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Habitats Regulations Assessment

Land to the east of the A48 and Land to the south west of Tycroes

April 2020

A report by

Colin Hicks BSc (Hons) MCIEEM, Principal Ecologist

Western Ecology Ltd., 1 Geffery Close, Landrake, Saltash Cornwall PL12 5HA Telephone: 0800 622 6828
Email: office@westernecology.co.uk

Report details

Site name:	Land to the east of the A48 and Land to the south west of Tycroes
Grid reference:	Site 1: SN 599 095 Site 2: SN 592 095 Site 3: SN 574 093
Report date:	30th April 2020
Report author:	Colin Hicks BSc (Hons) MCIEEM
Report no:	WOR-1206.2

Declaration of compliance

BS 42020:2013

This study has been undertaken in accordance with British Standard 42020:2013 Biodiversity, Code of Practice for Planning and Development.

Code of Professional Conduct

The information which we have prepared is true, and has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions.

Validity of survey data and report

The findings of this report are valid for 24 months from the date of surveys on which it is based. If work has not commenced within this period, updated surveys by a suitably qualified ecologist may be required.

Revisions

Date	Report no:	Approved by:	Comment
18/12/2019	WOR-1206.1	CDH	Original report
12/03/2020	WOR-1206.1	CDH	Updated to reflect comments of CCC and NRW
29/04/2020	WOR-1206.2	CDH	Site numbering changed

Table of contents

1. Introduction

1.1. Background

1.1.1. This report is in response to pre-application consultation received by Natural Resources Wales (NRW) in relation to a 40MW solar farm. The consultation stated:

1.1.2. The applicant will need to provide sufficient information for the competent authority to be able to carry out a Habitat Regulations Assessment (HRA).

1.1.3. This report provides a shadow Habitats Regulations Screening Assessment.

1.2. Approach to the Habitats Regulations Assessments

1.2.1. A Habitats Regulations Assessment (HRA) is required under EC Directive 92/43/EEC on the conservation of natural habitats and of wild flora and fauna (the 'Habitats Directive') (Article 6(3)) wherever a plan or project that is not directly connected to, or necessary to the management of a Natura 2000 site has the potential to have a significant effect on the qualifying species populations or habitats within the site.

1.2.2. From this, the relevant plan-making body shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the designated site concerned, unless in certain exceptional circumstances.

1.2.3. Guidance on undertaking assessment of plans or projects that may impact upon designated European sites recommends a staged approach to the assessment process:

- Screening - Identifying potentially relevant European sites and the likely impacts of a project upon the designated features of a European site, either alone or in combination with other plans and projects, and considering whether the impacts are likely to be significant.
- Appropriate Assessment - The consideration of the impacts on the integrity of the European site, either alone or in combination with other plans and projects, with regard to the site's structure and function and its conservation objectives. Where there are adverse impacts, an assessment of mitigation options is carried out to determine adverse effect on the integrity of the site. If these mitigation options cannot avoid adverse effects, then development consent can only be given if the following two tests can be passed.
- Test 1 - Assessment of Alternative Solutions - Examining alternative ways of achieving the objectives of the project, to establish whether there are solutions that would avoid or have a lesser effect on European sites.
- Test 2 - Imperative Reasons of Overriding Public Interest - This is the assessment where no alternative solution exists and where adverse impacts remain. It is the process to assess whether the development is necessary for IROPI and, if so, the identification of any necessary compensatory measures needed to maintain the overall coherence of the site or integrity of the European site network.

These four stages are referred to as a Habitats Regulations Assessment (HRA).

1.2.4. A ‘likely’ effect is one that cannot be ruled out on the basis of objective information, and it should be noted that the test is a ‘likelihood’ of effects rather than a ‘certainty’ of effects. Determining whether there will be a LSE does not imply that there will be such an effect, or even that an effect is more likely than not. The LSE test should be used to filter out effects that are clearly trivial or inconsequential.

1.2.5. To suggest LSE there must be a link between the proposal's effects and a European site’s qualifying features, and it must be reasonable to suggest that the effect is likely. Having established this, only where the effects are obviously trivial or inconsequential and this judgement can be clearly and easily justified, should no LSE be concluded.

1.2.6. The aim of the LSE test is therefore to determine whether the plan either alone, or in combination with other plans and projects and activities, is likely to result in a significant effect on a European site. Given the need for a high level of certainty to meet Habitats Regulations requirements, there is a presumption in favour of ‘screening issues in’ at this stage, following the precautionary approach. When considering the relevant screening methods to determine LSE, it is therefore understood that there needs to be a presumption in favour of including, rather than excluding, qualifying features and designated sites in the HRA process at this stage.

1.2.7. This report therefore provides an assessment of LSE to enable the Planning Inspectorate and Natural Resources Wales to undertake an HRA screening of the potential for the development to impact qualifying features of Caeau Mynydd Mawr Special Area of Conservation (SAC).

1.2.8. An HRA screening matrix is included as Appendix I of this report.

2. Identification of Natura 2000 site and characterisation

2.1. The site

2.1.1. The proposed solar farm comprises three areas, Sites 1, 2 and 3 (Map 1).

2.1.2. Site 1 comprises improved grassland (22.0ha) managed for its agricultural value enclosed by species rich hedgerows (3.65km). Site 2 comprises improved grassland (2.1ha) managed for its agricultural value enclosed by species rich hedgerows (0.41km) and a fence. Site 3 comprises improved grassland (21.8ha) managed for its agricultural value, enclosed by semi-natural broadleaved woodland with internal species rich hedgerow boundaries (2.8km).

2.1.3. At its nearest point, Caeau Mynydd Mawr SAC is approximately 1.3km km to the north.

2.2. Caeau Mynydd Mawr SAC

Annex I habitats that are a primary reason for selection of this site

2.2.1. Not applicable

Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site

2.2.2. Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae)

Annex II species that are a primary reason for selection of this site

2.2.3. Marsh fritillary *butterfly* Euphydryas (Eurodryas, Hypodryas) *aurinia*

2.2.4. Marsh fritillaries *Euphydryas aurinia* occur over a wide area of traditionally-managed purple moor-grass Molinia caerulea pastures in south-east Carmarthenshire. The extent of suitable habitat, contained within more than 30 enclosures at Caeau Mynydd Mawr, suggests that this is one of the largest metapopulations in Wales.

Annex II species present as a qualifying feature, but not a primary reason for site selection

2.2.5. Not Applicable

2.2.6. Supplementary planning guidance (SPG) has been published for this site which includes advice on the conservation objectives of this SAC (Carmarthenshire County Council, 2014). The existing advice relates to marsh fritillary populations and their supporting habitat of Molina meadows on calcareous, peaty or clayey-silt-laden soils. The SPG conservation objectives for the SAC seek to establish 50ha of habitat within management, however this SPG provides a framework for sufficient land to be managed in order to seek to provide a minimum 100ha of suitable habitat. The SPG provides a method of land acquisition to meet the conservation objectives of the SAC.

2.2.7. The HRA assessment of the local plan (Carmarthenshire County Council, 20148) also sets the conservation objectives for marsh fritillary within this SAC:

- The population will be viable in the long term, acknowledging the extreme population fluctuations of the species.
- Habitats on the site will be in optimal condition to support the metapopulational.
  The SAC populations will be the core of the metapopulation. The metapopulation will consist of the SAC populations plus populations breeding on land within c. 2 kilometres of the SAC boundary.
- At least 13 ha across the three component SSSIs will be marshy grassland suitable for supporting marsh fritillary, with Succisa pratensis present and only a low cover of scrub.
- At least 6 ha of this will be good condition marsh fritillary breeding habitat, where, for at least 80% of sample points, the tussocky vegetation is within the range of 12-25 cms tall and Succisa pratensis is present within a 50 cm radius sample point. Scrub (>0.5 m tall) covers no more than 10% of area.
- At least another 7 ha of this will be suitable condition marsh fritillary breeding habitat where Succisa pratensis is occasional/frequent/abundant and vegetation height is usually 12-25 cms. Scrub (> 0.5 m tall) will cover no more than 10% of the total area.
- The marshy grassland will be well sheltered by hedgerows and mature trees.
- All factors affecting the achievement of the foregoing conditions are under control.

2.2.8. Site 1, Site 2 and Site 3 are within the SPG boundary area but do not support habitat judged within the SPG as being capable of supporting marsh fritillary, although two fields along the cable route (F8 and F13) are judged to be suitable within both the SPG and the preliminary ecological appraisal for that route.

2.3. Proposed development

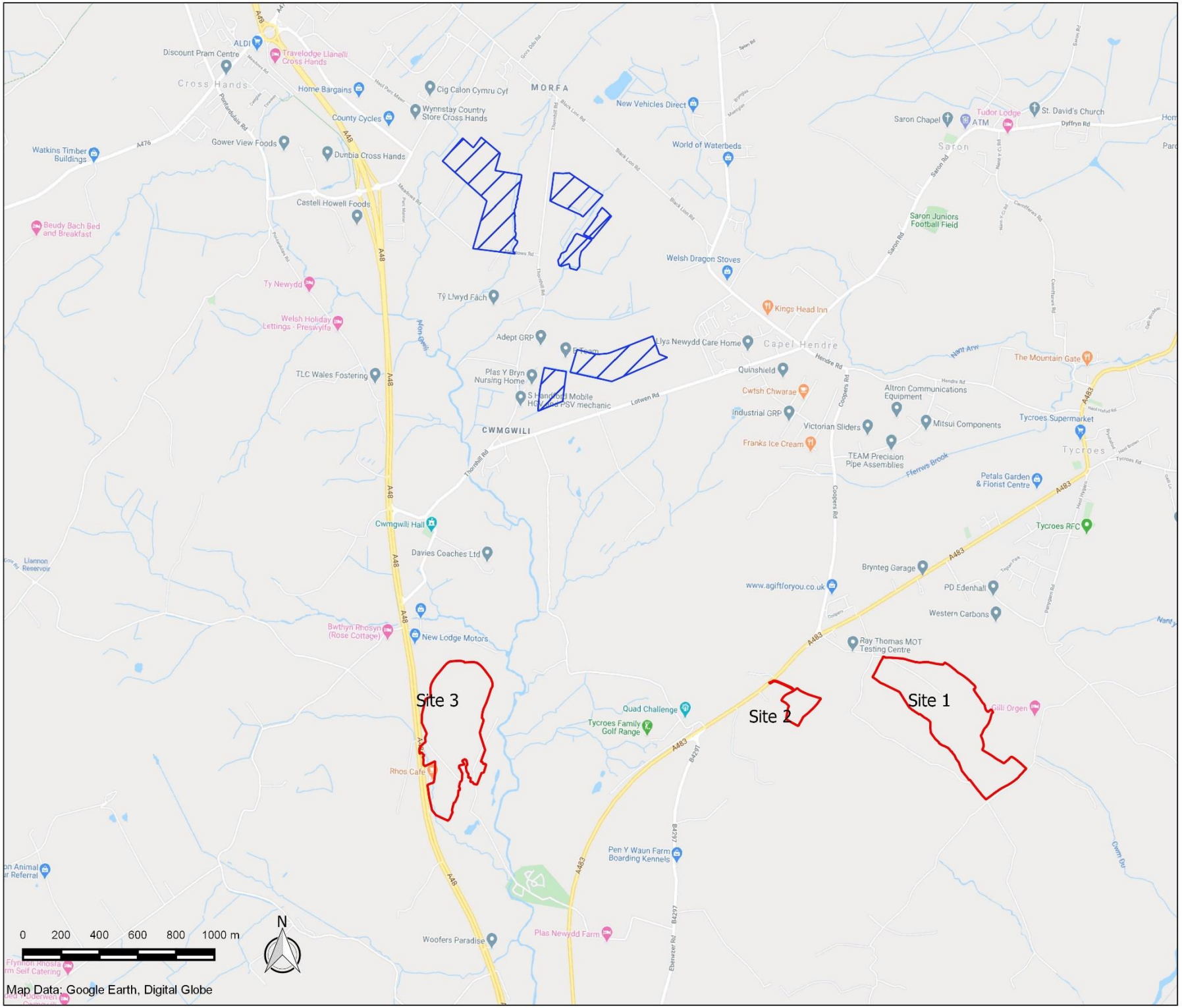
2.3.1. The proposed development is a ground mounted Photo Voltaic (PV) solar farm development (Map 1).

2.3.2. Permission would be required for 40 years and the installation would have the design capacity for between 36-40MW of electricity generation.

2.3.3. Together with associated infrastructure and housings, the development is comprised of the following main elements:

- PV panels mounted on fixed metal frames with support posts driven into the ground to a depth of approximately 1.5m, avoiding the use of concrete foundations. The panels are laid out in east-west orientated rows in order to optimise solar gain. The lowest edge of the panels would be approximately 0.8m above ground level with the highest edge being approximately 3.5 m above ground. The rows are spaced approximately 4-5m apart to avoid one row of panels shading the next. The panels are non-reflective (i.e., to prevent glint or glare) and angled at approximately 20- 25° to horizontal. Inverter technology, which converts direct current (DC) into alternating current (AC). These are likely to be string inverter (80 cm by 1m) affixed beneath the PV panels to the PV mounting system.

- There will be approx. 24 cabinets containing electrical equipment such as switchgear and transformers housed within flat roofed pre-fabricated units no higher than 3m and with a footprint of approximately 5m x 2.5m.
- An on-site sub-station.
- Security fencing (most likely deer fencing) to a height of 2.4m along with infra-red security cameras which will feature around the perimeter of the development; directed inward only.
- There will be no external lighting.
- Each of the three parcels of land benefits from an established vehicular access directly from both the A48 and the A483 suitable for the delivery vehicles required to deliver the equipment proposed to be installed at the site. Existing gateways and tracks will be used to access the site itself, the surfaces of which would be improved by way of providing additional gravel.
- A buried electrical cable is proposed connecting areas of the proposed solar farm to an electrical substation. It will be laid within a trench approximately 600mm wide before the trench is backfilled.
- Woodland, a river crossing and an area of marshy grassland in the west of the site will be traversed by sub-soil horizontal directional drilling (HDD).



western ECOLOGY

1 Geffery Close
Landrake
Saltash
Cornwall
PL12 5HA

Tel: 0800 622 6828
email: office@westernecology.co.uk

Legend

- Proposed development site
- Caeau Mynydd Mawr SAC

Title: Map 1. Development site and Caeau Mynydd Mawr SAC

Project: Land to the east of the A48 and Land to the south west of Tycroes

Checked by: CDH Version: 02
Date: 30/04/2020

3. Identification of likely impacts and screening

The proposed development is not connected with, or necessary to, the management of the international sites.

3.1. Caeau Mynydd Mawr SAC

Annex 1 habitats

3.1.1. Possible impacts on Annex 1 habitats within Caeau Mynydd Mawr SAC from an unmitigated development such as this relate to:

- Land take
- Increased airborne pollutants
- Increased waterborne pollutants

3.1.2. The proposed development is wholly contained within an area 1.3km from this SAC and will not result in land take within the SAC.

3.1.3. During construction work, there is potential for a limited amount of airborne pollutants and dusts to be created for a brief period of time. Predominant winds in this area are from the south west such that any pollutants would be carried towards this SAC, although dilution over the intervening distance would negate any effect. It not expected that airborne pollutants will be emitted during the operational phase of the development.

3.1.4. Site 3 is set close to River Gwili, whilst both Site 3 and Site 1 have small watercourses. These all flow to the south or east, leading away from the SAC and the SPG. There is no pathway for waterborne pollutants associated with the proposed development to impact this SAC or supporting habitats.

3.1.5. It is certain that the proposed solar farm would have no LSE on Annex 1 habitats associated with the Caeau Mynydd Mawr SAC.

Annex II species

3.1.6. The Caeau Mynydd Mawr SAC has been selected for the Annex II species marsh fritillary. The butterfly functions in a meta-population – a group of local (smaller) populations connected by migrating individuals. Any adverse effect on the local population of marsh fritillary could have an impact on the SAC population.

3.1.7. Habitats within the footprint of the solar farm comprise managed agricultural grassland and are not suitable for marsh fritillary.

3.1.8. Two fields (F8 and F13) along the cable route comprise grassland with potential marsh fritillary. Due to wet conditions, the cable route will pass under F13 by horizonal directional drilling (HDD). The cable trench will travel along the drier eastern edge of F8 where the larvae of marsh fritillary are unlikely to be present, whilst any works in this area will only be for two to three days.

3.1.9. It is near certain that the proposed solar farm would have no LSE on Annex II species associated with the Caeau Mynydd Mawr SAC and its supporting meta-populations.

4. In-Combination effects

4.1.1. There is a requirement within the HRA process to consider the in-combination effect of other plans or projects with the site under assessment.

4.1.2. In-combination impacts are those additional changes caused by a proposed development in conjunction with similar developments, or as the combined effect of several developments taken together.

4.1.3. An assessment of the in-combination impact arising from the proposed development at this site requires that relevant information relating to the individual impact of adjacent developments is available.

4.1.4. Ideally adjacent developments should include existing developments, either under construction or operational, approved developments and proposals awaiting determination with sufficient data available within the public domain.

4.1.5. In-combination impacts arising from two or more developments may be:

- Additive - effects are summed
- Antagonistic – the cumulative impacts are less than their summed values
- Synergistic – the cumulative impact is greater than the summed impact.

4.1.6. The proposed development should therefore be assessed in combination with other developments within the SPG of Caeau Mynydd Mawr SAC of similar scale and type.

4.1.7. It must be remembered that where any interest feature of this site has been assessed as already being in unfavourable condition or critical thresholds are being exceeded, any additional plan or project which, either alone or in combination, adds to these levels is likely to have a significant effect on that site. It is therefore likely that if any other project has an adverse effect on an interest feature of this SAC, any impact resulting from this project for which there is a realistic pathway of effect, would have an in-combination adverse effect.

4.1.8. An assessment of the in-combination impact requires knowledge on the effects on a given receptor of each existing and proposed development within the vicinity. Although four large scale solar developments are listed by the planning search engine within the SPG area (Ref: E/28026, E/28054, S/27987 & S/27526), the online planning system has no available documents detailing the effects of each individual project on Caeau Mynydd Mawr SAC.

4.1.9. It was therefore decided that information in the Local Plan would be used as the basis for in-combination effects.

4.1.10. The HRA screening report of the revised Carmarthenshire Local Development Plan 2018 - 2033 gives no consideration to renewable energy developments, although it does consider rural developments and infrastructure, both of which are screened out from LSE.

4.1.11. Taking into account the screening out of LSE when considering the project on its own, when considered ‘In combination’ with rural developments and

infrastructure in the Local Plan HRA screening report, LSE on Caeau Mynydd Mawr SAC can be screened out.

5. Conclusion

5.1.1. Likely Significant Effect, alone or in-combination, on Caeau Mynydd Mawr SAC is screened out.

6. References

Carmarthenshire County Council, 2014. Supplementary Planning Guidance: Caeau Mynydd Mawr Special Area of Conservation.

Carmarthenshire County Council, 2014. Habitats Regulation Assessment Screening Report: Revised Local Development Plan 2018 - 2033.

Appendix 1

Habitat Regulation Assessment (HRA) Screening Matrix and Appropriate Assessment Statement

PLEASE NOTE: Undertaking the HRA process is the responsibility of the decision maker as the Competent Authority for the purpose of the Habitats Regulations, however, it is the responsibility of the applicant to provide the Competent Authority with the information that they require for this purpose.

HRA completion date:	April 2020
Application reference:	
Application address:	Land to the east of the A48 and Land to the south west of Tycroes
Application description:	Ground mounted Photo Voltaic (PV) solar farm development across three sites. Permission would be required for 40 years and the installation would have the design capacity for between 36-40MW of electricity generation.
Status of Application:	
Proximity to SPA:	1.3km to the south
Grid Ref:	Site 1: SN 599 095 Site 2: SN 592 095 Site 3: SN 574 093

Lead Planning Officer:

Stage 1 - details of the plan or project	
European site potentially impacted by planning application, plan or project:	Caeau Mynydd Mawr SAC and local meta populations of marsh fritillary
Is the planning application, project or plan directly connected with or necessary to the management of the site (if yes, Applicant should have provided details)?	No
Are there any other projects or plans that together with the planning application being assessed could affect the site (Applicant to provide details to allow an 'in combination' effect to be assessed)?	No The HRA screening report of the revised Carmarthenshire Local Development Plan 2018 - 2033 gives no consideration to renewable energy developments, although it does consider rural developments and infrastructure, both of which are screened out

	from LSE.

Stage 2 - HRA screening assessment
Test 1: the significance test – The Applicant to provide evidence so that a judgement can be made as to whether there could be any potential significant impacts of the development on the integrity of the SPA.
Conclusion on the need for a full Habitats Regulations Assessment (Appropriate Assessment) (has evidence shown there is a need for a full HRA?) **NO** Annex I habitats - Molinia meadows on calcareous, peaty or clayey-silt-laden soils The proposed development is wholly contained within an area 1.3km from Caeau Mynydd Mawr SAC and will not result in land take within the SAC. There is no pathway of effect for waterborne pollution, whilst air borne pollutants during the construction phase will be minimal and it not expected that airborne pollutants will be emitted during the operational phase of the development. It is certain that the proposed solar farm would have no Likely Significant Effect on Annex 1 habitats associated with the Caeau Mynydd Mawr SAC. Annex II species – marsh fritillary Any adverse effect on the local population of marsh fritillary could have an impact on the SAC population. Habitats within the footprint of the solar farm comprise managed agricultural grassland and are not suitable for marsh fritillary. Two fields along the cable route comprise marshy grassland with potential for marsh fritillary. Due to wet conditions, the cable route will pass under one field by horizonal directional drilling (HDD) and the cable trench will travel along the drier eastern edge of the other. It is near certain that the proposed solar farm would have no Likely Significant Effect on Annex II species associated with the Caeau Mynydd Mawr SAC and its supporting meta-populations. (If yes, continue to Stage 3; if no, continue to Stage 4).
Stage 3 - HRA – Appropriate Assessment
Test 2: the integrity test – If there are any potential significant impacts, the applicant must provide evidence showing avoidance and/or mitigation measures to allow an Assessment to be made. The Applicant must also provide details which demonstrate any long term management, maintenance and funding of any solution.

Notes:
Stage 4 – Summary of the Appropriate Assessment (To be carried out by the Competent Authority (the local planning authority) in liaison with Natural England
Conclusion:
Natural England Officer:
Summary of Natural England's comments: