



BRYN HENLLYS EXTENSION

PROPOSED SOLAR FARM

ENVIRONMENTAL STATEMENT NON TECHNICAL SUMMARY

PREPARED BY PEGASUS GROUP | NOVEMBER 2019
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lightsourcebp



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KEY



Site Boundary



Bryn Henllys Solar Farm

INTRODUCTION

This Environmental Statement (ES) has been prepared on behalf of Lightsource BP (the “Applicant”) in support of a planning application for the construction, operation and decommissioning of the Bryn Henllys Extension Solar Farm on Land at Waunlwyd Farm, Ystradowen, Swansea (the “Application Site”). The Application Site is situated within the administrative area of Powys County Council (PCC). The Application Site location is shown on **Figure 1**.

The proposed solar farm would have an installed capacity of up to 9.9 MW, and act as an extension to the approved, but not yet constructed 20 MW Bryn Henllys solar farm to the immediate east of the Application Site (Planning Reference P/2015/0176).

PURPOSE AND STRUCTURE OF THE ENVIRONMENTAL STATEMENT

The ES comprises a series of studies which have been commissioned to address the environmental issues which are considered pertinent to the construction and operational phases of the Proposed Development, including consideration of cumulative effects. The ES also identifies any alternatives that have been considered and mitigation measures to avoid or reduce significant adverse effects.

The full findings of these studies and planning application documents will be available to view at the Council's offices and via Powys County Council's website once the planning application has been registered.

For details of where and when it can be viewed please contact

Powys Council,
Powys County Hall,
Spa Road East,
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Email: planning.services@powys.gov.uk,
Telephone: 01597827161 / 01938 551259.

Additional copies of the NTS (no charge) and ES Main Text/ Technical Appendices (£150) are available from Pegasus Group. The complete ES can also be obtained in digital CD format for £10. Postage is payable upon all orders. For copies of any of these please contact

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When ordering, please quote reference **P18-2622**.

APPLICATION SITE AND CONTEXT

The Application Site covers an area of approximately 25.6 hectares at Waunlwyd Farm, Ystradowen, Swansea. The Application Site is located approximately two miles north-west of the town of Ystradgynlais in south-west Powys. The locality is dominated by grass-covered agricultural fields with some woodland and the settlements of Ystradowen, Cwmllynfell to the west and Cwm-twrch-Uchaf to the south.

The site comprises agricultural land, used for the grazing of livestock, with field boundaries formed by a combination of hedgerows, trees and woodland. The land is split into nine fields, broadly orientated into two parcels ('northern' and 'southern' parcels) connected by an access track. To the immediate east of the Application Site ('southern parcel') planning permission has been granted for a 20MW solar installation.

The Application Site is currently accessed via Pen-Y-Craig Road and the existing farm track for Waunlwyd Farm Farm. The A4068 is located to the west of the site.

INDICATIVE PLANTING SCHEDULE

Native Tree Data

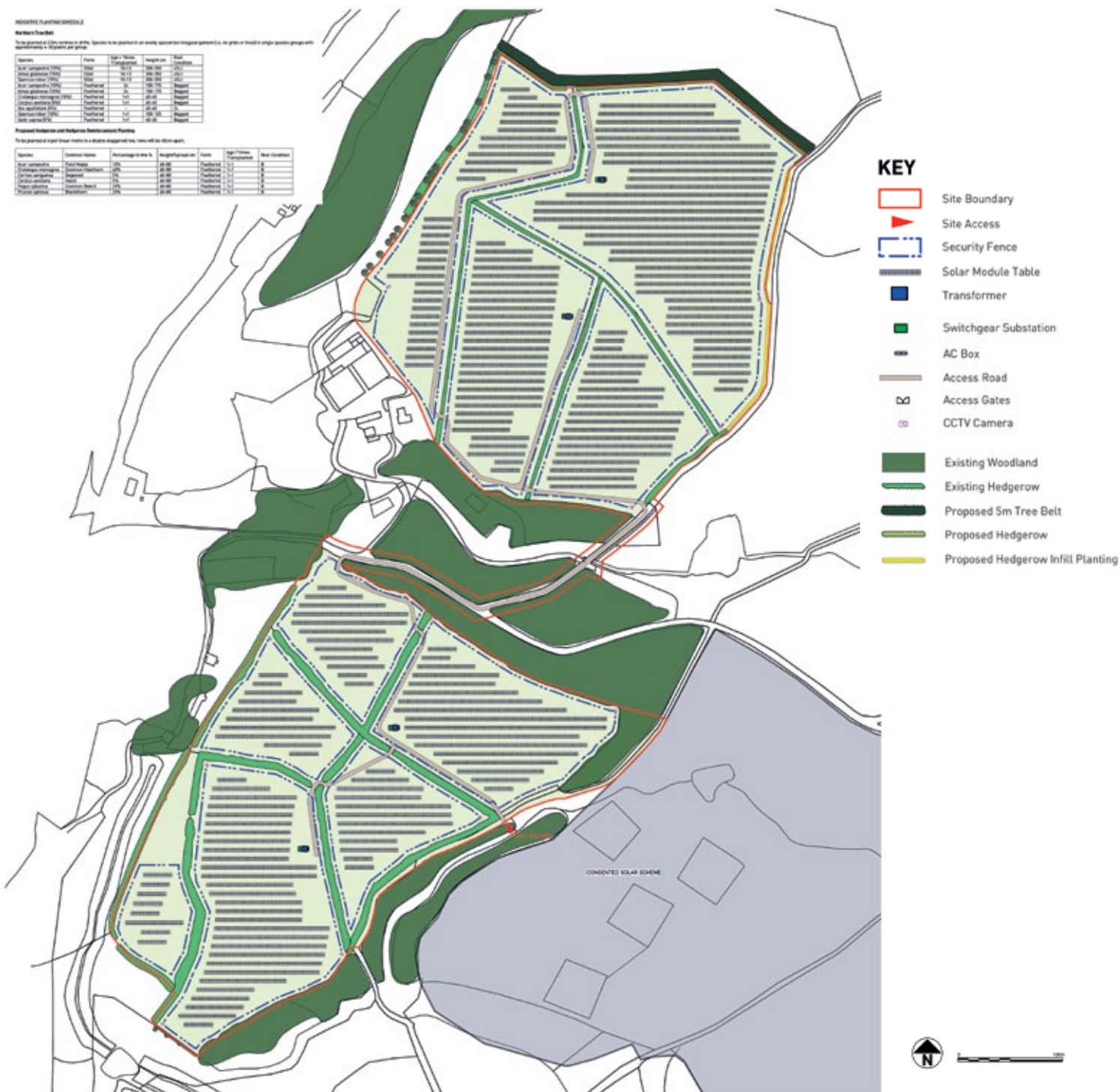
To be planted at 10m centres in rows. Species to be planted in an evenly spaced hedgerow pattern (i.e. one plant in each of single species groups with approximately 100 plants per group)

Species	Form	Height to Plant	Height at 10y	Root Conditions
Native Hawthorn (Hawthorn)	Shrub	10-12	200-300	Shrub
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Native Hawthorn (Hawthorn)	Shrub	10-12	200-300	Shrub

Proposed Hedgerow and Hedgerow Native Planting

To be planted at 10m centres in rows in a double staggered row, rows will be 40m apart

Species	Common Name	Percentage in Key to	Height to Plant at	Form	Height at 10y	Root Conditions
Native Hawthorn	Hawthorn	25%	10-12	Shrub	200-300	Shrub
Native Hawthorn	Hawthorn	25%	10-12	Shrub	200-300	Shrub
Native Hawthorn	Hawthorn	25%	10-12	Shrub	200-300	Shrub
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Native Hawthorn	Hawthorn	25%	10-12	Shrub	200-300	Shrub



THE PROPOSED DEVELOPMENT

The proposed development as shown on **Figure 2** relates to the construction, operation and decommissioning of a ground mounted solar farm which would comprise the following key components:

- Vehicular access from Palleg Road east of the A4068;
- Solar panels will be mounted on metal frames.
The lower edge of a solar panel will be 1m from the ground and the highest point is 2.9m from the ground;
- A 2m high timber & post/deer fence around the site;
- CCTV cameras will be positioned on 2.5 m high poles along the security fence;
- Switchgear substations;
- Transformers;
- AC Boxes
- Access tracks will be 3.5m wide and made of crushed aggregate.

Land between and beneath the panels would continue to be used for sheep grazing.]



Construction, Operation and Decommissioning

It is envisaged that the proposed solar park would be in operation for 40 years.

The construction of the Proposed Development would be undertaken at the same time as the approved and adjacent Bryn Henllys solar farm. The temporary construction compound would be located within the approved / adjacent Bryn Henllys site, with materials transferred within Bryn Henllys and across to the Application Site using by telehandlers. The construction of Bryn Henllys Extension would be undertaken at the same time as Bryn Henllys solar farm, by means of an extended construction period. Bryn Henllys Extension construction would take approximately 3 months.

At the end of its operational life the development would be decommissioned and all solar panels, transformer / substations units, fencing and security measures will be removed and the Application Site returned to agricultural use.

Alternatives

The constraints and opportunities presented by the Application the Site have been used to inform the design principles and design evolution, which in turn have helped refine and structure the Proposed Development including possible mitigation and as well as enhancements. A number of mitigation measures have been implemented during the iterative design stage and these relate to the protection of boundary vegetation including Root Protection Areas, location and alignment of access tracks, location of ancillary infrastructure such as substations and transformers and the location of the construction compound. Further enhancements are proposed to grassland and hedgerow boundaries to provide screening and habitat improvements / connectivity.

LANDSCAPE AND VISUAL AMENITY

The Proposed Development would lead to a change to onsite landscape character of the Application Site and its immediate environment. The pattern of existing vegetation is such that effects to landscape character will be localised and limited to the Application Site and its immediate setting. These effects would reduce with distance and over time as the mitigation planting becomes established.

The landscape of the Brecon Beacons National Park will remain attractive and legible and there would be no significant effects on the valued attributes or special qualities of this designation. It is acknowledged that there would be views of parts of the Proposed Development from the surrounding area including certain viewpoints and localised receptors.

Mitigation and Enhancement

New planting has been proposed along the northern and southern boundary of the site. Following the implementation and establishment of this planting the residual effects upon landscape character and views will reduce.

Cumulative and In-combination Effects

A small number of viewpoints would experience cumulative effects. This would reduce to negligible neutral and not significant at Viewpoint 1 following the establishment of the proposed mitigation measures.

Conclusion

The assessment has taken into account the existing context, potential change to the receiving landscape and influence on the visual amenity of the identified receptors. The assessment has concluded that there would be some localised significant effects but in majority of cases these can be mitigated, including the cumulative effects through planting.

BIODIVERSITY

A habitat survey and a breeding bird survey was undertaken at the Application Site in June 2019.

Habitats within the Site are dominated by improved grassland with a small areas of broad-leaved semi-natural woodland to the east of the Application Site. Fields are bounded by hedgerows with occasional young trees which have limited bat roosting potential but are likely to provide moderate commuting and foraging opportunities for bats. Habitats present on site are suitable for foraging and breeding birds in the form of grassland, hedgerows and trees. A variety of species typical of rural areas were recorded singing or showing some evidence of activity within the site including skylark and yellowhammer. No great crested newts have been recorded within 2 km of the site and the survey indicates that it is highly unlikely that great crested newts are present. Habitat connectivity will be maintained around the Application Site during works through the retention and protection of hedgerow and tree boundary features.

Likely Significant Effects

No significant effects are anticipated on statutory or non-statutory designed sites or habitats or on protected or notable species, including bats, birds, amphibians or other species in relation to the Proposed Development.

Mitigation and Enhancement

Mitigation and enhancement measures will include the following:

- A site layout and planting plan that includes species-diverse grassland creation, hedgerow planting and infilling as well as tree planting.
- Pollution prevention and control measures during construction;
- Pre-construction nesting bird checks undertaken if works commence during the breeding bird season (generally 1st March to 31st August inclusive);
- A pre-construction badger survey;
- Gaps positioned in the base of the perimeter fence in order to allow mammal species (badger, brown hare and West European hedgehog) to use the habitats on Site
- A minimum of six bat roost boxes and six bird boxes located on suitable mature and semi-mature trees along the Application Sites field boundaries

Cumulative and In-combination Effects

There would be no significant cumulative or in-combination effects with other proposed developments in the wider landscape.

Conclusion

With mitigation measures in place, the Proposed Development will have no significant residual effects on Ecology or Nature Conservation. Biodiversity net gain can be delivered through landscape planting and ecological enhancements along with a biodiversity management plan.

CULTURAL HERITAGE AND ARCHAEOLOGY

There are no designated historic assets located within the Application Site. Bryn Henllys post-medieval / modern stock enclosure, and possible historic mining and agricultural remains, a non designated asset, is within the site. The larger part of the Application Site has already been truncated by later 20th-century opencast mining. Any remains that may have survived buried within the footprint of the opencast works are likely to have been removed.

The Application Site does not contribute to the setting or heritage significance of any historic assets within. This includes Grade II Listed Henllys Vale Colliery Limekilns, Grade II Listed Henllys Vale Colliery Chimney, Grade II Listed Henglyn Isaf Farmhouse, Grade II Listed Bethel Independent Chapel, the five Grade II Listed buildings at Heol Giedd, Cwm Giedd, and any Scheduled Monuments along the lower reaches of the Black Mountains, north of the Application Site. The significance of all of these assets would be preserved under the proposals.

Likely Significant Effects

No significant effects have been identified, either as a result of direct truncation of archaeological remains or indirectly as a result of changes to setting.

Mitigation and Enhancement

In relation to the Bryn Henllys enclosure, previous trial excavations undertaken by CPAT have demonstrated the recent date and low significance of this asset. Archaeological monitoring during panel installation is considered an appropriate form of mitigation if necessary.

Cumulative and In-combination Effects

No cumulative effects are anticipated as a result from the Proposed Development in respect of cultural heritage.

TRANSPORT AND ACCESS

The approved Bryn Henllys solar farm is located to the immediate east of the Application Site, with access to the Application Site proposed to be routed through the consented site and constructed in tandem in order to minimise construction related effects.

The approved Bryn Henllys solar farm, takes access from the existing access from Palleg Road, which connects with the A4068, via Cwmpfil Road. This existing access was used for the previous open cast minerals extraction which ceased in 2003, as such is of a standard and scale to accommodate regular HGV traffic.

Byway Open to all Traffic (BOAT) No. 7 runs between the two parcels of Bryn Henllys Extension, whilst footpath 122A routes along the eastern side of the northern parcel. Further public footpaths are located in the surrounding area.

Assessment of Likely Significant Effects

The main traffic and transport related environmental effects are associated with the movement of heavy goods vehicles (HGVs) to and from the Application Site during the construction phase and decommissioning phase. The assessment of the effects of construction traffic considers the implications for pedestrians, cyclists and horse riders, as well as the effects on the road network. Solar Farms when operational do not give rise to significant traffic movements. The same construction access will be used for the Proposed Development as for the approved Bryn Henllys solar farm, with materials transferred through Bryn Henllys solar farm and to the Proposed Development by telehandlers. Over the construction period of the solar farm it is estimated that the Application Site will typically generate up to 4 HGV deliveries (8 HGV movements) per day.

Minor, temporary adverse effects are predicted in relation to Palleg Road and Cwmpfil Road, which would be further reduced and managed through the implementation of the Construction Traffic Management Plan (CTMP) and no significant effects are predicted to arise on the road network. Public Rights of Way (PROW) in the vicinity of the Application Site will be kept open during construction and decommissioning, although will be temporarily affected by the presence of construction vehicles routing along the farm access track along which BOAT No. 7 and Footpath 122A route. The measures outlined in the CTMP have been designed to minimise effects on users of these PROW.

Mitigation and Enhancement

A Construction Traffic Management Plan sets out the route and proposals for delivery of materials, plant and labour to and from the Application Site. It covers mitigation including management of deliveries, delivery time restrictions, construction warning signs and management of Public Rights of Way to minimise construction based traffic impacts.

Cumulative and In-combination Effects

The effects during construction will be comparable to Bryn Henllys solar farm.

Conclusion

Adopting best practice construction management the effect of construction of the Proposed Development will be minimised. The effect of the Proposed Development long-term during operation on local roads and PROW will be negligible.

HYDROLOGY, FLOOD RISK AND SURFACE WATER DRAINAGE

The Application Site is currently agricultural land. The topography varies across the Application Site with a general trend of existing levels falling towards the south/south-west of the Application Site. A number of drainage ditches intersect the Application Site in conjunction with hedgerows used as agricultural boundaries for adjoining fields. There is a formalised stone lined ditch flowing east, from west, towards the Afton Twrch, this not located with the Application Site however is culverted under the existing roads that connect the north and south parcels of the Proposed Development.

Likely Significant Effects

The construction of the Proposed Development will have a temporarily, negligible effect on surface water drainage (associated with the trenching for the cable connection and installation of facilities). During construction, good site management, adequate contingency planning, application of pollution prevention principles and best practice construction techniques will be employed to avoid and minimise potential effects on local water quality. In operation, the area beneath the solar panels will remain grassed. Rainwater falling onto each panel will drain freely onto the ground beneath the panel and infiltrate into the ground at the same rate as it does in its existing greenfield state. Similarly any rainwater falling onto the gravel access tracks will soak into the ground beneath or adjacent to the tracks. The creation of new impermeable areas as a result of the Proposed Development is considered to have a negligible effect on the extent of impermeable ground cover, given the very limited extent of these areas.

Mitigation and Enhancement

Upon completion of the solar farm the Application Site will be permanently grassed thereby reducing the risk of soil erosion and reducing potential runoff compared with the existing condition. The provision of swales on the Application Site as part of the proposed Drainage Strategy will provide enhancement to any effects posed by a negligible increase of impermeable areas associated with control equipment as part of the Proposed Development. The Application Site has been designed so that it respects, maintains and enhances the existing drainage regime. Through maintaining a suitable vegetation cover throughout the lifetime of the development it will protect the existing drainage regime to be retained.

Cumulative and In-combination Effects

If the effects of the Proposed Development and other developments are considered together the cumulative effect of developments on hydrology and flood risk is also 'Negligible' assuming appropriate mitigation measures are implemented.

Conclusion

Residual impacts of the proposed solar farm development will range between 'Permanent Minor Beneficial' to 'Temporary Minor Adverse'. Measures which minimise the risk of a pollution incident affecting water resources and provide a small degree of betterment with respect to flood risk are proposed.

GROUND CONDITIONS AND CONTAMINATION

Introduction

The Application Site comprises of generally restored opencast mining land and currently used as agricultural land. Historical mapping has indicated the majority of the southern portion of the Application Site and the eastern half of the northern parcel of the Application Site were subject to opencast coal mining.

Likely Significant Effects

With the design mitigation, risks identified to human health and controlled waters are assessed as very low to low. Compared to the existing baseline, the level of risk to receptors has been reduced for the prevention of impacts from land contamination. A negligible level of effect is predicted, which is not significant. With the design mitigation incorporated, risks identified to ground stability at the site are also assessed as very low, and not significant.

Mitigation and Enhancement

Mitigation measures have been incorporated into the design, construction and operation of the Proposed Development to reduce impacts of physical effects, and effects associated with land contamination, soil waste and soil re-use. Such control measures will be in accordance with the relevant legislation, regulations, best practice guidance and pollution prevention methods.

Cumulative and In-combination Effects

The cumulative effect of developments of ground conditions and contamination is considered negligible and not significant.

Conclusion

Detailed ground investigations will be required in order to provide foundation recommendations at the Application Site and discharge relevant planning conditions, should planning permission be granted. Based on the assessment it is considered that there are no insurmountable environmental, engineering, or geotechnical constraints associated with the Proposed Development.

Therefore, the Proposed Development at the Application Site is considered to be acceptable and there would be no adverse significant effects.





SUMMARY

The ES demonstrates that there are no overriding environmental constraints which would preclude the Proposed Development on the Application Site.

The design of the Proposed Development has taken account of the likely significant environmental effects and where necessary, mitigation measures form an integral part of the Proposed Development to ensure that the environment is suitably protected.

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DESIGN



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PLANNING



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