publications/net-zero-strategy

2. THE SITE AND SURROUNDINGS

2.1 LOCATION

2.1.1 The site location and extent of site boundaries are shown in Drawing WN1011/04/01 and below in Figure 2.1. The redline site boundary for the planning application extends to a total area of approximately 20.9ha.

Figure 2.1: Site Location

2.2 SITE OVERVIEW

2.2.1 The Application Site has a rural setting with several farms in the locality. Elevation of the site ranges from 79m to 153m above Ordnance Datum (AOD), with higher terrain in the north descending southwards.

2.2.2 There are a number of overhead electricity transmission lines that cross the site, drainage channels and streams, and underground utility infrastructure. A small-scale solar farm (1.3MW) and wind turbine (60m in height (to tip)) is located adjacent to the eastern boundary of the proposal site. There is another turbine (90m to tip) located further east. There is significant industrial development located adjacent to the south east of the site.

2.2.3 The solar farm will connect to an existing substation located approximately c.1.2km to the south east of the application site off Ely Valley Road. The cable from the on site substation will largely run in the highway.

2.2.4 Access to the site is via existing access off Ely Valley Road which serves the farmhouse of Dyffryn Farm.

2.3 DESIGNATIONS

2.3.1 The Local Plan Proposals Map shows that the site is within a Special Landscape Area outside of settlement limits, in an area designated as comprising Sandstone resources.

2.3.2 The Rhos Tonyrefail Site of Special Scientific Interest (SSSI) is located adjacent on

the eastern boundary of the application site. In addition, the Rhiwfelin Fawr Site of Importance for Nature Conservation (SINC) which is located 0.09km northwest of the site.

2.3.3 The site is withing Flood Zone 1 and therefore has a low risk of flooding.

2.3.4 There are no designated heritage assets on site. Historic Wales Maps show there are three national monuments near the site; Rhiwefelen is a Post Medieval House located to the northeast of the site (c.125m) and Dyffryn-Uchaf is noted on the Historic Environment Record as a Post Medieval House and Farmstead located to the south of the site (c.220m). Beddw, a Post-Medieval House is sited c.215m to the northwest of the site.

2.3.5 There are no Scheduled Monuments within the proposed site, but there is one within 2.5km of the site. No Listed Buildings lie within the proposed site. There are 27 Listed Buildings within 2.5km of the site, 8 of which are within 1km. The site does not form part of a Conservation Area, nor are there any Conservation Areas in proximity to the site.

2.4 PLANNING HISTORY

2.4.1 Whilst there is no planning history of relevance to the site itself, there are three nearby renewable energy related developments to the east of the site.

2.4.2 On 15th November 2019, the Council advised that a proposed solar farm (located c.320m to the east of the site) was EIA development. Following an appeal against this opinion, the Welsh Government confirmed on 17th January 2020 that the proposed solar farm was not EIA development. Permission was then subsequently granted by Rhondda Cynon Taf CBC on 16th November 2020 for the proposal.

2.4.3 Permission was granted for the wind turbine located to the east of the site by way of a decision notice dated 19th July 2016 under application reference 16/0124/10, with a subsequent application being granted to change the height (ref: 18/0761/39).

2.4.4 To the immediate east of Pantybrad consent was granted on 27 April 2022 for a single wind turbine and associated infrastructure (21/0661/FUL).

2.4.5 Permission was granted for the construction and operation of a solar farm directly to the north and west of the site by way of a decision notice dated 25th April 2024 under application reference 22/1414/FUL.

3. THE PROPOSED DEVELOPMENT

3.1 OUTLINE OF THE PROPOSAL

3.1.1 The proposed development comprises the construction, operation, maintenance and decommissioning of a ground-mounted solar farm plus ancillary infrastructure including the following:

- Photovoltaic (PV) panels;
- Mounting frames – matt finished small section metal structure;
- Scheme of landscaping and biodiversity enhancement;
- Inverters and transformers and associated cabling (largely below ground);
- Distribution Network Operator (DNO) substation and customer cabins;
- Deer fencing, sympathetic to the area, and 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 area;
- Internal service roads; and
- Site access for the construction, operational and decommissioning phases.

3.1.2 Ely Valley Solar Farm will have a generating capacity of up to 9.9MW of renewable electricity, enough to power over 2,678 homes per year and offset nearly 2,850 tonnes of CO2 every year.

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

3.2 SITE DESIGN AND LAYOUT

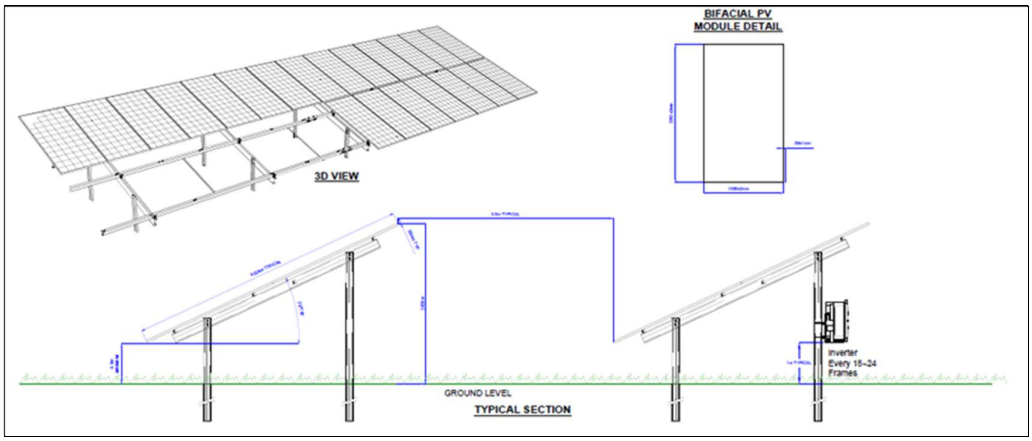
3.2.1 Due to commercial constraints, potential changes in solar panels, transformer and substation manufacturer during the determination process an element of flexibility is required in relation to their dimensions, appearance and their arrangement. Drawing WN1011/04/03 therefore shows an indicative layout. A detailed layout and phasing of construction will be agreed with the Local Planning Authority (LPA) by way of planning condition following grant of planning consent.

3.2.2 The height of the panels will be up to 2.6m above ground level; the lowest part of the panel will measure approximately 0.8m above ground level.

3.2.3 During construction, operation and decommissioning a 4m setback will be established from the hedgerows.

3.2.4 The mounting frames will be matt finished galvanised steel that will be fixed to the ground employing a pile mounting system, depending on ground conditions. Drawing WN1011/04/04 and Figure 3.1 below provide a specification of the panel and frames. The piles will be pushed into the ground via a mobile piling rig.

Figure 3.1: Panel and Frames Specification



3.2.5 The solar panels will be connected to string inverter units. The inverters convert the electricity from Direct Current (DC) to Alternating Current (AC). The inverters then feed the transformers which step up the voltage ready to export into the local distribution network via the substation buildings and connecting cables. Details of the proposed ancillary equipment and fencing within the site are provided on:

- Drawing WN1011/04/05 and 07 - substations specifications;
- Drawing WN1011/04/03 - equipment locations across the development area; and
- Drawing WN1011/04/06 – transformer station details.

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

3.3 POINT OF CONNECTION AND CABLE ROUTE

3.3.1 The solar farm will connect to the local distribution network at the existing substation located c.1.3km to the south of the application site off Ely Valley Road. The cable from the on site substation will be underground and will largely run in the highway.

3.3.2 The indicative cable routes are presented in Drawing WN1011/04/13. The drawing shows 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 WN1011/04/09. The CCTV cameras will be positioned to avoid views of any private property.

3.5 CONSTRUCTION PROGRAMME

3.5.1 The construction of the solar farm is expected to last approximately 6 months and employ up to 50 staff over the construction period. A Transport Statement (TS) accompanies the application (see Appendix C). The TS provides details of proposed access arrangements, the anticipated build programme, construction vehicle numbers and type, construction worker numbers and the proposed construction hours.

3.6 SITE ACCESS

3.6.1 Access to the application site is taken from Ely Valley Road (A4119) using an existing access that serves Dyffryn Farm and another residential property. The access will be used during both the construction and operational phases of the development.

3.6.2 The recently upgraded A4119 is a dual carriageway subject to a 50mph speed limit. Being a dual carriageway, vehicles can only access the site from the north west (turning left into site) and leaving the site turning left onto A4119.

3.6.3 Drawing WN1011/04/12 identifies the locations of the temporary set down area.

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 TS (Appendix C). Once operational, the proposal will generate minimal traffic flow from monthly inspections and maintenance.

3.7 PUBLIC RIGHTS OF WAY

3.7.1 There are no Public Rights of Way which run either through or adjacent to the site.

3.8 BIODIVERSITY ENHANCEMENTS AND LANDSCAPING

3.8.1 The landscape and visual impact assessment and ecology and nature conservation chapters (ES Chapters 7 and 9 respectively) provide full details of the enhancement proposals, but in summary these include:

- The existing field boundary vegetation, in the form of native hedgerows and trees, including those within the site, will be retained where possible and managed to an appropriate height to provide visual screening, but also to enhance landscape and ecological structure.
- Analysis of historic mapping will be undertaken to determine whether there are any lost landscape features that could be reinstated and integrated with the solar development e.g. copses, banking, ditches and hedgerows.
- Grassland will be managed and enhanced for landscape and ecological benefit,

Species mixes will be appropriate to the local area and follow recommendations of the project and County Ecologists

- Appropriate development offsets (clear zones) will be initiated from adjacent habitats including the woodland and grassland SINC and neighbouring SSSI as well as field margins to ensure visual effects are not of a significant nature and that existing habitats have a sufficient buffer to enable transition/connectivity between existing and proposed habitat areas.
- Development will facilitate the management of the range of semi-natural habitats – trees, hedgerows and grassland mosaic/upland meadows, found throughout the solar plot and adjoining areas.
- Mitigation proposals will serve the dual purpose of providing landscape and visual mitigation and to increase the site's value and reflect Local Biodiversity Action Plan objectives.

3.8.2 A Landscape Masterplan Plan is shown in drawing WN1011/07/07. A Green Infrastructure Strategy is presented in Appendix K.

3.9 SURFACE WATER MANAGEMENT

3.9.1 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. The amount of land that is made impermeable by the installation of the facility is limited to the concrete pads of the transformers and substations. 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.

3.9.2 A separate application for SAB approval will be made.

3.10 DECOMMISIONING

3.10.1 After 40 years of operation the panels and associated infrastructure will be removed from site. The outline Transport Statement presented in Appendix C details the programme and anticipated vehicle movements associated with this phase of development.

4. PLANNING POLICY CONTEXT

4.1 INTRODUCTION

4.1.1 To understand why Windel 8 Solar Ltd are proposing a solar farm to generate renewable energy in this location, national and local policy (the 'Development Plan') must be considered. A detailed appraisal of Development Plan policy and material considerations is presented in a standalone Planning Statement submitted with the planning application.

4.1.2 Section 38(6) of the Planning and Compulsory Purchase Act 2004 (as amended) requires planning applications to be determined in accordance with the provisions of the Development Plan unless material considerations indicate otherwise. Given the primacy of the Development Plan in the decision-making process it is imperative that the application identifies which planning policies are relevant to the proposal.

4.1.3 The proposed development is to construct and operate a 9.9MW solar farm that will contribute towards achieving the legally binding target of net zero carbon emissions by 2050.

4.2 ENVIRONMENTAL IMPACT ASSESSMENT

4.2.1 Sirius Planning Ltd was commissioned to co-ordinate an Environmental Impact Assessment (EIA) of the proposed solar farm. The findings of the assessment are presented in an Environmental Statement which accompanies the planning application, as required by the Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017.

4.2.2 Specialist consultants in a wide range of disciplines have been employed to carry out environmental studies and assessments. Details of the independent studies and assessments are contained in the ES.

4.3 NEED FOR RENEWABLE ENERGY

4.3.1 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.

4.3.2 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.

4.3.3 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).

4.3.4 In February 2021, the Welsh Government set out its legal commitment to achieve net zero emissions by 20504. The Energy Generation in Wales 2018 report5 estimates that 50% of electricity consumption comes from renewable sources leaving a

[4] https://gov.wales/wales-commits-net-zero-2050-sets-out-ambitions-get-there-sooner
[5] Energy Generation in Wales 2018: https://gov.wales/sites/default/files/publications/2019-10/energy-generation-in-wales-2018.pdf

significant shortfall if the Government's target is to be met.

4.3.5 At a local level, Rhondda Cynon Taf Council's "Climate Change Strategy 2022 to 20256" sets out the following aims:

> *Rhondda Cynon Taf Council will be carbon neutral;*
>
> *The whole County Borough will be as close as possible to carbon neutral;*
>
> *our work with partners will have ensured that all public and private organisations that operate in the County Borough will be carbon neutral by 2040; and*
>
> *Rhondda Cynon Taf will have contributed to the Welsh Government's ambition of a Net Zero public sector by 2030.*
>
> *In order to deliver our Vision, the Council will continue to provide strong community leadership and create a cleaner, greener environment for people and businesses to be independent, healthy and prosperous and for natural eco systems to thrive. We will play our part in tackling climate change and protecting the planet and also adapting our services and operations so that we are able to meet the climate challenges ahead.*

4.3.6 It is widely accepted that electricity produced from solar energy has a positive benefit compared to traditional forms of electricity generation in terms of avoiding carbon emissions. Furthermore, renewable energy from solar PV supports the national economic objective to diversify energy supply and to lessen dependence on the generation of fossil fuels.

4.3.7 The proposed solar farm would have a capacity of 9.9MW and the power generated would be exported to the local electricity network.

4.3.8 A scheme of this scale will provide power over 2,678 homes, off-setting over 2,850 tonnes of CO2 each year. In addition, the operation of the scheme would reduce the emissions of the gases sulphur dioxide and nitrogen oxides, which contribute to the production of acid rain.

4.3.9 Windel Solar 8 Limited seeks to support the increase in renewable energy generation and the transition to a lower carbon energy supply system through developing a solar farm at land off Ely Valley Road.

4.3.10 The proposed Ely Valley Solar Farm will make a significant contribution towards meeting renewable energy targets, not only through the generation of 9.9MW of renewable energy, but also through the considerable investment in the local economy during the construction phase.

[6] https://rctcbc.moderngov.co.uk/documents/s35287/Climate%20Change%20Strategy.pdf?LLL=0

5. SUMMARY OF TOPIC ASSESSMENTS

5.1 INTRODUCTION

5.1.1 To determine the extent (or 'scope') of environmental topics to be considered in the EIA and reported on in the ES, Rhondda Cynon Taf County Borough Council were requested to provide a Scoping Opinion. This Scoping Opinion (presented in Appendix A to the ES) confirmed the information to be supplied in the ES. The ES has been prepared in accordance with the Scoping Opinion from the Council.

5.1.2 The following sections summarise the environmental topic chapters of the Environmental Statement, Volume 1. Each section includes a brief description of any identified potential environmental effects resulting from the proposed development and the ways, if necessary, to reduce such impacts.

5.2 LANDSCAPE AND VISUAL IMPACT ASSESSMENT

Landscape Character

5.2.1 The landscape and visual assessment work has demonstrated that the proposed solar farm development can be assimilated within the local landscape of the site and the study area without wide scale substantial landscape effects. The proposed development will take place within the existing field structure of the site with all site boundaries and vegetation fully retained.

5.2.2 The site comprises an existing pastoral farm surrounded by mature landscape features which limit the scale of effect upon the character in the immediate area. Landscape effects are generally restricted to the site area and immediately adjoining areas forming the prevailing setting to the site only. The development would have minimal effect upon the existing landscape structure but would be placed within it upon small scale fields that would revert to grassland with solar panels upon it.

5.2.3 The main changes occurring relate to the landcover and landscape pattern characteristics of landscape character rather than the overall defining structural character of the site which will remain. The effects whilst long term are also reversible upon decommissioning of the scheme at the end of its lifespan. Mitigation and management measures such as new hedgerow and tree planting proposed would additionally over time enhance the landscape structure of the area and aid the integration of the development whilst also providing an overall net gain in site wide biodiversity.

Visual Impact

5.2.4 The visual assessment demonstrates that the area from which the proposed solar farm would be potentially visible would be less in reality than illustrated by the ZTV. This is due to localised reductions where intervening vegetation not included as visual barriers in the model would reduce the extent of the solar deployment and number of arrays visible. Views of the arrays would be focussed in distinct zones of intervisibility largely in the mid to long range locations in the south east, far east and elevated western parts of the study area as illustrated by the ZTV (Refer to Drawing WN1011/07/03 in Appendix G2).

5.2.5 Visibility of the development in the immediate setting is well screened by a combination of sloping and undulating topography, mature vegetation around the site and the limited number of receptors within the site's immediate context up to c.250m out from the site.

5.2.6 The residential visual receptors within 500m of the site have been assessed, most of the residences are local farmsteads in what is predominantly a rural / urban fringe farming area. Overall, no residential receptors experience visual effects of a 'significant' nature. The assessment established that despite the scale of development (ground area coverage) due to localised screening features, the dispersed spread of properties and the height of the proposed arrays, there are very limited residential receptors / groups with the potential for views to or over the development proposal.

5.2.7 With regard to views from PROW, the site is not publicly accessible, and the immediate setting of the site (<500m) has no public rights of way (PROW) from where it is possible to obtain views looking to the site area. The ZTV also demonstrates the limited areas of landscape that has intervisibility with the site. The closest PROW with potential visibility is also assessed within Viewpoint 4, Public Footpath RH|ANT|225/1, Llantrisant Common. Although there would be some open visibility from the route towards the site, considering the setting, separation distance and localised features, a Moderate / Major, 'Not Significant' visual effect is concluded upon the route (as the worst case scenario, for areas with the most open visibility).

5.2.8 This assessment demonstrates that the proposed development of Ely Valley Solar Farm could be integrated into the local area without causing extensive harm to the landscape character and visual amenity. No significant landscape effects are concluded upon the identified landscape receptors. Visual effects are focussed to the local study area, a sparsely populated area with limited public access. No significant visual effects are concluded upon any of the identified visual receptors.

5.2.9 The landscape design and retention of ecological features at the site has played a key role in the evolution of the site layout.

5.2.10 The proposed development will result in the retention and protection of the majority of existing native species-rich hedgerows and trees on site. Additional hedgerows are to be planted and overall a net gain in hedgerows will be delivered.

5.2.11 The active use of the site will allow ongoing maintenance and careful management of the hedgerows and trees around the site perimeter.

5.3 NOISE

5.3.1 An environmental baseline sound survey has been carried out at two locations representative of the nearest NSRs around the site.

5.3.2 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.

5.3.3 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.

5.3.4 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.

5.3.5 Due to the nature of the construction techniques and the distance to sensitive receptors, the potential for vibration effects are considered unlikely.

5.3.6 Solar farms are inherently quiet operations, with only the air-cooling systems associated with the inverters and substations and the general operation of the transformers generating sound power levels.

5.4 ECOLOGY AND BIODIVERSITY

5.4.1 The Site comprises eleven adjoining pasture fields covering approximately 20.3ha and supports a mosaic of grassland habitats. Key features include 2.08ha of Acid Grassland and 2.06ha of transitional habitat between Acid and Semi-improved Grassland. The majority of the Site (13.73ha) is classified as Poor Semi-improved Grassland. Nineteen permanently wet areas occur across the Site, supporting rushes and other wetland flora, although none meet the criteria for distinct habitat types such as Rhos Pasture. Boundary features extend over 3.88km (occupying 2.09ha) and include 1.35km of species-rich native hedgerows, 0.74km of species-poor native hedgerows, and 1.79km of ecologically valuable lines of trees. Five streams and one wet ditch, totalling 1.06km, also traverse the Site. A small parcel (0.08ha) of Lowland Mixed Deciduous Woodland, part of the Rhos Tonyrefail SSSI, lies along the southern boundary of Fields 10 and 11. The SSSI also borders the majority of the Site's eastern edge.

5.4.2 Surveys confirmed the presence of six bat species, including the Annex II-listed Lesser Horseshoe Bat, with foraging and commuting activity concentrated along hedgerows and woodland edges, particularly by Myotis species. Breeding Meadow Pipits were recorded within the grassland (six active territories), alongside 18 bird species nesting in trees or hedgerows, of which seven are protected or notable. Although wildfowl and waders were absent during winter surveys, 14 notable bird species were observed using boundary habitats, with occasional use of fields by small passerines. Three locally important waxcap fungi were identified in two fields, indicating the presence of unimproved grassland. While no direct evidence of Dormice was found, their presence is considered likely due to suitable habitat and nearby records.

5.4.3 All existing Acid Grassland has been excluded from the development footprint, and semi-improved and transitional grasslands within buffer zones (5m around hedgerows and watercourses, 15m around woodlands) will be preserved during construction and operation. The areas between and around the solar panels will remain undisturbed, with only temporary disturbance during installation.

5.4.4 Short-term impacts to species such as bats, birds, and Dormice, due to noise, vibration, or human activity, will be mitigated through buffer zones and construction

controls. Any necessary hedgerow removal for access or fencing will adhere to strict Dormice protection protocols. If works coincide with the bird nesting season, pre-construction surveys will prevent disturbance to active nests.

5.4.5 The risk of soil compaction in sensitive grasslands will be minimised through low-pressure machinery and work suspension during wet conditions. Traffic management will limit vehicle movement across sensitive habitats, particularly fungi-rich fields and transitional grassland. Hydrocarbon pollution risks will be managed through best-practice fuel handling protocols outlined in a Construction Environmental Management Plan (CEMP).

5.4.6 Mitigation measures will protect foraging bats, nesting birds, Dormice, waxcap fungi, and other species such as Badgers, reptiles, and amphibians. Following construction, ongoing habitat management and monitoring will ensure that any residual impacts are negligible.

5.4.7 In conclusion, the solar development complies with national and local planning policies, with embedded mitigation strategies designed to protect biodiversity. With long-term habitat enhancement and monitoring, it is expected to result in a measurable, long-term net gain for biodiversity.

5.5 CUMULATIVE IMPACTS

5.5.1 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; and
- Ecology.

5.5.2 In terms of assessing the interactive impacts from the Proposed Development in isolation, it is considered that the following topics will have an adverse effect:

- Minor effects to landscape character and some nearby visual receptors during the 6 months construction/decommissioning phases
- Moderate effects to landscape character and for some nearby visual receptors during the operational phase.
- Up to minor adverse effects to the noise climate for nearby residential properties and wildlife during the 6 month construction phase;
- Moderate adverse effects to species during the temporary 6 months construction phase.

5.5.3 It is considered there is no synergistic characteristics between temporary impacts to certain site based species, landscape character/visual amenity and noise generation during the construction and decommissioning phases.

5.5.4 During the operational phase potential impacts to nearby visual receptors and landscape character were assessed. It is considered that opportunities for synergistic effects to increase the impacts on identified receptors beyond that assessed individually are negligible given the different sensitivities of the identified receptors.

5.5.5 In terms of cumulative landscape effects from the one additional scheme to the west of the application site, the consented, but yet to be constructed, Talgren Solar

Scheme has been considered. Due to the close nature of the cumulative site, the local topographic setting and considering the solar design features which set the array deployment areas within the existing field / vegetation structure, it is predicted that once both sites are constructed, visually they will be seen as one combined scheme. This combination, from a landscape balance perspective, is considered preferable to a number of disparate schemes upon hillsides in the local area. The proposed site in addition to cumulative site is not considered to give rise to sufficient additional change to constitute significant landscape effects over and above the assessed levels.

5.6 ENVIRONMENTAL CONSIDERATIONS NOT SIGINIFICANTLY AFFECTED BY THE PROPOSALS

5.6.1 The following environmental considerations are unlikely to be materially affected or give rise to significant environmental effects as a consequence of the proposed development. Following the headings a justification is provided as to why these assessments have been scoped out of the EIA.

Soils, Geology and Agricultural Land

5.6.2 The soils were found to mainly comprise sandy clay loams, sandy loams or sandy silt loams, with evidence of waterlogging (greyish colours with ochreous mottles) within the subsoil.

5.6.3 The ALC Survey concludes (Appendix D) that ALC grades 3b and 4 occur across the site due to wetness and gradient.

5.6.4 The assessment has determined that the application site does 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. The proposed development does not therefore result in a detrimental impact on land quality or the supply of 'Best and Most Versatile' land.

Air Quality

5.6.5 Solar developments have no direct source of emissions to atmosphere during the operational phase. Possible impacts to local air quality only have the potential to occur during the short period of the construction phase through vehicular and plant emissions and through the creation of dust.

5.6.6 Without mitigation, there is a risk that the construction phase of the development will lead to dust soiling and elevated concentrations of PM10. These impacts may occur during demolition, earthworks and construction, as well as from track-out of dust onto the public highway, as vehicles leave the construction site. A CEMP can be conditioned as part of the granting of planning consent to ensure these impacts are addressed.

Climate Change

5.6.7 In the UK, we expect to see warmer and wetter winters, hotter and drier summers and more frequent and intense weather extremes. Climate change will make these conditions more likely. More rainfall is expected to happen in winter storms. While the temperatures may be milder, winters will tend to be wetter, with more potential for

flooding. If temperatures do increase as predicted, then this may impact on habitat which may affect the behaviour of animals such as birds. It could also affect the growth rates and composition of plant communities, invertebrates and habitats.

5.6.8 From a climate change perspective, the development has embedded mitigation measures which will result in it being resilient to changes in temperature, extreme weather events (including flooding), changes in wind and shifting habitats.

5.6.9 Overall, a significantly positive impact is identified through the generation of renewable energy.

5.6.10 Fossil fuels emit high levels of greenhouse gas and carbon dioxide, contributing to global warming, climate change and degradation of air quality.

5.6.11 Solar proposals such as this, reduce our reliance on fossil fuels and help improve air quality. Solar is a clean sustainable source of energy.

5.6.12 The proposed development will contribute to achieving the UK Government's Net Zero agenda.

5.6.13 No additional mitigation measures are proposed with respect to climate resilience.

Traffic and transport

5.6.14 The Transport Statement (Appendix C) sets out the current and proposed access arrangements, the anticipated construction programme, construction vehicle numbers and routing of deliveries, construction worker numbers and the proposed construction hours.

5.6.15 The construction of the solar farm is expected to last around 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.

5.6.16 It is anticipated that the construction phase will generate approximately 175 return journey deliveries to site, or 350 individual movements. The first month will see the highest deliveries to site at 60. Even at the most intense period of construction when plant, equipment, materials, security fencing, frames and support posts and the panels are being delivered, there would be approximately an average of just over 3 HGV deliveries per working day. As all deliveries will result in a return journey for the vehicle there will be up to an average of just over 6 movements per working day.

5.6.17 An estimated 50 staff will be on site during the peak of the construction period, depending on the phases of the construction schedule. It is envisaged that staff will be from both local and regional contractors who will be encouraged to use shared transport such as minibus or car-sharing providing this is possible in terms of current public health guidelines. All vehicle parking will be provided within the temporary construction compound, there will be no parking on the local highway network.

5.6.18 After commissioning, the site will only be visited for routine maintenance checks as required on an ad hoc basis.

Major accidents and/or disasters

5.6.19 Ely Valley Solar Farm will have an export capacity of up to 9.9MW of electricity, enough to power approximately 2,678 homes per year and offset nearly 2,850 tonnes of CO_2 every year.

5.6.20 Due to the nature of the proposed development it is unlikely to release pollutants or any hazardous, toxic or noxious substances to air or land and are unlikely to have a significant effect in terms of pollution and nuisance.

5.6.21 A Construction Management Plan will be prepared and implemented by the appointed contractor during the construction period and will include the requirement for all construction activities to be undertaken in accordance with statutory requirements and best practice methods.

5.6.22 When operational, a concentration of electrical infrastructure will be located within the site in the form of inverters, transformers, substations and cabling all of which will be subject to routine maintenance such that it is not considered to pose a significant risk of creating an accident or disaster. Risks associated with fire are also considered low as electrical systems have cooling mechanisms and automatically shut down should any overheating occur.

Public health and wellbeing

5.6.23 The proposed development is unlikely to release pollutants or any hazardous, toxic or noxious substances to air or land. Potential health impacts are therefore related primarily to construction and operational related impacts.

5.6.24 A detailed Construction Management Plan will be prepared and implemented by the appointed contractor during the construction period and will include the requirement for all construction activities to be undertaken in accordance with statutory requirements and best practice methods.

5.6.25 Once operational, the generation and transmission of electricity produced by the development can be safely managed. The panels themselves are inert, tracking structures with there being no issues relating to the release of light, heat energy or electromagnetic radiation likely. The power generated by each array would be transmitted through insulated cables buried below the ground. The associated electrical equipment would be housed in sealed containers mounted above the ground. In addition, the scheme can be controlled remotely so that the transmission of electricity could be quickly disabled if any immediate health and safety concerns should arise.

Socio-economic

5.6.26 The Proposed Development could potentially generate numerous socio-economic and economic benefits throughout the 40 year lifespan.

5.6.27 The Proposed Development will deliver multiplier economic and socio-economic benefits throughout its lifecycle. With a maximum export capacity of 9.9MW, enough to power approximately 2,678 homes per year and offset nearly 2,850 tonnes of CO_2 every year.

5.6.28 The Development could employ 50 people in the initial 6month construction phase, followed by approximately two maintenance staff over the 40 year lifespan.

5.6.29 Employment onsite would support local business through daily expenditure and also any accommodation required for the construction period. The Proposed Development could also allow local business to operate on clean energy. Allowing them to market themselves as low carbon businesses. It could be particularly attractive to investors,

clients and the tourism market.

5.6.30 The Proposed Development offers the opportunity to build awareness of the energy sector and expand the knowledge network through potential collaboration with local schools. In addition to this the Applicant actively works with university research programs.

Hydrology, drainage and flood risk

5.6.31 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.

5.6.32 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 1. It has been concluded that the site has not historically flooded.

5.6.33 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.

5.6.34 The proposed development would not result in any net loss to flood storage capacity or impact on movement of flood water across the site.

Glint and glare

5.6.35 As noted in the Scoping Opinion, the Local Authority agreed that glint and glare matters are an issue that is unlikely to be materially affected and/or unlikely to give rise to significant environmental effects as a consequence of the proposed development. As a consequence it has been scoped out.

5.7 SUMMARY AND CONCLUSION

5.7.1 This Non-Technical Summary has outlined the findings of an Environmental Impact Assessment of the proposed solar farm, which are contained within the Environmental Statement that accompanies the planning application.

5.7.2 A number of minor adverse impacts were identified in respect of landscape, noise and ecology. However, it is considered that the benefits the scheme realises through the reduction in carbon emissions, the enhancements to local biodiversity and the positive effects to the local economy far outweigh these limited impacts.

5.7.3 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 and abatement techniques.

6. WHAT HAPPENS NEXT

6.1 NEXT STEPS

6.1.1 Prior to Rhondda Cynon Tad County Borough Council making a decision on the planning application, the Council will seek advice from a number of statutory/non-statutory consultees and key stakeholders, and will make the full Environmental Statement available for examination by members of the public.

6.1.2 Electronic copies of all the documents submitted in respect of the planning application will be viewable using the Council's online public access system:

https://www.rctcbc.gov.uk/EN/Resident/PlanningandBuildingControl/PlanningApplications/SearchthePlanningRegister.aspx.

6.1.3 Additional copies of the Non-Technical Summary can be obtained upon written request from the following address:

Sirius Planning
4245 Park Approach
Thorpe Park
Leeds
LS15 8GB


SiriUS Planning