

Adroddiad

Report

Gwrandawiadau a gynhaliwyd ar 15 a 16 Awst 2022

Hearings held on 15 and 16 August 2022

Ymweliadau â safle a wnaed ar 3/12/2021, 7/9/2022 a 5/10/2022

Site visits made on 3/12/2021, 7/9/2022 and 5/10/2022

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Cymru

Inspectors appointed by the Welsh
Ministers

Dyddiad: 11.10.2022

Date: 11.10.2022

TOWN AND COUNTRY PLANNING ACT 1990 – SECTION 62D

THE DEVELOPMENTS OF NATIONAL SIGNIFICANCE (WALES) REGULATIONS 2016

APPLICATION BY: BRYNRHYD SOLAR FARM LTD

FOR: THE CONSTRUCTION, MANAGEMENT, OPERATION AND SUBSEQUENT
DECOMMISSIONING OF A GROUND MOUNTED SOLAR PARK WITH A MAXIMUM
DESIGN CAPACITY OF UP TO 30MWp (MEGAWATTS PEAK)

AT: BRYN-Y-RHYD FARM, LLANEDI, PONTARDDULAI SA4 0FD (Coordinates: E260042
N210145; E260024 N209428; E259094 N208166)

REFERENCE: DNS/3260565

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LIST OF ABBREVIATIONS

ALC	Agricultural Land Classification
BMV (land)	Best and Most Versatile (land)
CCC	Carmarthenshire County Council
CIEEM	Chartered Institute of Ecology and Environmental Management
CMRA	Coal Mining Risk Assessment
DNS	Development(s) of National Significance
EIA	Environmental Impact Assessment
EPP	Ecological Protection Plan
ES	Environmental Statement
FCA	Flood Consequence Assessment
FW	Future Wales
GRS	Grassland restoration scheme
HDA	Heritage Desk-Based Assessment
IEF	Important Ecological Feature
LDP	Local Development Plan
LEMP	Landscape and Ecological Management Plan
LIR	Local Impact Report
LSCS	Carmarthenshire Solar PV Development Landscape Sensitivity and Capacity Study
PEDW	Planning and Environment Decisions Wales
PINS Wales	Planning Inspectorate Wales
PPW	Planning Policy Wales (Edition 11)
PROW	Public Right of Way
SAC	Special Area of Conservation
SLA	Special Landscape Area
SMP	Soil Management Plan
SPG	Supplementary Planning Guidance
SSSI	Site of Special Scientific Interest
TAN	Technical Advice Note
WFG Act	Well-being of Future Generations Act
WG	Welsh Government
ZTV	Zone of Theoretical Visibility

Ref: DNS/3260565

Site address: Bryn-Y-Rhyd Farm, Llanedi, Pontarddulais SA4 0FD (Coordinates: E260042 N210145; E260024 N209428; E259094 N208166)

- The application, dated 16 September 2021, was made under section 62D of the Town and Country Planning Act 1990 (as amended).
- The application is made by Brynrhyd Solar Farm Ltd.
- The application was confirmed as valid on 28 October 2021.
- Hearings were held on 15 and 16 August 2022. Site visits were undertaken on 3 December 2021, 7 September 2022 and 5 October 2022.
- The development proposed is the construction, management, operation and subsequent decommissioning of a ground mounted solar park with a maximum design capacity of up to 30MWp (megawatts peak).

Summary of Recommendation: That planning permission be granted.

Procedural matters

1. In accordance with Article 5 of The Developments of National Significance (Procedure) (Wales) Order 2016 ('the Order'), the applicant originally notified the Planning Inspectorate Wales ('PINS Wales') on behalf of the Welsh Ministers of the proposed development on 17 February 2021.
2. Further to a request made by the applicant pursuant to regulation 31(1) of the Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017 ('the Regulations'), PINS Wales provided a Screening Direction on 4 November 2020 confirming the proposed development to be 'EIA Development'.
3. The application was initially submitted to PINS Wales on 14 June 2021 and was supported by a Consultation Report, which summarises the pre-application publicity and consultation conducted between 19 March and 30 April 2021, and an Environmental Statement (ES). An assessment undertaken by PINS Wales and set out in a report dated 13 July 2021 found the ES to be incomplete. Further information provided by the applicant was also found to be incomplete and on 26 July 2021 PINS Wales confirmed the application as being invalid. A second report issued by PINS Wales, dated 18 August 2021, further detailed why the ES had been found to be incomplete.
4. Based on the conclusions of these reports the applicant revised and expanded the ES in consultation with relevant bodies. The application was resubmitted to PINS Wales on 16 September 2021 and was accompanied by the revised ES. The application was made in the context of the originally notified development proposal, which was confirmed in a Notice of Acceptance issued by PINS Wales on 9 March 2021.
5. On 1 October 2021 the functions of PINS Wales were transferred to Planning and Environment Decisions Wales (PEDW), a division of the Welsh Government (WG). An assessment undertaken by PEDW and summarised in a report dated 18 October 2021 found the ES to be complete. On 28 October 2021 a Notice of Acceptance of the application was issued under Article 15(2) of the Order. Required publicity measures

were undertaken and consultation took place between 28 October and 10 December 2021.

6. Carmarthenshire County Council ('CCC') submitted a Local Impact Report ('LIR') on 10 December 2021. On 23 December 2021, the applicant submitted a request to vary the application under Article 27 of the Order, relating to the scheme's layout, landscaping and other matters raised in CCC's LIR. As the nature of the proposed variation was such that it would not substantially change the nature of the development, this request was accepted. Documents pertaining to the scheme's variation, including revised drawings, addenda to the ES and the Glint and Glare Assessment, an Outline Soil Management Plan and a revised Residential Visual Amenity Assessment were submitted to PEDW on 20 January 2022.
7. Following comments received in response to the application from consultees and others the applicant was requested to provide further information. The requested information, which was submitted to PEDW on 3 February 2022, included material to supplement the submitted ES and encompassed matters relating to residential amenity, landscape and visual effects, ecology and construction traffic access. The opportunity was also afforded to the applicant to provide more information in response to matters raised in the LIR and concerns raised by interested parties. Additional information, albeit more limited in scope, was also sought from the Council, Natural Resources Wales (NRW) and the WG Network Management Division, and was duly submitted.
8. The application process was suspended for 12 weeks to allow for the submission of the varied scheme and requested information, and to enable publicity and consultation to be undertaken on these. The comments received in response to that exercise have been taken into account in this report, alongside those received in response to the initial publicity and consultations.
9. Having considered all documents submitted in the initial application and in the early stages of the examination, it was determined that certain matters would require further oral evidence to be provided, with other matters determined solely on the basis of written evidence.
10. Hearings covering landscape and visual impacts, ecology and other matters were held on 15 and 16 August 2022. Unaccompanied visits were made to the site and surrounding area on 3 December 2021, 7 September 2022 and 5 October 2022.
11. A number of letters of objection to the scheme have been submitted from local residents, alongside representations received from Llanedi Community Council and other local and regional representatives. Whilst concerns have been expressed by some over the adequacy of the pre-application consultation process and materials, including in relation to the Welsh language, we are satisfied that the minimum legislative requirements have been met.
12. At the hearings the grid coordinates were confirmed by the applicant, correcting an error on the application form.

Site and surroundings

13. The site occupies some 72ha of undulating land a short distance northeast of the village of Llanedi and west of the River Llwchwr. Irregular in shape, the main part of the site is divided in two by the rural lane of Heol Troeon Bach, which runs on a largely

north-south axis. The site boundary projects to the north to include a section of this lane, under which the proposed cable connection would be located.

14. Despite the site's proximity to the M4, A48 and A483, its character and appearance is overtly rural. In addition to farm dwellings, several private residential properties lie close by, with a greater concentration to the west within the village of Llanedi and to the north lining the B4297 (Ebenezer Road). Also in proximity to the site are a primary school and a church. Visitor accommodation west of the B4297 includes a caravan park.
15. The site takes in a number of open fields within adjoining farms, mainly bounded by hedgerows, banks and drainage ditches. Parts of the site accommodate trees, tracts of woodland, watercourses and ditches. There are several Public Rights of Way (PROWs) in the local area, including two footpaths which traverse the site (Nos 34/24 and 34/25).
16. Parts of the site east of Heol Troeon Bach lie within the locally designated Llŵchwr Valley Special Landscape Area (SLA), a sparsely settled locale characterised by small irregular fields bounded by hedgerows and interspersed with woodland, the latter often associated with watercourses which drain into the River Llŵchwr. East of the river, within the City and County of Swansea, the upland landscape of Graig Fawr is a prominent feature from much of the eastern part of the site and its immediate surroundings, and is the location of a concentration of prehistoric monuments. A Bronze Age standing stone lies a short way north of the main part of the site.
17. The site lies adjacent to the Caeau Afon Gwili Site of Special Scientific Interest (SSSI), the meadows and grasslands of which support floral diversity and notable species of reptiles, birds and invertebrates. Nationally designated nature conservation sites within the wider area include the Caeau Mynydd Mawr Special Area of Conservation (SAC), which lies around 3km to the site's north and whose calcareous grassland meadows are a key habitat for marsh fritillary butterfly.
18. There are several parcels of ancient woodland or restored ancient woodland in the vicinity of the site, five of which are close, or adjacent, to the site boundary. The north-western extent of the main part of the site lies within an NRW Priority Area for heathland and grassland; a non-statutory designation which has the objective of promoting sensitive management and restoration of heathland and grassland. This part of the site also falls within a local designation which seeks for development proposals to increase the quality and amount of suitable habitat for marsh fritillary butterfly.
19. The operational solar park of Clawdd Ddu lies adjacent to Heol Troeon Bach, north of the site boundary. Part of the Tycroes solar farm, which obtained planning permission in August 2021 but is not yet operational, lies immediately north of the Clawdd Ddu solar park. Other solar parks within 5km of the site include the Penderi scheme, to the site's west/southwest, which obtained planning permission in July 2021.
20. The application site is crossed by a buried high-pressure gas pipeline and an overhead electricity line. Whilst it appears that the site has historically remained in primarily agricultural use, there is evidence of quarrying at its margins, and desk-based research has identified four coal shafts and an adit within the site boundary. The entire site falls within Zone A of NRW's Development Advice Maps.

The proposal

21. The proposal comprises solar photovoltaic panels laid out in parallel rows, mounted on racks driven into the ground. Accompanying infrastructure and works include a substation compound, conversion units, 2 metre security fencing, CCTV on 3 metre poles, underground cabling, a temporary building compound, tracks for maintenance or construction vehicles, gates, site access modifications, and landscaping.
22. The photovoltaic modules would be erected in most field parcels within the site boundary. Although there would be some variation due to topography, the distance between arrays would typically be around 3.5 metres. The submitted drawings indicate that the panels would be tilted at an angle of 15°, with their tops around 2.75 metres above ground level and their lowest part around 1.45 metres from the ground.
23. The original application described the potential inclusion of a 25m or 15m communications tower within the substation compound. The ES addendum submitted as part of the varied scheme confirms that a tower would no longer be required, with a below-ground fibre optic cable connection being used in its place.
24. The proposal would have a maximum export capacity of 30MW, with an operational lifespan of 40 years, after which time the solar park would be decommissioned. This would entail the removal of most structures and equipment, with the land reverting to its present condition, or to a condition otherwise agreed at the point of decommissioning.
25. Land between and beneath the panels would be used for seasonal grazing of livestock and/or ecological management and enhancement. Six fields within the site boundary, three of which lie adjacent to the Caeau Afon Gwili SSSI and within the NRW Priority Area for heathland and grassland, would be subject to a grassland restoration scheme. As part of proposed landscaping works, existing hedgerows would be infilled with native shrubs and trees, and additional natural landscape features and habitats would be established.

Planning policy, etc

26. In accordance with the Well-being of Future Generations (Wales) Act 2015 (WFG Act), planning proposals must seek to promote sustainable development, including by maximising their contribution to the achievement of the seven well-being goals identified in the WFG Act. These aim to secure a Wales which is prosperous, resilient, more equal, healthier and globally responsible, and which has cohesive communities, a vibrant culture and thriving Welsh language.
27. The provisions of the Environment (Wales) Act 2016 include a long-term statutory target to reduce Wales' emissions by at least 80% lower than the baseline by the year 2050. The Act also places a duty on public authorities to seek to maintain and enhance biodiversity in the exercise of functions in relation to Wales, and in so doing promote the resilience of ecosystems, so far as consistent with the proper exercise of those functions.
28. Future Wales (FW) is WG's national development plan and has statutory status. FW acknowledges WG's commitment to maximising Wales' potential for renewable energy generation as part of its commitment to decarbonisation and tackling the climate emergency. FW also recognises the ecological emergency caused by behaviours and decisions which cause harm to the resilience of ecosystems and species.

29. Policies 17 and 18 of FW relate specifically to renewable and low carbon energy infrastructure. Amongst other things, policy 17 states that in determining planning applications for renewable and low carbon energy development, decision-makers must give significant weight to the need to meet Wales' international commitments and our target to generate 70% of consumed electricity by renewable means by 2030 in order to combat the climate emergency. Policy 18, which applies specifically to Developments of National Significance (DNS), states that proposals for renewable and low carbon energy projects will be permitted subject to policy 17 and certain criteria. This includes for proposals to include biodiversity enhancement measures to provide a net benefit for biodiversity. This is consistent with policy 9 of FW, which states that in all cases action towards securing the maintenance and enhancement of biodiversity (to provide a net benefit), the resilience of ecosystems and green infrastructure assets must be demonstrated as part of development proposals through innovative, nature-based approaches to site planning and the design of the built environment.
30. Planning Policy Wales Edition 11 (PPW), which sets out WG's land use planning policies, seeks to protect and enhance the special characteristics of landscapes, biodiversity, historic assets, and green infrastructure assets. Amongst other matters it identifies key issues facing Wales as a long-term and chronic decline of biodiversity and habitat loss, adaptation to the effects of climate change, and recognising and addressing the factors influencing landscape change. It describes the benefits of renewable and low carbon energy, as part of the overall commitment to tackle the climate emergency and increase energy security, as being of paramount importance, and states that the planning system should maximise renewable and low carbon energy generation. PPW also confirms that FW sets out WG's policies for the determination of renewable energy schemes of 10MW and more under the DNS procedure.
31. PPW is supplemented by Technical Advice Notes (TANs) which provide more detail on several topics. Of particular relevance to this application are TAN 5 'Nature Conservation and Planning', TAN 11 'Noise', TAN 18 'Transport' and TAN 24 'The Historic Environment'.
32. A technical study entitled 'Assessment of on-shore wind and solar energy potential in Wales' (2019) and commissioned by WG as evidence to underpin the development of FW identifies 'priority areas' for renewable energy schemes, based on a relative absence of constraints to accommodating large scale wind and solar renewable projects. The application site falls within a 'solar priority area' identified in this study, albeit these were not carried through to FW itself.
33. The Carmarthenshire Local Development Plan (LDP) forms part of CCC's statutory development plan and was adopted in December 2014. Relevant LDP policies include:
 - Policy SP2 lends support to development proposals which respond to the causes and impacts of climate change, in particular where they promote the energy hierarchy by reducing energy demand, promoting energy efficiency and increasing the supply of renewable energy.
 - Policy SP11 supports development proposals which incorporate renewable energy production technologies in areas where the environmental and cumulative impacts can be addressed satisfactorily.

- Policy SP13 states that development proposals should preserve or enhance the built and historic environment of the County, its cultural, townscape and landscape assets and, where appropriate, their setting.
- Policy SP14 seeks for proposals to protect and whenever possible enhance the natural environment.
- Policy EQ1, states that proposals will only be permitted where it preserves or enhances the built and historic environment.
- Policy EQ4 states that proposals for development which have an adverse impact on priority species, habitats and features of recognised principal importance to the conservation of biodiversity and nature conservation will not be permitted, except where it can be demonstrated that the impacts can be satisfactorily mitigated, acceptably minimised or appropriately managed to include net enhancements, or there are exceptional circumstances where the reasons for the development or land use change clearly outweighs the need to safeguard the biodiversity and nature conservation interests of the site and where alternative habitat provision can be made in order to maintain and enhance local biodiversity.
- Policy EQ5 amongst other things lends support to proposals which would not adversely affect features which contribute to the County's local distinctiveness and qualities, and to the management and/or development of ecological networks (wildlife corridor networks), accessible green corridors and their continuity and integrity.
- Policy EQ6 designates SLAs and states that proposals for development which enhance or improve the SLAs through their design, appearance and landscape schemes will be permitted, subject to the policies and proposals of the LDP.
- Policy EQ7 seeks to secure the delivery of the conservation objectives of the Caeau Mynydd Mawr SAC, particularly for development proposals falling within a designated area.
- Policy RE3 states that large-scale non-wind renewable energy schemes located outside defined development limits may be permitted in exceptional circumstances, where there is an overriding need for the scheme and which can satisfactorily justified and where it will not cause demonstrable harm to the landscape; and that proposals that would cause demonstrable harm to certain matters as a result of cumulative effects will not be permitted.
- Policy GP1 states that development proposals will be permitted where they accord with a number of criteria relating to, amongst other matters, character and appearance, impact on amenity, incorporation of important local features, landscaping, appropriate access and the historic environment.
- Policy TR3 amongst other things seeks to secure access standards reflective of the relevant Class of road and speed restrictions, including any visibility splays, design features and calming measures necessary to ensure highway safety.
- Policy MPP3 safeguards minerals within mineral safeguarding areas.
- Policy EP6 states that development proposals in areas where land instability is known will be dealt with on a case-by-case basis, and that a preliminary scoping report should identify the nature of the (potential) instability.

34. Relevant local Supplementary Planning Guidance (SPG) and related documents include:
- The Wind and Solar Energy SPG states that the acceptability of solar PV development within an area will depend on the magnitude of these changes in relation to the sensitivity and capacity of the receiving landscape.
 - The Caeau Mynydd Mawr SPG, in accordance with LDP policy EQ7 seeks to ensure that proposals which fall within the 'SPG Area' designated on the LDP Proposals Map contribute towards increasing the quality and amount of suitable habitat for marsh fritillary butterfly.
 - The Draft Nature Conservation and Biodiversity SPG provides guidance aimed at ensuring that proposals accord with local and national conservation objectives. Despite its title, the LPA has confirmed this SPG has been subject to consultation and adopted by CCC and is therefore able to carry weight as a material consideration.
 - The 'Carmarthenshire Solar PV Development Landscape Sensitivity and Capacity Study' (LSCS) is referred to in CCC's Wind and Solar Energy SPG and assesses the sensitivity of discrete 'landscape units' to small, medium (5 to 15ha) or large (greater than 15ha) solar schemes. The application site falls within the Llŵchwr Valley and Llanelli Hills landscape units. In terms of the former, it finds no capacity for medium to large development which would affect the qualities of the Llŵchwr Valley SLA. In regard to the latter, it finds some capacity for small to large scale development in areas where there would be no effect upon the special qualities of the registered historic landscape and SLAs.

The case for the applicant

35. The submitted application was supported by an Environmental Statement (ES), accompanied by a Non-Technical Summary and several other documents including a Consultation Report, Design and Access Statement and Planning Statement. The ES describes the application site and surroundings, proposed development, policy context, alternatives and site selection. Individual chapters provide assessments of the effect of the proposal on landscape and visual impacts, ecology and nature conservation, socio-economics, cultural heritage and archaeology, ground conditions and noise and vibration. Technical studies appended to the ES include an Agricultural Land Classification Report, Flood Consequence Assessment and Construction Traffic Management Plan.
36. In support of the varied scheme and in response to a request for further information, ES chapter 6 (Landscape and Visual), chapter 7 (Ecology and Nature Conservation) and certain technical appendices (including the Outline Decommissioning Plan, Construction Traffic Management Plan, Arboricultural Impact Assessment, Outline Landscape and Ecological Management Plan and Outline Ecological Protection Plan) have subsequently been revised. These and an additional introductory chapter, all dated January 2022, support and supplement the original ES. Also submitted in support of the varied scheme and in response to a request for further information were amended drawings, an additional Glint and Glare assessment, a revised Residential Visual Amenity Assessment and a new Outline Soil Management Plan (SMP). A summary of this new and amended evidence was set out in a letter from the applicant dated 20 January 2022. A second letter dated 3 February 2022 provides a further update and was accompanied by the applicant's responses to the request for

further information issued under Regulation 15(2), the Local Impact Report, and representations made during the formal consultation. An updated Outline Construction Environmental Management Plan (CEMP) and Construction Traffic Management Plan (CTMP) were submitted as appendices to the applicant's Hearing Statements in April 2022.

Site selection and alternatives

37. The ES indicates that one of the biggest constraints to developing a renewable-led energy scheme is gaining a viable point of access to the utilities network. The proposal would be served by an electrical connection to a substation in Ammanford, to the north of the main site. The site was then selected via a sieving exercise based on various factors including solar irradiation levels and shading, topography, proximity to sensitive human receptors, site access, flood risk, landscape considerations, agricultural land, heritage, biodiversity and geological conservation, and commercial agreements with the landowners. Using feedback from the technical team, local community and statutory consultees, the design was then adjusted to take account of solar irradiation and the physical attributes of the site.
38. The ES records that alternative options were considered via the site selection process and by assessing other methods of generating energy, benchmarked against a 'do nothing' scenario. Table 4.2 of the ES records that ground mounted arrays require significantly less land per MWh of energy generated than using agricultural land to grow crops for biofuel. The 'do nothing' option assumes the current land uses on the site remaining as they currently are, in agricultural use. In comparison to the other options, this would result in the loss of potential renewable energy generation and any contribution towards decarbonising, energy security and climate change resilience. Farm diversification and biodiversity enhancement benefits would also not be secured.

Climate change, energy, planning policy and guidance

39. The ES notes various legislation, guidance and policy which support the transition to a low carbon future and the continued roll out of renewables and low carbon energy and associated infrastructure. This includes a suite of regulations published by WG in February 2021 committing Wales to legally binding targets to deliver the goal of net zero emissions by 2050, with interim targets. Support is also given to achieving decarbonisation and climate resilience as a "key national priority" in FW, policy 17 of which requires decision-makers to give significant weight to the need to meet Wales' international commitments and our target to generate 70% of consumed electricity by renewable means by 2030 in order to combat the climate emergency. Research published in 2022 noted that, in Wales, there has been a slowdown in renewable energy development since 2015, which in combination with grid capacity issues, risks the achievement of the 70% target.
40. The annual electricity generation of the proposal is expected to amount to around 35,400,000kWh per year, equivalent to the annual demand of approximately 11,400 homes. Drawing on evidence prepared by the Solar Trade Association, this would offset around 12,900 tonnes of CO₂ per annum, or 526,000 tonnes over the lifetime of the development, making a material contribution to statutory carbon reduction targets.
41. CCC issued a 'Climate Change Emergency Declaration' in February 2019. The Council's LDP, which was adopted in 2014, lends supports to proposals which increase the supply of renewable energy. Local policy also permits large scale renewable energy schemes in the open countryside in exceptional circumstances,

where there is an overriding need for the scheme which can be satisfactorily justified, and the development would not cause demonstrable harm to the landscape.

42. With regards to vulnerability to climate change, the solar arrays would be designed to withstand weather conditions experienced in open locations. Supporting frameworks would be sunk into the ground to a depth appropriate to ground conditions and wind speeds likely to be experienced during the lifespan of the development. To reduce vulnerability to flooding the arrays would be situated at an appropriate distance from watercourses.

Landscape and visual

43. The ES includes a landscape and visual impact assessment (LVIA) which has been undertaken with regard to '*Guidelines for Landscape and Visual Impact Assessment 3rd Edition 2013*'. Baseline conditions for the assessment are informed by a description of the site and surrounding area, including existing and consented solar PV developments nearby. Landscape mitigation and enhancement measures included in the Outline LEMP have been factored into the assessment of the scheme's impacts.
44. The site is not located within a nationally designated landscape such as an Area of Outstanding Natural Beauty. Environmental designations in the immediate and surrounding area include the Llŵchwr Valley Special Landscape Area (SLA), which is designated by the LDP and encompasses part of the site east of Heol Troeon Bach.
45. The development site is located within a 'Priority Area' for solar PV development as identified in a study entitled '*Assessment of Onshore Wind and Solar Energy Potential*' (June 2019), which forms part of the evidence base for FW. Most of the site falls within an area deemed to be of moderate sensitivity to large scale solar PV development within the LSCS, an assessment prepared for CCC and intended to provide guidance on the design and siting of solar PV proposals. The remainder of the site, east of Heol Troeon Bach, is located within an area which this local study considers to be of high sensitivity to large scale solar PV development.
46. Table 6.1 of the ES records LANDMAP aspect areas within the study area as being evaluated as moderate to high overall. The site itself falls mainly within the 'Llanelli Hills' visual and sensory aspect, which is evaluated as 'moderate' overall. The remainder, east of Heol Troeon Bach, falls within the Llŵchwr Valley visual and sensory aspect and is evaluated as 'high' overall. Land occupied by solar arrays within the Llŵchwr Valley aspect area shares many characteristics with the Llanelli Hills aspect, is partly within the visual influence of the existing Clawdd Ddu solar PV scheme to the north, and is the minor part of the overall scheme. Consequently, the ES concludes that the development site is of medium sensitivity overall.
47. The site boundary covers approximately 72 hectares although the area to be occupied by solar panels and associated infrastructure would be around 42 hectares. The modelled Zone of Theoretical Visibility (ZTV) and assessed viewpoints demonstrate that a relatively small part of the overall Llanelli Hills and Llŵchwr Valley LANDMAP aspect areas would be affected by the proposal, largely due to screening by woodland and the local network of hedgerows which surround fields of limited size. Consequently, whilst the proposal would result in a major (significant) effect on the character of the site itself, in particular on the landscape character of pastoral grassland and land uses, effects would generally reduce to moderate to minor (not significant) beyond the site boundaries. Moreover, these impacts would be reversible.

48. In terms of visual effects, the ZTV shows that the proposal would theoretically be visible between Pen-Crug-Uchaf and Pen-Crug-Isaf to the north, from the Llwchwr valley and higher ground at Graig Fawr to the east, Pant-Y-Dwr-Fach near Llanedi to the southwest, and Treneddyn and Ebenezer Road to the west of the site. However, as indicated by the photographs taken from representative viewpoints, vegetation and localised landforms would have some additional screening effect. Nearer and within the site, the proposal would be visible at close proximity from Heol Troeon Bach and properties served by that lane, and from public footpaths 34/24 and 34/25. Overall, visual effects on receptors are evaluated as being negligible (not significant) to major (significant) from representative viewpoints.
49. A separate Residential Visual Amenity Assessment (RVAA), which sits outside the ES, considers the proposal's visual effects on private views from a representative sample of 18 residential properties within and surrounding the site boundary. Existing views were assessed from within dwellings, curtilages or gardens, or from nearby proxy viewpoints from public land. The RVAA concludes that major or moderate (significant) visual effects could be experienced from six residential properties. However, with proposed landscaping, the solar arrays and related infrastructure would not appear overbearing, overwhelming or oppressive to occupants.
50. Cumulative effects are assessed primarily with regard to the existing and consented solar PV schemes located within a 5km radius. These include, but are not limited to, the operational Clawdd Ddu scheme, around 180m from the site, and the eastern element of the consented Tycroes project, around 420m from the site. Despite their relative proximity, the opportunities to observe in-combination landscape character effects of the proposal and these two other solar PV schemes are considered to be limited beyond the site boundaries. Where the proposed development would be visible, the ES contends that the character of the views will have already been affected by these other schemes, limiting cumulative effects on landscape character.
51. In terms of cumulative visual effects, the proposed development would be visible in combination with the Clawdd Ddu and Tycroes (eastern) schemes when traversing public footpath 34/27 (to the site's north), Heol Troeon Bach, Garnswllt Road (east of the River Llwchwr) and from higher ground on Graig Fawr. Major (significant) cumulative effects are recorded from viewpoints on Heol Troeon Bach and the Graig Fawr trig point. The proposal would generally be perceived as a continuation of solar arrays with the Clawdd Ddu and Tycroes (eastern) schemes extending along the lower ridgeline and valley sides, albeit woodland and valley topography would provide a degree of physical and visual separation between the separate developments. In any case, given the conclusions of the 'Assessment of Onshore Wind and Solar Energy Potential' and LSCS, pressures for solar PV development will naturally fall outside nationally designated areas, leading to cumulative effects as areas' potential for renewable and low carbon energy development is maximised, in accordance with PPW paragraph 5.9.14.
52. Due to their duration and temporary nature, construction and demolition operations are considered to have a minor (not significant) landscape and visual effect.

Ecology and nature conservation

53. As described in the ES and its technical appendices, various ecology surveys and a site walkover were conducted during 2021. Appraisals, informed by dialogue and consultation with CCC and NRW, assessed the impact of the proposal on the range of

habitats and species identified within the area, including local priority habitats and species, priority habitats identified by NRW, and statutorily designated international and national sites within the wider area. Baseline ecological conditions and an assessment of potential effects were evaluated according to the methodology revised in 2018 by the Chartered Institute of Ecology and Environmental Management (CIEEM). 22 identified habitats and species were ascribed as Important Ecological Features (IEFs), either due to the statutory protection afforded to them or their location within the proposal's zone of influence. Impacts on each of these IEFs were evaluated, having regard to the magnitude, extent, duration, reversibility, timing and frequency of any positive or negative effect.

54. Early consultation with NRW and CCC influenced the nature and layout of the scheme. Minimum buffers between array structures and field boundary habitats were secured within the design, and arrays removed from fields which offered greatest potential to support skylark, meadow pipit or the marsh fritillary butterfly. Grassland habitat enhancement measures were proposed within six fields, three of which lie adjacent to the Caeau Afon Gwili SSSI and have the potential to offer benefits to ecological features associated with this designation. As advised by NRW, cumulative effects with the Tycroes and Clawdd Ddu solar schemes were assessed, and specific species surveys undertaken. Mitigation measures, incorporated into the scheme through its design or proposed to be secured via outline management and protection plans, including during construction and decommissioning, were developed with the aim of protecting and/or enhancing present species and habitats, including IEFs and other statutorily protected species. Following PINS Wales' finding in July and August 2021 that the previous ES was incomplete and the application invalid, further survey work was carried out based on feedback received, including from NRW and CCC. Dialogue with NRW has continued post-submission and following the scheme's variation, with the aim of resolving concerns, including effects on woodcock.
55. Most of the land beneath the solar arrays would continue to be grazed by sheep. Operation of the arrays would require minimal levels of disturbance from humans or light sources and would thus have minimal impacts on wildlife compared to the baseline position. As part of landscape and ecological mitigation works, around 3,475m of new, double-staggered native species-rich hedgerows is proposed. Of this, around 2,607m would be 'new' hedgerow, with the remainder constituting infill and reinforcement planting within currently species-poor or depleted hedgerows. Where needed, security fencing would terminate either side of hedgerows to avoid severing linear habitats. Six hedgerow gaps required to facilitate construction would be replanted.
56. Hedgerows would be supplemented and infilled with standard native tree species. In line with the findings of an arboricultural assessment existing trees within and near to the site, including tracts of ancient woodland, would be subject to appropriate buffers and protection during the scheme's construction and operation.
57. Buffer zones between arrays, boundary features, habitats and security fences would be managed with the aim of producing a dense, tussocky sward capable of benefiting invertebrates, small mammals, badger, certain bird species, reptiles and amphibians. The proposed grassland restoration scheme applying to the six fields in the northwest and northeast of the site is intended to augment the quality of habitat within an NRW Priority Area for heathland and grassland and create grassland habitat capable of supporting various species of butterfly, including Marsh fritillary butterfly, should

ground conditions permit the establishment of targeted plant species. Bat roosting features, bird boxes, dormouse boxes and log or rubble-pile refuges would be installed on or within suitable mature trees, hedgerows, woodland edges or grassland throughout the site.

58. Mitigation and management measures are detailed in an Outline Landscape and Ecology Management Plan (LEMP) and Landscape Mitigation Plan, the details of which would be refined prior to development. The range of mitigation measures employed are expected to maintain the favourable conservation status of protected species, albeit it is recognised that a separate licence from NRW would be likely for works to hedgerows to facilitate construction. Measures for protecting habitats and species during the construction phase are set out in a biodiversity-focussed Outline Ecological Protection Plan (EPP). This is accompanied by an Outline CEMP which focuses on activities associated with the construction phase, such as traffic movements, temporary facilities, working hours and noise.
59. A Biodiversity Net Gain assessment of the proposal has been prepared using the methodology in the Department for Environment and Rural Affairs' 'Biodiversity Metric 3.0'. This evaluates biodiversity and linear 'units' currently present on the site and compares these to those which would be in place following implementation of proposed mitigation and enhancement measures. The assessment estimates a net (positive) change of 72.84 ha for species-rich grassland and 30.64 ha for restored or new hedgerows. This overall net gain for biodiversity during the proposed period of operation is a considerable benefit of the scheme.
60. The ecological effects of removing of the array would be likely to be similar to construction impacts, although specific effects cannot currently be accurately predicted. An Outline Decommissioning Plan confirms that, prior to removal, a survey would be undertaken to evaluate the impact of decommissioning activities on ecological interests. Whilst the site is anticipated to return to agricultural use, depending on the outcome of that assessment, it is possible that certain parts of the site might require ongoing conservation, or their loss mitigated through off-site compensation measures. No long-term harmful impacts are, however, predicted.

Habitats Regulations Assessment

61. A Habitats Regulations screening assessment considers likely direct, indirect or secondary impacts of the proposal, either alone or in combination with other plans or projects, on the Caeau Mynydd Mawr Special Area of Conservation (SAC), which lies approximately 3km to the site's north. The site falls partly within an area subject to CCC's Caeau Mynydd Mawr SPG. The definition of the SPG area boundary accords with evidence relating to habitat mapping and the local metapopulation of marsh fritillary butterfly, which is a key feature species of the SAC.
62. A walkover of the development site with a CCC Conservation Project Officer undertaken in May 2021 found that it contained no habitats with the potential to support marsh fritillary butterfly. Direct and indirect effects on the SAC are therefore considered to be negligible, with fragmentation effects or reductions in species density highly unlikely to result.

Socio economics

63. Carmarthenshire has an ageing population, and in contrast to the employment growth seen in Wales overall, the size of its labour market has declined in recent years. There is a net outflow of commuters from the county.
64. It is anticipated that the construction of the proposal would last around eight months. During this period, it would support 67 additional construction and supply chain jobs, either directly, indirectly or induced. The scheme would represent around £24 million of direct capital investment, with the overall Gross Value Added impact estimated at £4.5million over the eight-month construction period. These are estimated to have a minor beneficial short term socio-economic impact.
65. During the operational phase it is estimated that the scheme would support 5 Full Time Equivalent jobs in the local area, equivalent to around £0.5 million of gross value added per annum). This represents a moderate positive long-term impact.

Cultural heritage and archaeology

66. Although prehistoric monuments are present within the immediate and wider vicinity, there are no designated historic assets within the site boundary. Known or potential non-designated historic assets within the site comprise a possible prehistoric ring ditch feature, earthworks of a possible medieval field system, former post-medieval buildings, and evidence of historic land use, such as ridge and furrow, former field boundaries, and drainage ditches. Desk-based research suggests that there is nothing indicate that these features are of particular significance. The Dyfed Archaeological Trust has agreed that a condition to secure targeted trial trenching would be sufficient.
67. The potential impact of the proposal on the setting of designated historic assets within 3km of the site has been assessed. In line with pre-application advice from Cadw, particular focus was given to the scheduled Bryn-Y-Rhyd standing stone located immediately to the site's northwest and various scheduled prehistoric monuments situated on Graig Fawr to the site's southeast, although effects on the setting of seven listed buildings were also considered.
68. The assessment found that the setting of the Bryn-Y-Rhyd standing stone was relatively contained, with only glimpsed intervisibility to fields in the northwest of the development site. Similarly, views of the development site and its land use in long-range views across the Llŵchwr valley from the chambered tombs, cairns and earthwork enclosure on Graig Fawr were also found to be incidental. The assessment concludes that the site in its current condition does not contribute to the significance of any designated historic assets, including listed buildings.

Ground conditions, hydrology and flooding

69. A Phase 1 Ground Conditions Desk Study and Coal Mining Risk Assessment (CMRA) have informed the ES by evaluating risks posed by soil, gas, groundwater contaminants or past coal mining. The site is underlain by superficial deposits which overlie coal measures strata. Groundwater is expected at shallow and very shallow depths, with on-site springs and streams flowing off-site to nearby rivers.
70. There is evidence of historical local coal mining and sandstone quarrying. The CMRA identified most of the site to be at very low risk from coal mining, although three linear Development High Risk Areas run on a southwest/northeast axis through the site and include five mine entries. The Coal Authority has ascribed a departure radius around the known shafts of 8 to 10m.

71. During construction the risk of crownhole subsidence or collapse of coal shafts represents a moderate to substantial adverse effect. Moderate or minor to moderate adverse effects may also arise from accidental combustion of coal seams, disturbance of soil or contamination to watercourses, linkage of ground gas with receptors, subsidence of crownholes or shallow coal workings, and settlement of backfilled quarrying or peat deposits. However, these potential adverse impacts can be mitigated by remedial works, minor design adjustments, and environmental and construction protection and management measures, secured as conditions of consent.
72. Having regard to the nature of the proposal and limited frequency of visits by personnel for maintenance purposes, no significant risks are identified during the operational phase. Overall, the proposal is not considered likely to cause a significant accident or disaster risk during either the construction, operational or decommissioning phases.
73. A Flood Consequence Assessment (FCA) forms part of the ES. In terms of NRW's Development Advice Maps the site is shown to lie within Flood Zone A; i.e. at little or no risk of flooding. NRW's Surface Water Flooding Map also indicates that most of the site to be at low risk of surface water flooding, albeit with localised streaming shown to occur along depressions in the landform. To mitigate risks, arrays have been positioned to avoid areas subject to a 1 in 100-year event, and sensitive equipment such as inverters are located outside the 1 in 1000-year event surface water flooding outline. Moreover, equipment has been positioned to provide adequate space for inspection and maintenance of ditches and swales.
74. The FCA notes that it has been recognised that solar farms do not increase runoff. Rather, with the establishment of additional vegetation and improvement of the soil structure, runoff is likely to be reduced in comparison to the existing use. However, precautionary swales would be established to encourage attenuation, infiltration and evapotranspiration to assist in managing runoff in extreme weather events and intercepting silt during the construction phase.

Agricultural land and soil resource

75. The ES records that, using WG's Predictive Agricultural Land Classification (ALC) Map (Version 2), the grade of agricultural land within the site is subgrade 3b, with no areas of Best and Most Versatile (BMV) land. Consequently, a detailed ALC has not been carried out.
76. As the proposal would be time-limited there would be no irreversible loss of agricultural land. An Outline SMP has been prepared with the aim of maintaining the quality, quantity and function of the soil resource in its current physical condition throughout and following construction, operation and decommissioning. Based on desktop research, the SMP assigns indicative 'soil handling units' to the site and specifies an appropriate level of survey to be carried out prior to the construction phase, with the aim of determining the location of different soil types within the site and the necessary mitigation measures to prevent damage to the resource during construction or decommissioning operations. In recognition of the fragility of soils following decommissioning, the SMP sits alongside Outline Decommissioning Plan and sets out a 5-year outline Aftercare Scheme intended to restore soil structure.

Noise and vibration

77. The ES is informed by assessments of potential construction and operational noise, including cumulative noise impacts. Modelled noise impacts were benchmarked against existing conditions at nearby noise sensitive receptors (dwellings).
78. The operational noise assessment was undertaken with regard to absolute noise limits derived from BS8233 and World Health Organisation (WHO) guidelines. As the solar farm could be operational from around 05:00 during midsummer, a target noise limit of 32dB L_{Aeq} was selected, derived from the WHO night-time noise guideline and further adjusted to take account of potential cumulative noise impacts. Given that background noise levels in rural areas rarely exceed 32dB L_{Aeq}, this target was also deemed to be consistent with appropriate noise levels defined in BS4142.
79. Modelling was undertaken on the assumption that all equipment would be operating at 100%. The results indicated that, at all identified receptors, noise levels would fall below the 32dB L_{Aeq} target, and would therefore not amount to a significant impact.
80. The magnitude of potential construction noise on sensitive receptors was assessed against a daytime threshold value of 65dB L_{Aeq}, as derived from BS5228. This higher threshold is justified due to the unavoidable and temporary nature of construction noise. Modelling was undertaken on the assumption that construction noise would derive from the frame supports for the solar arrays being mainly push driven into the ground by tractor mounted equipment. Projected noise levels were evaluated as falling below the 65dB L_{Aeq} threshold at all sensitive receptors. However, as the level of construction noise would exceed the lower threshold of 55dB L_{Aeq} for works after 19:00 on weekdays and after 13:00 on Saturdays, a condition would be required to prevent construction works from occurring during these more sensitive periods.
81. Construction traffic to and from the site would be routed along the A48, A483 and B4297. As set out in the CTMP, deliveries would be limited to daytime hours on weekdays and Saturdays. Traffic movements generated during the construction period would amount to 1 HGV delivery per hour. In proximity to the B4297 (Ebenezer Road), the increase in HGVs would cause an increase in overall noise levels of no greater than 0.2dB, which was judged to be negligible.
82. As ground borne vibration during the construction and operational phases would be likely to be negligible, these effects were not evaluated in detail. Noise generated by decommissioning works would likely be of a similar nature and magnitude to those from the construction phase. Other than conditions to control construction works and delivery periods, the assessment concluded that no other mitigation measures were necessary, subject to 'Best Practicable Means' being employed during construction.

Waste arisings

83. Construction waste would be transported off-site to licenced receivers. The Outline CEMP sets out waste management principles and the requirement for a Waste Management Plan in line with the waste hierarchy.
84. During the operational phase waste arisings are expected to be substantially less than during the construction phase. The Outline Decommissioning Plan sets out waste principles that would be applied to deal with the removal of the solar PV arrays and supporting infrastructure. Any hazardous waste arisings, including waste oils and epoxy packaging, would be handled and disposed of appropriately. As most types of waste arising are anticipated to be re-used or recycled, the effect of waste on the environment would be negligible.

Glint and Glare

85. An assessment of the potential effects of glint and glare from the proposal on surrounding road users and dwellings sits apart from the ES and follows industry best practice in relation to such assessments. The study records that reflections produced by solar arrays are of an intensity similar to or less than those produced from still water, and significantly less than reflections from glass and steel. Geometric predictions of reflected sunlight are used to consider potential effects on receptors within 1km of the arrays, with likely impacts evaluated taking account of existing and proposed screening.
86. 20 road receptors were evaluated, all located on the B4297 Ebenezer Road. Receptors due north of any of the panels were excluded from the assessment as no effects are likely at this latitude. Other roads within the 1km buffer were not modelled because they are local roads where traffic volumes/speeds are generally low or are considerably screened. The assessment concludes that reflections towards the B4297 would not be significant because they would occur from outside drivers' primary field of focus and would be likely to be partially or entirely screened by intervening terrain.
87. 55 dwelling receptors were evaluated from 1.8m above ground level; i.e. the typical eye level of a ground floor observer. In some cases, a single receptor point was used to evaluate likely impacts on nearby dwellings. Whilst the assessment found, in the worst-case scenario, that no 'high' impacts would be experienced, it found that 'moderate' impacts could potentially be experienced by several dwellings in the study area. Nonetheless, in all cases, effects of an unacceptable magnitude or nature would not arise due to the presence of screening, the separation distances from panels, the limited extent of panels from which reflections would be experienced, and/or because reflections would be experienced against direct sunlight.
88. Variations made to the scheme following submission altered the position of certain arrays and made adjustments to landscaping proposals. A further glint and glare assessment was undertaken to take account of these changes. This found that changes to the panel layout would be negligibly small compared to the overall panel footprint, and result in inconsequential changes to glare modelling. For the most affected receptors (dwellings), the reflecting area would be likely to be significantly or entirely obscured by structures or proposed landscaping once planting reaches maturity. Consequently, subject to mitigation to be secured by condition, the proposed development would not have an unacceptable impact with regard to glint and glare. A further site visit and assessment confirmed these findings.

Traffic and Public Rights of Way

89. As per the submitted CTMP construction traffic would follow a designated route. Traffic to the site would travel from junction 49 of the M4, along the A48 through Fforest, turning left onto the B4297 Ebenezer Road via Llanedi, and then turning right into the site along a track currently serving Bryn-Y-Rhyd farm. Construction vehicles leaving the site would return along the Bryn-Y-Rhyd farm track, turning right to follow the B4297 northwards before returning to junction 49 of the M4 via the A483. This route has been chosen to obviate the need for road closures, avoiding routes with weight or height restrictions, and to ensure that, as far as practicable, HGVs would not pass through the centre of small settlements. Public highways and junctions on the route are suitable for handling the volume and type of traffic generated during the construction phase.

90. Construction traffic travelling to the eastern part of the site would need to route via a section of the rural lane of Heol Troeon Bach. An upgraded gated farm access would provide the southern access/egress between the internal construction access track and Heol Troeon Bach. The second access/egress would be via the existing farm access priority junction serving Gelli Organ Farm, around 115m to the north. Whilst consideration was given to linking the eastern and western parts of the site via a new, more direct access, this was ruled out due to the avoidable loss of hedgerow.
91. A traffic assessment estimates that, during the construction period, there would be a maximum of around 1,444 two-way movements by large vehicles at the site. Additional vehicle movements would be generated by construction workers arriving at or leaving the site, albeit overall volumes are forecast to be relatively low, with minibuses being provided for general operatives. Overall, the volume of traffic associated with construction works would not detrimentally affect the safety or operation of the local or strategic highway network.
92. Construction vehicles would move through all site accesses in forward gear. Swept path analyses demonstrate that there is sufficient space within the public highway for vehicles of 15.4m in length to turn into and out of the accesses. Any works required to facilitate these movements, and to maintain the condition of the highway, could be secured via agreement with CCC as Highway Authority.
93. Having regard to the applicable speed limits, visibility for emerging vehicles at the principal access onto Ebenezer Road and the two accesses onto Heol Troeon Bach are substandard. No accidents were recorded near any of these accesses in the five years prior to the CTMP being written. However, following consultation with highway officers at CCC, it is proposed that temporary signage, traffic signals and banksmen would be provided to facilitate safe access for construction vehicles during construction and decommissioning phases.
94. PROW routes 34/24 and 34/25 traverse the western and central parts of the site. Both routes have been safeguarded within the layout of the proposal, with the varied scheme resulting in a wider corridor along route 34/24. It was confirmed at the hearings that the Council's public rights of way officer had been consulted during the development of the proposal and that any temporary impacts during construction and decommissioning would be managed via appropriate conditions.
95. During the operational phase, traffic associated with the development would be limited to infrequent servicing and maintenance.

Community benefit

96. The applicant has sought to engage with Llanedi Community Council and proposes a financial contribution to deliver community improvements, by way of a Deed of Gift, outside the planning process.

Conditions

97. The applicant initially confirmed its agreement with several conditions suggested in the Council's LIR. Following further engagement these were refined. A revised list was agreed immediately prior to the hearings.

Conclusions

98. The proposal would assist in meeting carbon reduction targets and improving the resilience of the domestic electricity supply. The scheme would be sustainable and

would accord with various environmental, economic and social objectives of the statutory development plan and national and local policy and guidance. The proposal's benefits would clearly outweigh any harmful impacts, including in-combination effects with other operational and consented solar schemes nearby.

CCC's Local Impact Report

99. The LIR assesses likely local impacts of the proposal from the perspective of the LPA. It is presented as an objective evaluation and does not come to an overall view as to the acceptability of the proposal. The assessment has been made based on the documents supporting the original application, and internal consultation within the LPA.
100. The LIR identifies relevant development plan policies, SPG and national planning policies, and includes a list of suggested planning conditions. The assessment of likely local impacts is summarised below.

Climate Change

101. Having regard to national renewable energy targets and policies, and the potential for the proposal to displace 420,000 tonnes of CO₂ over its 40-year operational lifespan, the scheme is considered to have a positive impact on climate change.

Landscape and Visual Impacts

102. The LVIA methodology is considered acceptable. The LPA agrees with the assessment of effects on existing landscape elements. The effect of the submitted application on landscape elements is considered neutral but could be positive subject to revisions to the Outline LEMP and Landscape Mitigation Plan, and the submission of a composite 'Landscape Design Scheme', either prior to determination or via a condition.
103. The LVIA identifies significant effects to landscape character within the site area. Part of the site falls within an SLA, which LDP policy EQ6 requires development to 'enhance or improve'. Overall effects on landscape character are considered neutral/negative.
104. The LPA is in general agreement with the assessment of effects on visual amenity set out in the LVIA, which finds significant effects on users of public highways and PROWs, and from representative viewpoints. Overall effects on visual amenity are considered neutral/negative.
105. Assessment of cumulative landscape and visual effects are also, in general, agreed with by the LPA. It is noted that the LVIA identifies a number of significant cumulative effects, and that the proposal would be seen in combination with the existing Clawdd Ddu solar farm, the approved Tycroes solar farm to the north and northeast, and other sites at Capel Hendre and Saron further to the north. The LPA considers this cumulative impact to constitute a negative effect and a material consideration of significant concern.
106. The overall landscape and visual impact is deemed to be neutral/negative.

Residential amenity

107. The LPA is in general agreement with the assessments presented in the RVAA. The additional mitigation suggested by the LPA, via amendment to the Outline LEMP,

could further reduce the significance of effects on residential visual amenity, which overall are considered neutral/negative.

Landscape and Ecological Management Plan

108. The submitted Outline LEMP, which covers general management of the site for the duration of the scheme, would result in a neutral effect. However, parts of it are incongruous with other mitigatory actions set out in the ES. It is recommended that amendments are made to the LEMP, either prior to determination or secured via a planning condition, to clarify the extent of land subject to lease agreements to PV operators or other ownership, provide details of the agents responsible for implementation and management, and set out details of legal agreements for securing continuity in the event of changes to land control responsibilities. Subject to such changes, the LEMP could have a positive effect.

Noise

109. It is noted that that no non-financially linked dwellings border the proposal. The noise impact assessment shows that, at properties surrounding the site, operational noise from equipment such as inverters and transformers would be limited to daytime hours and would not exceed 32dB at any property. Consequently, noise effects are likely to be neutral. However, as existing background noise levels are not stated for individual properties, it is suggested that a condition is imposed to ensure that equipment does not generate a level of noise at non-financially linked dwellings which exceeds background noise levels.

Glint and Glare

110. A specialist assessment has been prepared which finds that any effects experienced by road users would be significantly outside their field of view, with no mitigation required. Whilst moderate glint and glare could potentially occur at 18 dwellings for around 3 months of the year, a subsequent detailed assessment finds that these effects would be mitigated by screening. However, properties at a further distance east of the County boundary have not been assessed. The report states that, in practice, impacts are not likely to be significant, and so mitigation is not proposed. However, a number of properties could potentially be moderately affected, thereby amounting to an overall negative impact during those three months.

Ecology

111. The assessment in the LIR excludes consideration of impacts on ecological matters which fall under the remit of NRW, namely SSSIs, SACs, badgers, bats, dormice, marsh fritillary butterfly, water vole and otter.
112. **Improved and semi-improved grassland:** Basis on the information provided, it is considered that the proposal would have no significant adverse impacts on improved and semi-improved grassland. The proposed grassland management specified in the LEMP would possibly have minor/moderate beneficial effects; however, there is uncertainty about this as academic research suggests that shading and drying beneath solar panels may limit sward diversity.
113. **Biodiversity enhancement:** Given the above, the LPA considers it is inappropriate to conclude that the 14.74ha of restored/enhanced grassland in the six fields referred to in the Outline LEMP would deliver biodiversity enhancement with certainty. To secure this the LEMP should focus on grassland not under or directly affected by panels, with

greater focus on management regimes such as mowing, grazing and plug planting to deliver measurable results. It is recommended that such measures are included in a revised version of the Outline LEMP, alongside targets for species and vegetation structure to monitoring progress towards biodiversity enhancement objectives.

114. **Breeding birds:** It will be necessary to ensure that, during construction, hedgerows and woodland are protected from accidental damage and activities completed outside the bird nesting season. Effects on breeding birds during the operational phase is considered neutral/positive, subject to agreed mitigation, including the provision of bird boxes.
115. **Reptiles:** The CEMP and LEMP omit a method statement to ensure that vegetation is cleared in a manner which minimises negative impacts on reptile populations. Subject to this and other agreed mitigation, including the provision of hibernacula for reptiles, effects on reptiles are considered neutral to minor beneficial.
116. **Trees and hedgerows:** Based on the submitted information there would be no significant impacts on hedgerows, subject to implementation of proposed mitigation and enhancement measures. Whilst the arboricultural report shows that approximately 24m of hedgerow would need to be removed to provide access, this would be suitably offset via planting and enhancements shown in the submitted LEMP and Landscape Mitigation Plan. Notwithstanding this, further information or conditions are needed to secure the ecological function of new or infilled hedgerows, including specifications for placement of double staggered rows, an amended planting mix to reflect existing species compositions, and specified management regimes. Subject to this, overall effects on trees and hedgerows are considered positive (minor-moderate beneficial).
117. The overall impact on ecology is considered neutral/positive.

Access and transportation

118. Trunk roads would be used to provide access to construction vehicles and thus traffic would have a minimal impact on the County road network. The existing primary access already accommodates farm traffic and delivery lorries would not be dissimilar.
119. Traffic accessing the eastern part of the site would need to use around 115m of Heol Troeon Bach. Conditions were imposed on the nearby Clawdd Ddu and Tycroes schemes to preclude access via this rural lane, due to limited width and visibility along the road. Temporary traffic signals and/or banksmen may therefore be required to facilitate access during construction and decommissioning phases. Temporary signage will also be required, alongside other mitigatory measures to form part of a 'final' CTMP, to be secured by condition.
120. Due to concerns around visibility at junctions with the County Road network, the local impact is considered to be neutral/negative, with appropriate measures required to mitigate local highway safety impacts.

Socio economic

121. Economic benefits would include a £24 million direct capital investment in the County, supporting 67 direct and indirect construction jobs and 5 net additional jobs during the operational phase. Taking account of these effects and the related gross value added to the local economy, the impact is considered positive.

Built heritage

122. The application is supported by a Heritage Desk Based Assessment and accompanying geophysical surveys, which consider impacts on potential unrecorded assets within the site. These studies record no unacceptable direct impacts on historic assets and no negative impacts on the setting of historic assets, with an overall neutral impact. Whilst within Cadw's remit to provide a detailed assessment, the setting of the nearby Bryn-Y-Rhyd standing stone will need to be considered, particularly given the inter-visibility between this standing stone and other historic assets on Graig Fawr to the east.

Public Rights of Way

123. Footpaths 35/25 and 34/24 are designed into the layout. Subject to these being safeguarded from obstruction at all times, the proposal would have a neutral impact on PROWs, including from glint and glare.

Flooding

124. The submitted flood risk assessment records that none of the site is classified as high risk of flooding. The site would remain permeable as arrays and fencing would not form a physical barrier to water. The River Llŵchwr would be unaffected by the site and cable route. The sustainable drainage consenting process would allow any localised impacts to be appropriately addressed, including via the proposed precautionary swales. Overall impacts on flooding would be neutral.

Post-LIR representations from the Council

125. Following the submission of the LIR, the applicant varied the scheme and responded to a Regulation 15(2) request for further information. CCC consequently refined its position, including via hearing statements, on matters including landscape and visual impact, ecology, and suggested conditions.
126. In terms of landscape impacts, the applicant's baseline assessment that the site overall is of 'medium' landscape value, susceptibility and sensitivity, is appropriate. A relatively limited proportion of the arrays would be located within the SLA, the strong hedge and woodland boundaries within which would act to reduce the solar arrays' impact on the special qualities, key characteristics and sensitivity of the landscape. Nonetheless, despite the revised landscaping mitigation and time-limited nature of the impact, CCC maintains its position that there would be a neutral/negative impact on landscape character. The LIR's findings that the cumulative landscape and visual impacts arising from three proximate solar schemes would be negative is also unchanged and is consistent with FW Policy 18 and LDP policy RE3.
127. Revision E of the amended Landscape Mitigation Plan, which accompanies the varied scheme, provides details of the planting specification and location of landscaping proposals. Subject to a condition securing the submission and approval of a final version of this plan, to include both plant and planting specifications, a composite 'Landscape Design Scheme' is not necessary.
128. Amendments to the LEMP which set out further details in relation to land leases and maintenance/management measures are welcomed. However, assurance is needed that all mitigations set out in the LEMP are under the control of the lessees, or if not, that the landowner will be responsible for implementation, management and maintenance. It will also be necessary for the developer and relevant organisations to be able to properly resource compliance monitoring. CCC maintains that a condition

requiring the submission and approval of 'Landscape Maintenance and Management' information is necessary.

129. The Glint and Glare addendum and revised RVAA indicate that proposed landscaping is necessary to mitigate impacts on surrounding properties. However, it will take time for these landscape features to reach maturity. The LPA's concerns about the effect on properties east of the County boundary remain. A condition is needed to ensure that mitigatory landscape features are retained for the lifetime of the development and any defects rectified.
130. The applicant's further assessment of impacts on bird species in consultation with NRW, and evaluation of net biodiversity impacts, is welcomed. Having regard to the proposals set out in the amended LEMP, it is considered that the suitability and condition of existing habitats for farmland birds would improve. The LPA agrees that there is potential for a positive net ecological impact but cautions that further assessment, particularly in terms of soil surveys, and subsequent appropriate grassland restoration and enhancement, will be fundamental to achieving this.
131. The applicant's agreement to a decommissioning condition is welcomed, but concern is raised that ecological gains achieved during the operational phase may be lost if the default position is for the site to revert to improved grassland. Such gains should be secured by a pre-decommissioning survey required by condition.
132. Whilst the applicant's agreement to a noise condition is welcomed, the proposal for a 5dB tolerance level is not consistent with the change to BS 4142 made in 2014. Whilst previously described as being of 'marginal significance', the revised guidance acknowledges that a +5dB difference is likely to be an indication of an adverse impact, depending on the context. The LPA's approach has been endorsed in the Inspector's report for the Tycroes solar scheme (DNS/3227364). In terms of construction noise, the LPA supports the proposed condition limiting hours of construction in line with BS 5228.
133. Revisions to the CTMP are welcomed, although further assessment would be needed once a contractor is appointed, and details discussed and agreed with CCC Highways Planning Liaison, including in relation to the construction programme, vehicle types, internal access road works, traffic management proposals, and the inbound route along the A48 via Fforest. This could be secured via condition.
134. The submission of the new Outline SMP is welcomed, particularly the commitment to an aftercare scheme to protect the long-term viability of the soil resource. It will be important for aftercare arrangements to be appropriately conditioned.
135. Regarding comments made by the Health and Safety Executive, temporary working within public safety zones during construction would be similar to a working farm.

Consultation responses

136. Most of the representations summarised below were submitted prior to the variation of the scheme and further information submitted by the applicant.

Carmarthenshire County Council

137. Observations of CCC's Planning Committee were provided separately from the LIR. In its second representation (REPS2-04), CCC notes the matters raised in its initial representation (REP32) and welcomes the suggested conditions to secure decommissioning plans and the commitment to ensure that soil is not affected in the

long term. Whilst there are continuing concerns about the impact on habitats and food sources for marsh fritillary butterfly, the additional details relating to grassland restoration and enhancement are welcomed. Contributions to the Community Council are also supported, albeit this is a matter for agreement outside the planning process.

Natural Resources Wales

138. NRW's initial representation (REP29) raised concerns with the inadequate level of assessment of impacts on birds and sought further assessment to overcome any objection. Specifically, it was considered that the extended Phase 1 survey was of insufficient length/duration, particularly as it took place outside the skylark breeding season and did not include nocturnal assessments of woodcock.
139. A second representation (REPS2-11) was submitted following the scheme's variation and submission of further information. This notes that the addendum to Chapter 7 of the ES records NRW's updated position that, following correspondence with the applicant's ecologist, further assessment for woodcock is not necessary. NRW's later hearing statement confirms its view that post-construction monitoring for woodcock is not necessary.
140. The second representation also reiterates NRW's opinion that the timing and extent of surveys is not sufficient to determine impacts on breeding birds, but defers to the LPA's assessment of impacts on birds, noting the LIR's conclusion that effects would be neutral/positive taking account of proposed mitigation.
141. NRW's initial representation welcomes the further ecological surveys undertaken in relation to dormice, bats, water vole and otter, and the proposals for managing environmental impacts during construction. Proposals to manage grassland under a restoration and enhancement plan are supported, subject to ensuring that grazing would enable vegetation to grow and set seed. However, changes to the LEMP were sought, including in relation to timings for ecological management, and monitoring of dormice. A condition requiring a construction lighting plan was also sought to mitigate impacts on protected species. Concerns regarding the acceptability of conditions relating to the LEMP and a lighting plan were later reiterated in NRW's second representation and its hearing statement.
142. NRW's initial representation noted that the Caeau Afon Gwili SSSI and Graig Fawr SSSI lay within 2km of the site, and the Caeau Mynydd Mawr SAC was within 3km. No concerns were raised regarding impacts on these designations. It noted that the applicant would need to provide sufficient information for PEDW, as the competent authority, to carry out a Habitat Regulations Assessment. No issues were raised regarding impacts on the Brecon Beacons National Park, which lies outside the ZTV.
143. NRW's response to a request for further information confirmed that it agrees with the applicant's HRA screening assessment that there is unlikely to be a significant effect on the Caeau Mynydd Mawr SAC from the proposed development, and that the scope of assessment is satisfactory.

Cadw

144. Cadw's initial representation (REP12) confirmed that it agrees with the conclusions of the Heritage Desk Based Assessment. In relation to archaeological remains, it considers the proposed scheme of works agreed with Dyfed Archaeological Trust to be appropriate but seeks further survey work to be secured by condition. Cadw's second representation (REPS2-07) clarifies its view that this work would relate to the

investigation of potential archaeological features identified in the geophysical surveys, rather than further works on earthworks, which have already been surveyed.

The Coal Authority

145. The Coal Authority's initial representation (REP07) confirmed that it had reviewed the CMRA. Whilst the scheme's layout indicates that no solar panels would be located over recorded positions of mine entries, their actual positions would need to be established through further investigation prior to construction, and adjustments made to the layout if necessary, to avoid building over or close to the entries. Targeted investigations would also be needed to better understand the risks posed for development proposed within the identified high-risk areas. The representation also noted the potential for mine gases to exist at shallow depth of at the surface. No objections are raised, subject to the imposition of conditions requiring intrusive site investigations, appropriate remedial works and mitigation measures, including fencing of mine entries and their zones of influence, as set out in the CMRA.
146. The Coal Authority's second representation (REPS2-03) noted that the amended layout, as proposed in the varied scheme, appeared to take account of recorded locations of mine entries and high-risk areas, but sought confirmation that the authors of the CMRA have reviewed this. Further correspondence dated 3 May 2022 noted the applicant's confirmation that the report's authors had verified that the original CMRA remained valid as no layout changes were proposed near to the shafts.

National Grid Electricity

147. REP01 confirms that the proposal would not affect the National Grid's electricity apparatus.

National Grid Gas

148. An initial representation (REP02) warned that work must not proceed without further assessment. A second representation (REP18) confirmed that the development would lie close to a High-Pressure Gas Pipeline, but following consultation with the applicant, no objection was raised, subject to the applicant undertaking trial holes, agreeing crossing points, completing a Deed of Consent and Earthing Report prior to Construction, and seeking National Grid's approval of the final designs and access to the pipeline easement upon completion of the project. This position was reiterated in a later representation (REPS2-01), submitted following the scheme's variation.

Welsh Government – Department for Climate Change

149. Representation REP03 confirmed that the submitted ALC desk-based report had been completed to an acceptable standard and could be accepted as an accurate reflection that the land quality on the site was subgrade 3b. A detailed ALC survey was therefore not recommended as the site is unlikely to include BMV agricultural land.

Health & Safety Executive (HSE)

150. HSE's initial representation (REP06) noted that, whilst there are currently no Major Hazard Installations in the vicinity of the proposed project, parts of the site fall within public safety zones associated with Major Accident Hazard Pipelines. There was insufficient information for HSE to provide its public safety land use planning advice but, by way of general advice, HSE would not advise against the proposal providing no temporary or permanent populations were introduced within public safety zones.

151. The HSE's second representation (REPS2-05) did not raise an objection, subject to the proposal being a Sensitivity Level 1 type development (i.e. based on normal working population).

Llanedi Community Council

152. In its representation (REP15) the local Community Council expressed concern about the scale of solar farm developments in the vicinity, noting that the proposal is only one field away from an existing 28ha solar farm, which is adjacent to a proposed 22ha solar farm, making one almost continuous block of 115ha. Whilst assisting with the climate crisis, this large block would result in habitat loss and may pose a threat to wildlife. The loss of productive agricultural land would also reduce food growing capability at a time of uncertainty in the supply of produce. Developments of this nature normally include a social benefit to the community which can be used to mitigate the loss of habitat and amenity. The Community Council had made enquiries with the applicant, but no response had been received.
153. In its second representation (REPS2-08) the Community Council noted that the applicant has offered a community benefit payment, but that the Council and community are disappointed with the level of the contribution when compared to the revenue which would be generated by the proposal, and the impact on the community.

City and County of Swansea

154. The initial representation (REP17) noted that there is very little research on the impacts of solar farms on bat populations, and that monitoring surveys should be carried out post-construction. Advice was offered on monitoring and mitigation for dormice and hedgehogs. It was suggested that the 15m buffer to adjacent ancient woodland may benefit from being increased if particularly large veteran trees are present, in line with Natural England guidance published in 2000. The representation noted a lack of information with regard to construction traffic routes and urged due consideration to be given to routes via or bordering the City and County of Swansea. A second representation (REPS2-09) confirmed that no objection was raised.

Welsh Government – Network Management Division (Transport)

155. An initial representation (REP20) noted the relatively low number of daily movements and confirmed that no significant trunk road network or routing issues were foreseen. However, a detailed CTMP was requested so that the methodology, construction vehicular turning movements and route signing schedule could be reviewed.
156. In response to an Inspector request for further information, the Network Management Division confirmed that any concerns could be managed via a CTMP. Subject to deliveries being programmed, it noted that there is adequate stacking capacity for any delivery vehicles using the right turn lane junction from the A483 onto the B4297 (albeit note that this is a misunderstanding of the proposed construction routing).

Dŵr Cymru Welsh Water

157. Representation REPS2-02 requested advisory notes be added to any consent in relation to a watermain, sustainable drainage and non-mapped sewers and drains.

Representations from other interested parties

158. In addition to the representations from the organisations summarised above, some 23 letters were submitted during the initial round of consultation. An additional four

representations were received in response to the second round of consultation on the varied application and applicant's further information. One hearing statement was also submitted by a local resident. All raised objections or concerns in relation to several matters and are summarised below.

159. The scheme would result in three solar farms in Llanedi and would have a detrimental effect on the village, residents and the local environment. Other solar farms, wind turbines and electricity pylons are also proposed or operational within the wider area. The proposal would be considerably larger than the adjacent solar schemes and, in combination with them, would result in a vast, continuous block of solar panels which would dwarf Llanedi. It would turn a beautiful, unspoilt rural landscape into a mass of glaring glass, an eyesore with the appearance of an industrial site as perceived from various viewpoints and points of entry into Llanedi. Some panels would be situated on an elevated hillside known locally as Rhandir Aur, and views over the wonderful Llŵchwr Valley would be devalued. Natural screening would diminish during the winter months and the proposed additional screening is insufficient or could be removed or not properly maintained. The proposal would appear as an alien, modern feature, yet located merely 60m from the Bryn-Y-Rhyd standing stone. The location has not been adequately justified; various former mining and industrial sites and buildings elsewhere, including sites in need of regeneration, would be more appropriate.
160. The scheme would lead to the loss of good agricultural land in use for dairy and beef production, despite the country being nowhere near self-sufficient in food, and government objectives to support local food growing. Farm tenancies would be lost with detrimental effects on future generations. The ability to move stock between sites would be reduced, affecting the viability and value of agricultural land. At the end of the 40-year operational period, the company might no longer be in existence, leaving a blot on the landscape for others to decommission at public expense. A precedent would be set for the loss of wild and food producing land, with the site being liable to be built on at the end of the solar farm's operational life.
161. Contrary to the Environment (Wales) Act 2016, the proposal would not enhance biodiversity and ecosystem resilience, and would adversely affect wildlife recorded and observed in the area, including butterflies, bats, foxes, badgers, curlews, red kites, buzzards, owls, and Greylag and Canada geese. Biodiversity is in decline, species loss is accelerating, and Wales is failing to meet international biodiversity targets. The local presence of sphagnum moss on marshland provides vital food to birds, insects and invertebrates. The proposal would be likely to lead to the felling of mature trees, hedgerows and field edges, and would adversely affect marshy land, ancient woodland and reforestation objectives. The extent of solar panels would lead to a loss of habitat mosaics which are key to maintaining biodiversity and ecosystem services. The fenced enclosures would not allow animals, such as hedgehogs which are already endangered, to freely pass through the site. There is uncertainty about long-term effects, although there is research suggesting that large solar farms can adversely affect wildlife, including altering bird migrations and creating microclimatic effects. Dust from construction is likely to adversely affect the adjacent Caeau Afon Gwili SSSI, one of only 3% of hay meadows remaining in the UK, and notable for its varied flora, reptiles, birds and invertebrates. Maintaining sheep grazing on the site would denude land of botanical diversity. Construction-based pollution would impact on streams and neighbouring properties and the solar panels themselves could leach pollutants into the water table.

162. The effects of the proposal would be detrimental to human well-being, adversely affecting several families, as well as the mental health of individuals whose homes would be almost surrounded by solar panels. Even with additional screening, the panels would be clearly visible from many properties in the village and from Ebenezer Road. The applicant's assessment of residential amenity impacts is neither objective nor comprehensive. This scheme is larger than the existing Clawdd Ddu solar farm, the cooling fans and inverters of which are noisy, including at night-time. The proposal would produce even more noise and would negatively impact on the value and saleability of houses. Glint and glare created by the development would not only be visually undesirable but dangerous to the drivers of vehicles traversing the narrow, steep Heol y Mynydd in Garnswllt. There is also little research into the effects of solar farms on the physical health of humans who live close to them.
163. Llanedi is home to a significant proportion of Welsh speakers, which contributes to the rich culture and diversity of Wales. The proposal would not preserve Welsh rural village life, including the promotion and preservation of the Welsh language. The development would also have a negative impact on future development opportunities and local leisure and tourism. The proposal would dissuade visitors who would otherwise come to the area to enjoy the countryside and the area's public footpaths and rural roads for walking, cycling and horse riding. Local visitor accommodation and hospitality enterprises would be adversely affected. Few new local jobs would be created; the main beneficiaries of the scheme would be a multinational developer and landowners who have no connection with the area.
164. HGVs accessing the site during construction would result in considerable disruption, increase air and noise pollution, and compromise the safety of users of Ebenezer Road and Heol Troeon Bach, which lacks footways. The construction route would pass a primary school situated on a brow and blind bend, where several near misses have been reported. Heol Troeon Bach is considerably limited in width and the largest vehicle currently using it is the refuse lorry once per week. Considerable damage to highways and hedgerows would be likely and access to local properties would be restricted. Opportunities for active travel would be reduced, with effects on the well-being and mental health of residents. The proposed hours of construction are unacceptable given the rural context.
165. The local climate is rainy and cloudy and the solar farm's efficacy is therefore questionable. There is little information on where the thousands of solar panels would be disposed of when they are obsolete. The proposal would set an undesirable precedent and would be contrary to various local and national development plan policies. Whilst the proposal's renewable energy benefits are recognised by many, these would be far outweighed by its negative effects.

Appraisal

166. The main considerations are:
- a) The effect on the area's landscape character and visual receptors,
 - b) The effect on residential amenity, with particular regard to outlook, glint and glare, and noise,
 - c) The effect on ecology and biodiversity, including protected species and sites, and
 - d) Whether any harm would be outweighed by the scheme's benefits, particularly in relation to climate change and energy security.

Landscape and visual

167. Part of the site falls within the Llŵchwr Valley SLA, as designated by the LDP. FW Policy 18 indicates that proposals for non-wind renewable and local carbon technologies will be permitted providing, amongst other things, that the proposal does not have an unacceptable adverse impact on the surrounding landscape. Whilst Policy 18 goes on to place particular emphasis on protecting the setting of National Parks and Areas of Outstanding Natural Beauty, paragraph 6.3.3 of PPW states that all the landscapes of Wales are valued for their intrinsic contribution to a sense of place, and local authorities should protect and enhance their special characteristics, whilst paying due regard to the social, economic, environmental and cultural benefits they provide, and to their role in creating valued places. Para 6.3.4 of PPW states that where adverse effects on landscape character cannot be avoided, it will be necessary to refuse planning permission.

Landscape

168. The site falls within the 'Llanelli Hills' and 'Llŵchwr Valley' visual and sensory LANDMAP aspect areas. The former of these is described as a largely rural area of rolling hills and small valleys, enclosed by a strong network of hedges around relatively small fields, with some woodland, scattered farms and narrow lanes with high hedges, and a few small settlements. The part of the site lying within the Llŵchwr Valley aspect area, east of Heol Troeon Bach, falls within the SLA. This aspect area is characterised by the wide, level and straight valley floor, and its associated valley sides, the slopes of which are sparsely settled, with scattered farms, smaller irregular fields with a mix of outgrown and cut hedge boundaries, and deciduous woodland, often associated with watercourses.
169. The Llanelli Hills aspect area is evaluated as 'moderate' overall, with the Llŵchwr Valley aspect area attracting a 'high' overall evaluation. Consistent with these evaluations, the LSCS finds that the Llanelli Hills aspect area has some capacity for small to large scale solar development where there would be no effect on designated landscapes, including SLAs. In the Llŵchwr Valley area, it finds some capacity for carefully sited small-scale development (1ha to 5ha), but no capacity for medium (5ha to 15ha) or large (greater than 15ha) solar development.
170. At the hearings it was confirmed that the area which would be covered by solar arrays, including intervening gaps running east/west, is around 15ha. As open areas between fenced arrays would not always be visible, the extent of development would appear considerably greater than this. Whilst the extent of the 'developed' area would be far less than the 72ha site boundary (which incorporates open fields, margins and wooded areas at its perimeter) the proposal would undoubtedly present as a solar development of considerable size.
171. On our site visits we saw that the LANDMAP descriptions summarised above aptly describe the landscape character of the application site and its immediate surrounds. Although pylons, wind turbines and nearby settlements are occasionally visible in the landscape, the area remains overtly rural in character. The extent of hedgerow and tree cover, undulating topography and irregular pattern of fields of limited size tend to truncate views, creating a somewhat 'enclosed' landscape. However, longer vistas are also possible which contribute to the area's landscape character. These are particularly evident from land associated with the slopes of the Llŵchwr Valley, but medium-range vistas are also found, including of the landform known locally as

Rhandir Aur, the summit of which falls within the southernmost field of the site boundary.

172. As only around 25% of the panels would be located within the SLA, we agree with the applicant and CCC that the site as a whole has a medium sensitivity to large scale solar schemes. We also agree with the conclusions of the LSCS that western parts of the site accommodating flat or relatively low-lying fields have potential to accommodate large scale solar PV development. However, this cannot be said of the part of the site lying east of Heol Troeon Bach, which occupies a landscape of high quality, integrity and character. Moreover, parts of the site lying roughly east of the Bryn-Y-Rhyd farmstead exert an influence on, and are appreciated as a contiguous element of, the Llŵchwr Valley landscape. Thus, notwithstanding the site's overall 'medium' sensitivity, it remains the case that eastern parts of the site are of notably greater landscape sensitivity than land in its extreme west.
173. The arrays would be contained within existing field boundaries, preserving natural boundary features which are a key characteristic of the area. The Landscape Mitigation Plan incorporates a range of additional landscaping measures, including trees and around 3,475m of new and infill hedgerows at the margins of fields in which panels would be sited. The Landscape Mitigation Plan identifies that the new trees would be around 4m in height initially, with hedgerow species of around 1m in height when planted. At the hearings, the applicant indicated that a growth rate of around 0.5m per year could be assumed. Whilst the mix of species complements those found locally and are mainly deciduous, the use of evergreen shrubs such as holly would improve visual cover during the winter months. Consequently, the proposed landscaping would considerably screen views of the 2.75m panels for a significant part of the 40-year operational period. This mitigation would be particularly necessary and effective in areas where hedgerows are currently depleted.
174. In several places, however, the undulating topography would expose views of the arrays and associated apparatus beyond any intervening landscaping, even when mature. The visualisations included in the LVIA indicate that longer-range views of arrays would be obtained from Graig Fawr, from where the arrays would appear to sprawl down onto the valley slopes, jarring with the prevailing topography. More locally, medium-range views of the arrays ascending the lower slopes of Rhandir Aur would be experienced from PRoWs and Heol Troeon Bach, and therefore from the SLA. Close-range views of arrays behind security fencing, for example from PROW 34/25, would also fundamentally alter the perceived landscape character from parts of the site. In some cases, the mass of arrays would be broken up by the gaps between rows and, where positioned in sloping fields, they would follow the contours of the land. However, where visible, the arrays' somewhat stark and industrial form would appear as an uncharacteristic element of the predominantly rural landscape.
175. The scheme's fragmented layout, with arrays in the eastern part of the site occupying a strip approximately 2 or 3 fields in width bounded or interspersed with areas of woodland, would go some way to assimilating the arrays within the landscape. In combination with the proposed extensive scheme of landscaping, this would help to localise adverse landscape effects, particularly from viewpoints within or near to the site. The proposal would also retain the existing field pattern, a key characteristic of the local landscape. Nonetheless, given the extent and nature of the remaining harmful residual effects, we find that, individually, the proposal would result in a

moderate adverse impact on the landscape character of the immediate area during the operational period.

Visual receptors

176. The LVIA assesses the visual impact of the scheme from 13 public viewpoints informed by ZTV mapping, site surveys and consultation with CCC's landscape officer. These represent some of the most sensitive locations in the surrounding area and are located on Ebenezer Road, Heol Troeon Bach, Garnswllt Road on the east side of the Llŵchwr valley, and various PRoWs, including footpaths which run through or near to the site, or traverse open access land on Graig Fawr.
177. There is little evidence that walkers, horse riders or cyclists represent a significant proportion of users of Ebenezer Road, Heol Troeon Bach or Garnswllt Road. Consequently, visual receptors on these routes would most likely be vehicle occupants, who are of a lower sensitivity than users of PRoWs. From Heol Troeon Bach, glimpsed short-range views of the arrays and security fences would be obtained through access points and above hedgerows for a section of the lane. Proposed hedgerow and tree planting would mitigate these visual impacts, particularly north of the Bryn Awel access track where the existing hedgerows are lower or gappy. From Ebenezer and Garnswllt Roads, the proposal would be seen at a considerable distance and outside the main field of vision of highway users. The proposal would not give rise to significant adverse effects on visual receptors using these highways.
178. From footpath 34/27 to the site's north, the arrays would be visible but their prominence would be considerably reduced by being seen at some distance beyond existing arrays within the Clawdd Ddu scheme. The ZTV confirms that topography would screen views of the arrays for users traversing footpath 34/29, to the site's southwest. However, from footpath 34/26, a short way north of the site, the arrays and fencing would be visible at relatively close range beyond existing and proposed natural features to the south. Users of footpaths 34/24 and 34/25 would, when passing through the site, experience tall security fences, arrays, pole-mounted CCTV cameras and other apparatus to one or both sides. These footpaths would traverse an easement of at least 10m wide, in some locations wider than this, with visual impacts often softened or screened by landscaping. Nonetheless the proposal would considerably confine the available outlook, which would be significantly influenced by either clear or glimpsed views of apparatus with an appearance and extent atypical of a rural area.
179. These adverse effects would be experienced as a 'moving view' for a limited period while walkers traversed the site and its immediate surrounds. The enclosed nature of the landscape would also assist in limiting the dominance of arrays and associated apparatus, with views altering frequently as the observer moved through the area. However, given the proximity of the village of Llanedi to these PRoWs, it is likely that local residents would make regular use of them. In our view there would therefore be a major adverse visual impact on users of footpaths 34/24 and 34/25, which in turn would have a limited adverse effect on the well-being of regular users of these PRoWs during the lifetime of the development.
180. The ZTV indicates that the arrays would be visible from Graig Fawr's north-western slopes, albeit users would likely be concentrated along or near to the waymarked 'St Illtyd's Walk'. Given the relative remoteness of this upland area, visual receptors would be of a high sensitivity. However, as the proposal would mainly be visible for

limited sections of the trail near to viewpoint 12 or the summit of Graig Fawr, adverse visual impacts would be somewhat localised. Individually the proposal would not dominate the outlook or experience of walkers traversing this route.

181. The ZTV also indicates that views of the proposal would be possible from a wider area, including west of the A483 and M4. However, from these locations the scheme would be at a considerable distance and viewed in the context of undulating landforms, vegetation and areas of urbanisation. Accordingly, any visual effects would be limited.

Cumulative impacts

182. Within around 5km of the site there are 4 operational and 2 consented solar schemes. To our minds, however, it is only the operational Clawdd Ddu scheme, and the two eastern parcels of the consented Tycroes scheme ('Tycroes East'), which are sufficiently proximate to the site or related in landscape and visual terms so as to give rise to potential cumulative effects.
183. The visual effects of these two other schemes would be similar in nature to the proposed development and would prevail over a similar period. It is reasonable to assume that the Tycroes East scheme would feature landscaping which would soften or screen views of the arrays, particularly when mature.
184. Whilst localised valley features and tracts of woodland would provide some physical and visual separation between the individual schemes, in combination with Clawdd Ddu and Tycroes East the proposal would generally be perceived as forming part of a continuous framework of solar arrays extending along the lower ridgeline and sides of the Llŵchwr Valley. The ES finds that, where the proposal would be visible, the landscape character would have already been affected by the Clawdd Ddu and Tycroes East schemes, and that this would limit cumulative effects on landscape character. However, the key question is whether the landscape could accommodate this scheme in addition to the built and permitted solar schemes. Neither of these two other schemes extend into the SLA, and in our view they are more clearly removed from it, with arrays situated away from the steeper valley sides, and few arrays sited directly adjacent to Heol Troeon Bach. In this regard we note the findings of the Inspector examining the Tycroes scheme that the site design and containment of the panels within mature hedgerow vegetation would reduce the impact on the wider landscape character.
185. We have already found that the eastern part of the site occupies a landscape of high quality, integrity and character, and we reach that finding with the Clawdd Ddu scheme in place. The Tycroes East scheme would have some impact on the landscape character of the SLA and areas associated with it, albeit this would be lessened by its location north of Clawdd Ddu.
186. The enclosed nature of the landscape, woodland and existing and proposed natural features would limit opportunities to observe cumulative landscape character effects of all three schemes from within the site or areas near to it. In-combination landscape effects would, however, be experienced from elevated areas on the east side of the Llŵchwr Valley. From Graig Fawr the three schemes would be seen alongside one another, with any mitigation planting likely to have a limited screening effect from this altitude. The combined mass of arrays would be visible in the middle distance and would occupy a considerable area within the relatively enclosed Llŵchwr Valley landscape. The manner in which arrays within the proposal would evidently extend

further into the valley proper than the permitted and operational schemes would further compromise the character of this largely linear and contained rural landscape. In combination, the dominance of the arrays would have a major adverse effect on the area's landscape character during the 40-year operational period.

187. From St Illtyd's Walk, the landscape effects described above would be experienced by visual receptors of a high sensitivity. However, in-combination effects would be relatively localised and experienced only at certain viewpoints along the trail. Having regard to both this and the time-limited and reversible nature of the proposal, we find that from Graig Fawr, cumulative visual effects would be moderately adverse.
188. Although topography and foliage would limit opportunities to see all three schemes together from PRowS near to the site, sequential visual effects could occur as users travelled along Heol Troeon Bach or moved from one PRow to another. However, the majority of users of Heol Troeon Bach would be vehicle occupants and of a lower sensitivity than recreational users, with effects adequately mitigated by existing and proposed hedgerow screening and the limited extent to which Clawdd Ddu and Tycroes East bound the lane. Sequential effects on users of the PRow network would also be transient and limited as only segments of the paths would be dominated by views of arrays.
189. The development proposal, along with the Clawdd Ddu and Tycroes schemes, is located within 'Priority Area 13' for solar PV development as identified in a report entitled 'Assessment of Onshore Wind and Solar Energy Potential', which provides part of the evidence base for FW. These areas were identified through a sieving process which considered a range of matters, including LANDMAP evaluations, and were subject to stakeholder consultation. Consequently, there is broad correlation between this study and the Council's LSCS. In this regard we note that of 80 landscape units the County assessed in the LSCS, none were found to be of 'low' sensitivity. Consequently, the development site could be considered 'less sensitive' than other parts of Carmarthenshire, including nationally designated landscapes.
190. However, whilst Priority Area 13 incorporates parts of the Llwchwr Valley aspect area and the SLA, its boundary is vaguely defined. The executive summary to the study also recognises that the Priority Areas have constraints and site-specific issues which cannot be dealt with at a national level. Whilst it may assist in informing decision-making, both in terms of investment and land use planning, Priority Area 13 has no status in national policy. Consequently, we consider the Council's LSCS to provide a more appropriate basis for considering local landscape and visual impacts, including the potential cumulative impacts which may arise from schemes coming forward within the indicative 'Priority Areas' or 'less sensitive' parts of the County. In any case, however, our findings are based on the individual circumstances of the case, as informed by the full range of evidence and our site observations.

Conclusion

191. Paragraph 5.9.14 of PPW states that planning authorities should support and guide renewable and low carbon energy development to ensure their area's potential is maximised. Nonetheless, FW policy 18 is clear that the cumulative impacts of existing and consented renewable energy schemes should be considered and that proposals should not have an unacceptable adverse impact on the surrounding landscape. These policy imperatives stand apart from issues such as solar irradiance, grid capacity and connections, which do not necessarily justify any harm arising. In relation

to cumulative effects, the fact that the development proposal, Tycroes and Brynrhyd schemes could have come forward as a single DNS project is of little relevance and has no bearing on our conclusions on this main issue.

192. A condition to secure the appropriate decommissioning of the scheme would adequately ensure that its landscaping and visual impacts would not prevail beyond its 40-year operational period. Other landscape and visual impacts would also be experienced during the construction and decommissioning periods, but these would be short-lived. However, for the reasons already given, we conclude that during the 40-year period of its operation, the proposal, in combination with nearby existing and consented solar schemes, would have a major adverse effect on the area's landscape character. Individually the proposal would result in major adverse visual impacts on users of footpaths 34/24 and 34/25. It would also have moderately adverse impacts on the locality's landscape character as experienced from within the site or its immediate vicinity, and, cumulatively, on visual receptors using the Graig Fawr open access land.
193. Consequently, the proposal would conflict with the landscape and visual amenity objectives of LDP policies SP11, SP14, GP1 and EQ6. It would also conflict with part 4 of LDP policy RE3 relating to cumulative effects, which we consider to be in general accord with national policy, including FW. Whether or not the scheme's adverse effects would be unacceptable, as per FW policy 18, is something we return to in the planning balance.

Residential amenity

Outlook

194. The applicant's RVAA evaluates visual effects likely to be experienced from private viewpoints, including dwellings. Effects are not assessed for every dwelling in the vicinity of the site but from a representative sample, in some cases using proxy viewpoints from public land. Representative vantage points are confined to the immediate surroundings of the site, on the assumption that screening by topography and vegetation would ameliorate the impacts on the quality and extent of outlook available from dwellings further afield. The methodology and assumptions employed are robust and provide a sound basis for evaluating visual effects from dwellings.
195. For most assessed properties, the RVAA finds that significant visual effects would not arise. However, it finds that major or moderate (significant) effects would occur at 6 properties, located either within or just south of the site, or on higher land to the north. It is from properties in these locations that the arrays would be most apparent.
196. From the dwellings to the north, the rear of the arrays stationed on the lower slopes of Rhandir Aur would be clearly visible throughout the year, beyond intervening tree cover. Nonetheless the arrays would be sited a considerable distance from these dwellings and would be perceived only as a minor part of the wider landscape.
197. The solar arrays would be stationed in proximity to the property of Bryn Awel. From the rear and side elevations of the dwelling and its private amenity areas, panels, supports and a substation would be visible beyond intervening tree cover to the west, south and east. To the north the aspect would principally remain as open field. Proposed hedgerow and tree planting would considerably improve screening along property boundaries and would obviate any perception of being unpleasantly enclosed by solar arrays, including in winter months when the arrays and substation would be more visible.

198. Whilst located on the application site, the Bryn-Y-Rhyd farmhouse forms part of a tenanted holding and, given its proximity to the arrays, is of high sensitivity in residential amenity terms. Arrays would encircle much of the dwelling's curtilage, at their closest around 45 metres from the farmhouse. Cattle sheds, outbuildings and hedges would screen views of the arrays towards the northeast and southwest. Arrays would feature prominently against the skyline to the west and northwest, along with the site compound and access track during the construction phase, but these would be seen only in oblique views from principal living spaces and would not dominate the outlook from amenity areas associated with the dwelling.
199. Rows of arrays would also be visible to the southeast from the rear of the Bryn-Y-Rhyd farmhouse and its rear garden, their prominence accentuated by their position on rising land. Reinforcement tree and hedgerow planting would have some effect in mitigating the visual impact of these arrays, albeit this would be limited by the local topography. However, the arrays would be limited to a single field, with adjoining fields to the west, south and east remaining as open farmland. This would reduce any perception of the dwelling being severed from the surrounding rural landscape, thereby avoiding any unacceptable impact on the outlook available from the property.
200. The solar arrays would be visible in fields to the north of the property of Tirgwaidd, including from north-facing ground and first floors windows of the dwelling which face out across its rear garden. However, the arrays would be seen at a distance of around 135 metres. Whilst the closest arrays would not be wholly screened by existing hedgerows, proposed mitigation planting would considerably reduce the solid appearance of successive rows of arrays, particularly once mature and during summer months.
201. The extent and nature of landscaping proposed would therefore adequately mitigate the effects of the proposal from these and several other dwellings located in visual range of the site, including those situated on Ebenezer Road and Heol Troeon Bach. Evidently the outlook available from many dwellings in the immediate area would change, considerably so in some cases. However, for the reasons given above we conclude that the visual effects of the proposal would not be of a nature or magnitude which would materially harm the living conditions of nearby residents.

Glint and glare

202. Effects of solar reflection caused by the proposed solar arrays on residential properties have been assessed by the applicant. The initially submitted Glint and Glare Study indicates that the intensity of solar reflectivity would be similar to or less than that produced by still water, and that the significance of reflectivity effects would decrease with distance, as the proportion of the ground level observer's affected field of vision would decrease and intervening screening from terrain, vegetation or buildings would be more likely. Consequently, effects on 55 properties within 1km of the site were assessed, in some cases using proxy viewpoints for clusters of dwellings, having regard to the area of the panels which would be theoretically visible from each assessed viewpoint.
203. At the hearings it was confirmed that there are no extant planning permissions or LDP allocations for dwellings in the 1km radius. Whilst glint or glare may be experienced outside this area, in our view the adopted methodology provides a sound basis on which to evaluate likely glint and glare effects of significance.

204. The assessments found that existing and proposed screening from buildings and vegetation would wholly screen or mitigate effects at most assessed viewpoints, but that eight residential properties would potentially experience impacts of a moderate magnitude. However, from each of these, it is evident that glint or glare would be experienced under direct sunlight, and then with the sun low to the horizon. As the solar reflection would be seen against the brighter sun, and for a limited duration after sunrise or before sunset at certain times of the year, any glint or glare would not be of a magnitude that would be harmful to residents' living conditions.
205. Two addenda to the original Glint and Glare Study were produced in support of the varied application, the most recent being informed by a site visit. These confirm that the assumptions in the original study were appropriate and that, at most dwellings, views of the reflecting area would be substantially or entirely screened by intervening buildings or vegetation. Additional landscaping, as proposed by the scheme, would have little impact initially, particularly during winter. However, as it became more established it would further reduce the effect of glint or glare on residential properties. Consequently, local residents' living conditions would not be harmed.
206. CCC and several residents have raised concerns about effects on properties in the City and County of Swansea, particularly in the village of Garnswllt. It was confirmed at the hearings that solar reflection from the proposed arrays would only have the potential to affect viewpoints located south of the panels. As the main part of the site is located further south than most dwellings in Garnswllt, at a distance of over 1km, we are satisfied that unacceptable glint or glare effects would not arise.

Noise

207. Solar farms do not generate high levels of noise but there are some noise emissions associated with the inverters, transformers and substations. At the hearings, a local resident stated that, from the garden of their property on warm sunny days, they were able to hear cooling fans associated with electrical equipment at the nearby operational solar farm. We have no reason to dispute this. It is also possible that malfunctioning equipment would, at least temporarily, generate higher levels of noise than would be expected under routine operation.
208. The Noise and Vibration chapter of the ES states that to ensure the proposed development is not a significant or prohibiting factor in achieving the relevant WHO guideline values at sensitive receptors, a target of 32dB LAeq (free field) is proposed for the solar farm. It goes on to state that significant impacts will be deemed to occur if the operational noise of the facility exceeds this noise level.
209. CCC seeks to ensure that the noise generated by the proposed development does not exceed existing background noise levels. The applicant argues that a limit of no more than 5dB above background noise levels provides flexibility whilst protecting nearby residents from unacceptable impacts. In support of its position CCC points to advice in BS4142 that an increase of around 5dB is likely to be an indication of an adverse impact. CCC and applicant cite examples of their preferred version of the condition being imposed on other solar projects permitted through the DNS process.
210. Figure 11.2 in the Noise and Vibration chapter of the ES shows indicative noise contours from the noise generating elements of the proposed development. None of the residential properties in the area lie within the 35dB(A) contour and the majority are some distance away. However, the plan does not include a 32dB(A) contour and whilst distances between the noise generating equipment and receptors is such that it

could be assumed that they would fall outside a 32dB(A) contour, this is an isolated rural area where background noise levels are very low. In this context, audible noise from equipment could cause disturbance to residents during early morning or late evening hours at the height of summer.

211. In light of the advice in BS4142 that an increase of around 5dB is likely to be an indication of an adverse impact, CCC's position is to be favoured and a condition recommending that the noise generated by the proposed development does not exceed existing background noise levels is recommended. Additional conditions to require an assessment of operational sound levels, and to secure mitigation if specified sound levels were exceeded, would ensure any noise impacts not accounted for in the ES are adequately addressed. Given the likely level of noise at the nearest affected dwellings, subject to these conditions, the proposal would not materially affect occupants' living conditions.
212. Construction noise from the installation of arrays would be lessened by the frame supports being push-driven rather than piled by impact-driven equipment. Construction activities would also be concentrated in different parts of the site in various phases, thereby reducing the length of time that noise and disturbance would be evident to nearby occupants. A condition limiting the hours of construction would ensure that noise limits set out in BS5228 would not be exceeded. A condition to require activities to be undertaken in accordance with a Construction Traffic Management Plan would ensure that vehicle deliveries would be made outside the most sensitive morning, evening and weekend hours, thereby further reducing any effects of vehicle noise on residents living nearby.

Conclusion

213. For the reasons set out above, we conclude that, subject to appropriate conditions, the proposal would not harm the well-being or living conditions of residents who live within or in proximity to the site. In this regard, the proposal would accord with the objectives of FW policy 18 and LDP policies SP11 and GP1.

Ecology and biodiversity

214. Policy 9 of FW states that development proposals should take action towards securing the maintenance and enhancement of biodiversity, to provide a net benefit, and to take innovative, nature-based approaches to site planning and design in order to secure the resilience of ecosystems. These objectives are consistent with those of FW policy 18 to avoid unacceptable adverse impacts on ecological interests and to provide a net benefit for biodiversity. These policies reflect the section 6 duty of the Environment (Wales) Act 2016 and are consistent with the principles set out in section 6.4 of PPW, which amongst things seek to safeguard statutorily designated sites and protected and priority species.

Existing habitats

215. Chapter 7 of the ES is supported by a Preliminary Ecological Appraisal (PEA) undertaken by a chartered ecologist over two days in July 2020. This records that the site is predominantly composed of grassland, the majority of which has been managed for agriculture and is species poor. However, the site also hosts some marshy grassland; an extensive and generally species-rich network of hedgerows; watercourses and ditches; mature trees; and pockets of broadleaf woodland. Some of these habitats adjoin areas of ancient woodland at the site margins.

216. The solar arrays and supporting apparatus would be sited on areas of grassland, avoiding direct impacts on hedgerows, trees and watercourses. The site layout allows for appropriate buffers of 5m to hedgerows, 8m to watercourses and ditches, 10m to woodland and 15m to ancient woodland. Four sections of hedgerow would be removed to facilitate access for construction and maintenance, including a short section of species rich hedgerow. However, the total extent of hedgerow permanently lost would be limited and not of a significance which would harmfully sever established ecological networks. Six temporary gaps required for the construction phase would be replanted with native species following completion of works. Whilst it is likely that a licence from NRW would be required in order to carry out potentially impactful hedgerow removal, mitigation measures secured via condition would ensure that impacts on species, including dormice and nesting birds, were avoided.
217. The Caeau Afon Gwili SSSI, which adjoins the site to its northwest and is located to either side of the proposed principal construction access, has been designated for the value of its meadow and grassland habitats, and the species which rely on them. The proposal would not directly affect land within the SSSI. Whilst construction activities would have the potential to increase pollutants locally, adverse impacts on the SSSI and other habitats would be avoided via mitigatory measures secured via condition. Such measures would include an EPP identifying biodiversity protection zones and method statements to ensure that adverse effects on all valuable habitats were avoided during the construction phase.

Existing species

218. Surveys undertaken on and around the site identified the presence of several species including bats, dormice, otter, and a variety of birds. These include protected species identified under Section 7 of the Environment (Wales) Act 2016 and priority species identified in the Carmarthenshire Local Biodiversity Action Plan. In accordance with the precautionary principle, in some cases the presence of species has been assumed rather than confirmed.
219. Surveys additional to the PEA were undertaken between June and September 2021. The majority of buildings surveyed within the site were evaluated to be of low potential for bat roosting. One non-breeding roost of common pipistrelle was detected within a building which would be largely encircled by arrays, but this was found not to be of conservation significance and unlikely to suffer fragmentation or disturbance impacts from the proposed development. Whilst bat detector surveys recorded a diverse range of species using hedgerows within the site to forage and disperse, rarer species were largely absent or very low in number, including those which may be more impacted by solar arrays, such as greater horseshoe bats. The evidence therefore confirms that the site is of relatively limited value to bat populations. As most hedgerows and trees would be retained, the proposal would not harm the existing foraging and dispersion network.
220. The additional surveys also found no evidence of water vole or otter within the site, with evaluated habitats generally found to be of poor suitability. Two opened hazelnuts found near to the site confirmed the assumption in the PEA that mitigation to avoid impacts on dormice would be necessary. The evidence confirms that the layout of the apparatus would avoid direct effects on known badger setts within the site.
221. NRW has confirmed its view that, given the habitats on site, its ornithological interest is likely to be relatively low. The proposal would retain pasture foraging grounds for

woodcock, and construction activities would take place during the daytime when this species would typically be sheltering in woodland.

222. The PEA noted the presence of skylark and meadow pipit in three fields within the site boundary, which are bird species of conservation concern. Whilst the low numbers suggested that significant populations were unlikely to be found locally, the PEA noted the potential for solar arrays to adversely impact these species, which require long, unbroken sightlines for predator avoidance. As a consequence of this finding, the site's southernmost field, at the summit of Rhandir Aur, would be kept free of solar arrays, on the basis that this field is likely to be of the most value to skylark and meadow pipit. This is an optimum form of mitigation which accords with the nature-based approach to site planning and design sought by FW and would ensure that adverse effects on these species are avoided.
223. Invertebrates recorded on the site include several species of butterfly. A walkover of the site undertaken in May 2021, involving CCC's Caeau Mynydd Mawr Conservation Project Officer, concluded that no fields on the site contained habitat capable of supporting marsh fritillary butterfly. For invertebrates, as with other species, the evidence confirms that it is the site's hedgerows, watercourses and woodland edges which are of most value, which in the main would be retained within the site layout.
224. Residents have raised concerns about impacts on various species which are known to be present or have been sighted locally. We do not dispute this anecdotal evidence, which chimes with the findings of the applicant's PEA and later surveys. Nonetheless, the evidence before us establishes that subject to conditions to secure appropriate mitigation measures, including during construction and in relation to lighting, the proposal would not adversely affect existing species found within and near to the site. Whilst security fencing may inhibit movement, buffers between the fencing and hedgerows or woodland edges would provide appropriate corridors for key species. Terminating the securing fencing to either side of hedgerows would also ensure that there would be no harmful severing of ecological connectivity.

Mitigation, enhancement and net biodiversity impacts

225. The Outline LEMP sets out measures intended to avoid or minimise effects on ecology and enhancement measures to secure a net benefit for biodiversity. The LEMP is consistent with the Landscape Mitigation Plan, which is an essential element of the scheme's design and details the location and nature of landscaping, management, mitigation and enhancement measures. These include tree and hedgerow planting, management of grassland including a targeted 'grassland restoration scheme' (GRS), establishing fenced-off tussocky grassland margins in certain fields, and providing nesting or refuge habitats for specific species. NRW has confirmed that it is satisfied with the approach taken by the applicant, subject to the imposition of recommended conditions, including the submission of a final version of the LEMP prior to commencement, and appropriate management, maintenance and monitoring during the operational period.
226. It is proposed to plant around 3,475m of new and infill hedgerows, supplemented by heavy standard trees, with botanical species reflecting those found in the local area. This would significantly increase the extent of these habitats across the site, far offsetting the limited permanent loss of hedgerow and providing a significant local ecological benefit. The low-impact planting and cutting regime provided for in the Outline LEMP would secure the long-term value of this habitat for wildlife.

227. The proposed GRS would occupy two parcels of land adjacent to the Caeau Afon Gwili SSSI. Intended solely as an enhancement measure, rather than for mitigation, its objective would be to increase botanic diversification via a planting and management regime which could offer improved habitat for certain species of invertebrates, small mammals, reptiles and birds. As much of the site falls within an NRW Priority Area for Heathland and Grassland, the aims of the GRS would accord with sub-regional objectives.
228. Whilst the arrays would be separated by gaps of over 3.5m, the effect of shading would be likely to limit the botanical diversity of the sward beneath the panels. Moreover, the chemical and nutrient status of soils in the GRS would need to be established to tailor an appropriate planting and management regime. Consequently, there is some uncertainty about likely ecological outcomes, including whether habitat to support the marsh fritillary butterfly could be established within the GRS. It is, however, evident that the value of grassland habitats would improve significantly above the current baseline. The location of perimeter fencing would allow livestock in these areas to be maintained to a density which would support botanical objectives. Basing the GRS on six established field boundaries would also facilitate a straightforward and legible management regime, further improving the likelihood of successful ecological outcomes.
229. Outside the fenced-off arrays, grassland buffers/margins would be established adjacent to hedgerows and woodland edges. These would be subject to a single grass cut every 2 or 3 years to encourage the establishment of a dense, tussocky sward. These natural margins would be likely to support a range of species including invertebrates, small mammals, reptiles, amphibians, badger, and would provide foraging and hunting opportunities for bird species including barn owl, goshawk and kestrel. As indicated earlier, they would also provide valuable ecological connectivity within the site. Dormouse nesting boxes, bat roosting features, bird boxes, log and rubble-pile refuges installed in suitable locations would provide valuable sheltering features for wildlife, further enhancing the site's ecological value.
230. The final content of the LEMP would be for the applicant to address in consultation with CCC, NRW and other specialists prior to development commencing. It would, for example, provide the means for establishing the botanical selection, planting and management regime within the GRS following soil investigations. Subject to details being refined pre-construction, and its effectiveness monitored at appropriate periods, we are satisfied that the objectives of the LEMP would be secured.
231. The applicant has prepared a Biodiversity Net Gain assessment which takes account of the quantum, condition, distinctiveness and diversity of existing and proposed habitat 'units' within the site, following Defra's Biodiversity Metric 3.0 methodology. As no equivalent methodology exists in Wales, we consider this to be an appropriate means by which to evaluate net biodiversity impacts.
232. The assessment evaluates the anticipated quantum and value of created and enhanced habitats set out in the LEMP and Landscape Mitigation Plan, factors in the loss of existing baseline habitats, and takes account of likely timescales for implementing and establishing new or enhanced habitats. In accordance with the methodology, it assumes that pasture underneath panels would not alter in quality.
233. The assessment concludes that the proposal would achieve a net gain of between 27% and 33% in evaluated habitat 'units'. We have no reason to dispute this, and

consider that the assessment provides robust evidence that the proposal would deliver a substantial net benefit for biodiversity.

234. Given the aims of the LEMP, it is possible that valuable habitats or species could establish on the site during the operational period. Consequently, a condition requiring ecological surveys to be undertaken prior to decommissioning is necessary. Nonetheless, it is impossible to know what legislation or policy will require in 40 years' time. Currently, section 57(2) of the Town and County Planning Act states that where planning permission to develop land has been granted for a limited period, planning permission is not required for the resumption, at the end of that period, of its use for the purpose for which it was normally used before the permission was granted. The assumption must therefore be that the site would revert to agricultural use. Whilst proposed mitigation and enhancement features such as new hedgerows or trees could well prevail beyond the operational period, the weight we attach to the proposal's net benefit to biodiversity is necessarily reduced on account of its time-limited nature.

Habitats Regulations Assessment

235. The Caeau Mynydd Mawr SAC lies around 3km from the site. The marsh fritillary butterfly is the key qualifying interest feature and reason for the SAC's designation. Secondary to this are the moor grass meadows on calcareous, peaty or clayey-silt-laden soils. The extent of suitable habitat indicates one of the largest metapopulations of this species in Wales, which covers an area greater than the SAC boundary.
236. As it would be located some distance from the designated site, the proposal would not directly impact key features of the SAC. Surveys have confirmed that the site does not include habitats capable of supporting marsh fritillary. Consequently, the proposal is unlikely to have any impacts the metapopulation associated with the SAC.
237. The proposed GRS is integrated into the scheme design and not intended as mitigation. There is potential for the GRS to provide habitat suitable for marsh fritillary over the longer term within the 40-year operational period. However, at this stage the impacts are uncertain and there is no confidence of a materially beneficial effect on the metapopulation.
238. Consistent with the conclusions of the applicant's screening assessment, which have been endorsed by NRW, we find that the proposal would not have any likely significant effects on the Caeau Mynydd Mawr SAC or the European site network.

Conclusion

239. Subject to appropriate conditions, the proposal would avoid unacceptable harm to ecological features within the site and adjacent areas, and would secure a net benefit for biodiversity, in accordance with FW policies 9 and 18 and LDP policies SP14, EQ4, EQ5 and EQ7.

Benefits

240. Paragraph 5.7.6 of PPW states that the planning system should secure an appropriate mix of energy provision, which maximises benefits to our economy and communities whilst minimising potential environmental and social impacts. As outlined earlier in this report, the proposal would generate enough electricity to meet the annual demand of around 11,400 homes and would offset around 526,000 tonnes of CO₂ over the lifetime of the development. We have no reason to dispute that these figures are accurate and reflective of the amount of electricity expected to be generated by the

proposal during its lifetime, rather than the maximum installed capacity. In this regard, the proposal would accord with LDP policy SP2.

241. The WG's target, replicated in FW policy 17, is for 70% of Wales' electricity to be generated by renewable energy sources by 2030. In 2020, the figure stood at 56%, and there are significant challenges to deploying renewable generation at the pace required to meet the 70% target by 2030. The proposed additional 30MW of installed solar PV capacity would make a material contribution towards the 70% target. In accordance with FW policy 17, we attach significant weight to the proposal's climate change and energy security benefits which underpin the achievement of this target.
242. The applicant has submitted a copy of a Deed of Gift for a financial contribution from the applicant to Llanedi Community Council. However, the proposed contribution does not meet the tests set out in WG Circular 13/97 'Planning Obligations', and therefore cannot be afforded any weight.
243. The proposal would result in some direct and indirect local economic benefits during the construction and decommissioning phases. However, longer term employment generated by the scheme would be limited. Dairy farming is evidently well-established on farms located within the site, providing local employment. The proposed development would inevitably disrupt existing farming practices and, in the absence of any definitive evidence to the contrary, it is reasonable to assume that their viability would be affected, at least in the short term. Any benefits derived from farm diversification would therefore be offset by this potential short-term disruption. Overall, the proposal's local economic benefits would be limited.

Other matters

Traffic, highway safety and public rights of way

244. Access and egress routes for construction traffic are identified in a CTMP, the final version of which would be secured by condition. In line with recommendations from CCC's Highway Planning Liaison Officers, the CTMP sets out proposed measures for securing the safety of highway users, including non-motorised users, by using signals, signs and banksmen during periods of activity. Such measures would ensure that junctions used by construction vehicles would operate safely, including accesses / egresses with sub-standard visibility and along the construction route. The CTMP's requirement for condition surveys to be undertaken would also ensure that any damage to roads or junctions would be rectified following construction.
245. Residents have raised concerns about the potential for construction vehicles to inhibit access or present a hazard, including for emergency service vehicles, cyclists and pedestrians. They also note the absence of footways on Ebenezer Road and that construction vehicles would pass a primary school. Nonetheless, we have no reason to dispute the applicant's traffic forecasts which indicate that, on average, fewer than 10 HGVs movements per day would occur during the construction period. There is little evidence that highways in the vicinity of the site have historically operated unsafely. Consequently, and taking account of existing highway conditions and the mitigation set out in the CTMP, which include restrictions on delivery hours, we find that the volume of construction traffic generated by the proposal would not unacceptably affect the safety of highway users. A condition limiting the use of Heol Troeon Bach (C2134) by construction traffic would provide further certainty in this regard.

246. The likely effects of solar reflection on users of highways and PROWs were assessed as part of the Glint and Glare Study. Significant impacts would not be experienced by users of Ebenezer Road, where any glint or glare would arise from outside the main field of vision of road users. Screening by intervening landforms would also assist in mitigating effects, including on users of Ebenezer Road and the A483. The low volume and speed of vehicular traffic on Heol Troeon Bach would avoid adverse effects on highway users by any glint or glare experienced. As the main part of the site is due south of Heol y Mynydd in Garnswllt, motorists descending Graig Fawr would not experience notable solar reflection from the proposed arrays.
247. The layout of the scheme would protect existing PROWs, with only temporary impacts during the construction phase likely. For the foregoing reasons we conclude that the proposal would be acceptable in relation to traffic, highway safety and PROWs, and would accord with FW policy 18 and LDP policies GP1 and TR3.

Historic assets

248. Paragraph 6.1.7 of PPW states that it is important that the planning system looks to protect, conserve and enhance the significance of historic assets. This includes its setting, which should be managed in a sensitive and sustainable way.
249. Whilst there are no designated historic assets within the site boundary, the proposal would affect the setting of various designated historic assets located within visual range of the site. In particular, the site is located in visual range of the Bryn-Y-Rhyd standing stone, located a short distance north of the site, and 4 scheduled monuments sited on the higher land of Graig Fawr to the east.
250. ES Chapter 9 addresses cultural heritage and archaeological matters and has been informed by a Heritage Desk-Based Assessment (HDA), which assesses the setting of designated assets located within 3km of the site. We note that comments received from Cadw influenced the scope of the HDA, which in turn has been informed by policy and guidance including PPW, Technical Advice Note 24 'The Historic Environment' and Cadw's 'Setting of Historic Assets in Wales, Guidance Note 3'.
251. We have no reason to dispute the conclusions of the HDA that the proposal would not harm the setting of the 7 listed buildings which lie within visual range, the significance of which is more closely derived from their built fabric and, to a lesser degree, their immediate surroundings.
252. The proposal would not affect the elevated and remote siting of the 4 monuments situated on Graig Fawr, nor their immediate surroundings; factors which contribute to the significance of these ancient artefacts. Elevated long-range views are also a core element of how these monuments are experienced and contribute to their significance. On our site visit we saw that the solar arrays would be visible across the Llŵchwr Valley from the immediate environs of two of these monuments. However, they would be sited at a considerable distance, within the established mosaic of fields and woodland. As the visibility of the proposal would be plainly incidental to the setting of the monuments, their significance would not be harmed.
253. Whilst the significance of the Bryn-Y-Rhyd standing stone is principally derived from its fabric, views available from the stone to Graig Fawr and its visual integrity within its 'host' field also contribute to its value. We saw that views of the standing stone are largely confined to the field in which it is situated, with little opportunity to appreciate it within a wider setting. Whilst nearby solar arrays would be visible from the host field, they would be glimpsed through established natural boundaries, parts of which would

be reinforced by additional hedgerow and tree planting. The immediate setting of the standing stone would be little altered and its significance would not be harmed.

254. Geophysical surveys undertaken on behalf of the applicant have identified various potential features within the site, which may include a prehistoric ring ditch, trackway, post-medieval buildings, and remnants of a medieval field system and historic land uses. None of these known and potential remains are considered to be assets worthy of designation. Nonetheless, further archaeological investigations, as agreed between the applicant and Dyfed Archaeological Trust, would be needed to ascertain this. We note that Cadw has recommended that this condition be imposed but has not otherwise objected to the proposal.
255. For the foregoing reasons we conclude that the proposal would not harm the significance of historic assets and, in this regard, would accord with FW policy 18 and LDP policies SP13, GP1 and EQ1.

Hazards and risks

256. Chapter 10 of the ES considers the effect of the proposal on ground conditions and has been informed by a Phase 1 Ground Conditions Desk Study and Coal Mining Risk Assessment (CMRA). Collectively these evaluate risks posed by the proposal to or from soils, geological resources, groundwater, contamination and past coal mining. These studies follow standard industry methodologies and provide a robust basis on which to establish the likely level and nature of risks which could arise.
257. Several risks, some of moderate adverse significance, are identified by these studies. However, for the most part, significant risks encountered during the construction or operational phases and would be controlled under separate legislation. This includes measures to protect and secure access to the High-Pressure Gas Pipeline which crosses the site. Other significant risks, such as accidental spillage of contaminants during construction, could be controlled by measures set out in a CEMP, to be secured via a condition.
258. The potential for localised future settlement, crownhole subsidence or collapse of coal shafts during the construction process constitutes a risk of substantially adverse significance. These risks would be reduced by arrays being sited away from the likely location of known shafts and adits. Nonetheless, further investigation and mitigation measures would be required to adequately mitigate the risk. We concur with the view of the Coal Authority that the imposition of appropriate conditions would provide satisfactory mitigation in this regard.
259. Whilst the HSE has raised concerns over temporary occupation within a public safety zone, construction works would not constitute development and would be similar in nature to standard operational farm activities. During the operational phase, risks posed by the development would be limited by the static nature of the arrays and low level of human activity on the site.
260. For the above reasons we conclude that, subject to appropriate conditions, the proposal would not present an unacceptable hazard or risk to human health and safety and would accord with FW policy 17 and LDP policies SP11 and EP6.

Agriculture, soil and minerals

261. The evidence confirms that the site constitutes agricultural land of subgrade 3b. Consequently, it does not constitute Best and Most Versatile (BMV) agricultural land,

which paragraph 3.59 of PPW indicates should be protected from development because of its special importance.

262. Several representors have raised concerns about the loss of agricultural land currently used for dairy, beef and sheep production. It has been questioned whether the raising of livestock could continue beneath solar arrays, not least as they may inhibit practices such as herding livestock and laying fertiliser. Nonetheless, whilst the installation of arrays would undoubtedly necessitate altered management practices on the affected farm holdings, there is little evidence that the arrays would prevent the viable use of the land for agriculture. Moreover, appropriately worded planning conditions would ensure that the site would be returned to its former state following decommissioning.
263. In this regard, construction and decommissioning activities would have the potential to damage the quality and function of soils found on the site, thereby impacting its future agricultural use. To ensure that the soil resource is appropriately protected, surveys would be needed prior to construction, with mitigation measures implemented, including prior to decommissioning and for a 5-year period after the ceasing of operations. Such surveys and mitigation measures could be secured via condition, subject to which the proposal would accord with FW policy 17 and LDP policy SP14. As the proposal would be time-limited it would avoid permanently sterilising any minerals resource and would therefore accord with LDP policy MPP3.

Flooding, drainage and watercourses

264. An FCA has informed the ES and confirms that the site is at little or no risk of flooding according to NRW's Development Advice Maps. In terms of local hydrology, the level of risk of groundwater flooding is negligible or low, with most of the site shown to be at low risk of surface water flooding. The proposed layout of arrays and infrastructure would avoid impeding areas of localised streaming, watercourses and ditches. The site compound would also be sited away from watercourses. Whilst separate consent would be required from the Sustainable Drainage Approval Body, we note that proposed swales may also assist in managing runoff and intercepting silt during the construction phase, as would proposed land management practices.
265. Concerns have been raised by residents about impacts of the proposal on watercourses flowing towards the River Gwili. The FCA indicates that the site drains mainly toward the River Llŵchwr, but in any case the evidence demonstrates that the proposal would not lead to adverse effects on flooding, hydrogeology or watercourses and would accord with FW policy 17, LDP GP1 and the objectives of TAN 15. Whilst the FCA contends that the rate of runoff from the site would be reduced, that is a matter to be determined under the separate Sustainable Drainage consenting process. Consequently, we afford this matter neutral weight in the planning balance.

Materials and waste

266. The solar arrays and supporting infrastructure would be composed of a range of materials. The solar PV modules would constitute a layer of silicon cells, anodised aluminium frames, glass casing and wiring, supported by frames made of an anodized aluminium alloy and galvanised steel. Various other materials would be used in the inverters, transformers, substation and cabling, with access tracks composed of aggregate laid on a geotextile base.
267. Whilst the ES indicates that the contractor would aim to source aggregate locally, it is likely that many of the scheme's components would be transported to the site from far

afield. The ES estimates that the volume of materials generated would be equivalent to 109 skips. Whilst this volume is considerable, it would constitute the vast majority of waste generated by the proposal during its 40-year operation period.

268. Moreover, the Outline CEMP sets out a requirement for a Waste Management Plan, to be based on established waste management principles of reuse, recycling or disposal as a last resort. The Outline Decommissioning Plan indicates that electrical and electronic equipment would be collected by approved operators for reuse, recycling or disposal. Such practices could be secured via conditions requiring the submission and implementation of appropriate management plans.
269. Whilst paragraph ES 10.5.3 refers to a Materials Management Plan for managing excavated soils, a condition requiring a soil assessment and aftercare scheme would secure the appropriate management of soils on the site. Subject to the imposition of appropriate conditions, we conclude that, in regard to this matter, the proposal would accord with FW policy 18 and LDP policy GP1.

Other

270. Several representors have questioned the acceptability of the proposal's greenfield location given the potential availability of brownfield land elsewhere. Nonetheless planning policy does allow certain developments in rural locations where justified. FW acknowledges the significant challenge that grid infrastructure and capacity will have on the potential for new renewable energy developments. The availability of a viable grid connection is a significant constraint to the implementation of renewable energy projects, and it is evident that this has exerted a considerable influence on the site selection process, in addition to environmental considerations and the need to optimise solar irradiation. Paragraph 5.9.21 of PPW is clear that applications should consider how to avoid or minimise adverse impacts through careful consideration of location, scale, design and other measures; and irrespective of our conclusions it is evident that the applicant has sought to do this. In this case, having regard to the proposal's significant climate change and energy security benefits, the robust site selection process justifies a greenfield location.
271. Some have suggested that the proposal would adversely affect the Welsh language, for example due to the potential impacts on the livelihoods of local residents who work locally and actively use the Welsh language within the community. There is, however, little evidence that changes to farming practices on the application site would substantively alter the local area's demographic profile.
272. Representations have expressed concern that the landscape and visual impacts of the proposal would make the local area less attractive as a place to visit. Given our findings in relation to the proposal's landscape impacts there is clearly merit to this argument. However, the amount of visitor accommodation in the area appears to be limited. Whilst the area could well attract day visitors, there is little evidence of local services and facilities which would rely on tourist spend. We consider the proposal to be acceptable in this regard.
273. Concerns have been raised by residents and others of the proposal's potential impact on the value and saleability of properties, and on the ability to access certain land parcels. However, the planning system operates in the public interest, and as these matters relate to private interests, they are not material considerations and we afford them no weight.

Conditions

274. Should the Minister be minded to grant planning permission, the conditions set out in Appendix A comply with the advice in Circular 16/14, 'The Use of Planning Conditions for Development Management' and are recommended. With the exception of the matters addressed below, the conditions in Appendix A have been agreed by the applicant and CCC.
275. The main areas of dispute relate to noise, as set out earlier in this report, and landscaping. As some of the hedgerow and tree planting is proposed to mitigate the impact of glint and glare, CCC argues the applicant should be required to replace any damaged or diseased plants through the lifetime of the development rather than the first 5 years as required by the model condition.
276. At the hearings CCC accepted that if it is going to fail, new planting will usually fail within the first 5 years but argue that a longer period is necessary to require replacement where planting is removed, damaged or falls prey to disease, such as that currently affecting ash. The 5-year period for replacement is a long-established principle, based as stated above, on experience that new planting should normally be well established in that period. It does not seem reasonable, proportionate or necessary to impose a longer period on a temporary development than one would on permanent new buildings and developments likely to be in situ for much longer. It is recommended, therefore, that the standard 5-year period be required in this case.
277. Due to a lack of communication between the operator of the Clawdd Ddu solar farm and the landowner, CCC has experienced difficulties ensuring compliance with conditions imposed on that development. Whilst prior knowledge of land ownership, leaseholders and the persons or bodies responsible for each part of the site would no doubt be useful, it is not necessary to ensure compliance. Landowners, leaseholders and their agents may change over 40 years. Planning permission goes with the land and CCC has the power to serve a Planning Contravention Notice requiring a person or body carrying out operations on land to provide information regarding who has interest in the land. Requiring such information by condition is unnecessary and the condition is not recommended.

Planning balance and overall conclusion

278. The proposal would cause harm to the area's landscape character and to visual receptors, conflicting with relevant policies of the LDP. The most significant impacts would arise from landscape effects experienced in tandem with the Clawdd Ddu and Tycroes East schemes, and visual impacts on users of local PRoWs. Whilst these effects would be experienced for a considerable period, they would be largely reversible and/or relatively localised in extent. Consequently, we afford this harm moderate weight.
279. The scheme's ecological impacts would be acceptable in all respects, subject to controls secured by the recommended planning conditions. These conditions would secure enhancements to ecological features and would secure a net benefit for biodiversity. Having regard to the period over which ecological enhancements would accrue and be secured, we afford this benefit moderate weight.
280. The principal benefit of the scheme would be its contribution to securing renewable energy production and consequent reduction in CO₂ emissions. We attach significant weight to this benefit.

281. As local economic benefits would be limited, we attach negligible weight to these. The proposal's effects in relation to residential amenity, traffic and highway safety, historic assets, hazards and risks, flooding, drainage and watercourses, agriculture and soil, materials and waste would be neutral and weigh neither for nor against the scheme. We attach no weight to matters such as the Deed of Gift to Llanedi Community Council and impacts on private interests.
282. Particularly in the light of the significant climate change and energy security benefits of the scheme, we consider that, in the planning balance, the harm caused by the proposal to landscape character and visual receptors would be justified and not unacceptable. Consequently, the proposal would accord with FW policy 18, and with FW policy 17, which seeks for proposals to demonstrate that they will not have an unacceptable adverse impact on the environment. In so doing, and having regard to the publication date of FW relative to the LDP, we conclude that the proposal would accord with the development plan as a whole.

Recommendation

283. That planning permission be granted, subject to the conditions attached at Appendix A.
284. In reaching this recommendation we have taken into account the requirements of sections 3 and 5 of the Well-Being of Future Generations (Wales) Act 2015. We consider that this recommendation accords with the Act's sustainable development principle, in particular through its contribution towards the Welsh Ministers' well-being objectives to embed our response to the climate and nature emergency in everything we do, and to build a stronger, greener economy as we make maximum progress towards decarbonisation.

Paul Selby

Inspector

A Thickett

Inspector

Appendix A: Schedule of recommended planning conditions

- 1) The development shall begin no later than five years from the date of this decision.
Reason: To comply with Section 91 of the Town and Country Planning Act 1990.

- 2) The development shall be carried out in accordance with the following approved plans except where amended by conditions attached to this planning permission:
 - Drawing No. 1 Site Location Plan
 - Drawing No. 2 Site Location Plan Plus Access Details
 - Drawing No. 3 (Version 2) Site Layout Plan
 - Drawing No 4 (Version 2) Construction Access
 - Drawing No. 5 Mounting Structure Elevation Details
 - Drawing No. 6 Conversion Units Details
 - Drawing No. 7 Security Fence Detail S
 - Drawing No. 8 CCTV System Details
 - Drawing No. 9 (Version 2) Coal Mining Area
 - Drawing No 10 / Gcs0015-1 (Rev No 7) Substation Building
 - Drawing No. BHA_791_02 Rev B Tree Retention, Removal & Protection Plan
 - Drawing No. P20-1336_09 Rev E Landscape Mitigation Plan

Reason: To ensure that the development is carried out in accordance with the approved documents, plans and drawings submitted with the application.

- 3) The authorised development shall cease operating 40 years after the date on which electricity is first exported to the National Grid (excluding any testing or commissioning). This planning permission authorises the decommissioning of the development and shall expire on the date that the site has been decommissioned in accordance with the approved Decommissioning Environmental Management Plan. The date on which the development first exports electricity to the national grid shall be notified in writing to the local planning authority within 28 days of first export.

Reason: The proposal is time limited and in the interests of visual amenity and to comply with Policy 18 of Future Wales and Policies SP11, SP14, GP1, EQ6 and RE3 of the LDP.

- 4) No later than 12 months before the end of the 40 year operating period (or within 12 months of the permanent cessation of electricity production) a Decommissioning Environmental Management Plan (DEMP) shall be submitted for the written approval of the local planning authority. The DEMP shall include the following:
 - i) Surveys and assessments to identify the existing ecology and habitat status at the time of decommissioning to inform the DEMP.
 - ii) Method Statement detailing the process and extent of removal of surface elements of the photovoltaic solar farm and associated development and any foundations, anchor systems, trackways and subsurface cabling and associated works;

- iii) Proposals for effective recycling and disposal of decommissioned elements;
- iv) Traffic management plan to address likely traffic impacts arising from decommissioning operations;
- v) Measures to ensure environmental protection at the site to cover all decommissioning operations;
- vi) Measures to ensure ecological protection at the site to cover all decommissioning operations informed by the surveys and assessments under i) above;
- vii) Implementation timescales and schedules for all elements of the DEMP;
- viii) Reporting and monitoring responsibilities and delivery mechanisms for all elements of the DEMP; and,
- ix) Site restoration measures following all decommissioning operations, informed by the surveys and assessments under i) above and a soil assessment; including aftercare for a period of 12 months from completion of restoration.

The DEMP shall be implemented in accordance with the approved details.

Reason: To ensure the land is restored appropriately and to comply with Policies 9, 17 and 18 of Future Wales and Policies RE3, SP14, EQ4, EQ5, EQ7 and GP1 of the LDP.

- 5) No development shall take place until a detailed layout plan of the site has been submitted to and approved in writing by the local planning authority. This shall include the precise location of the arrays, transformer buildings, sub-station, fencing, CCTV, lighting and the landscape and ecological mitigation. The scheme shall be implemented in accordance with the approved details.

Reason: In the interests of visual amenity, residential amenity and ecology and to comply with Policies 9 and 18 of Future Wales and Policies RE3, SP11, SP14, EQ4, EQ5, EQ6, EQ7 and GP1 of the LDP.

- 6) Noise levels at the nearest non-financially involved residential dwelling lawfully existing at the time of this planning permission shall not exceed background noise levels. Measurements and assessments shall be made in accordance with BS 4142: 2014 +A1: 2019 Methods for rating and assessing industrial and commercial sound. Where the background noise levels shall be expressed as LA90 1hr and the ambient noise levels shall be expressed at LAeq 1hr.

Reason: In the interests of residential amenity and in compliance with Policy 18 of Future Wales and Policies SP11, RE3 and GP1 of the LDP.

- 7) Within two months from the receipt of written request from the local planning authority, the operator of the development shall, at its own expense, employ an independent consultant approved by the local planning authority to undertake a noise assessment in accordance with BS 4142:2014+A1 2019 'Methods for Rating and Assessing Industrial and Commercial Sound' and / or its subsequent amendments to assess the level of sound emissions arising from the development to determine whether they exceed the sound levels specified in Condition 6. The assessment shall be undertaken under the supervision of the Local Authority.

Reason: In the interests of residential amenity and in compliance with Policy 18 of Future Wales and Policies SP11, RE3 and GP1 of the LDP.

- 8) In the event that background noise levels are exceeded, the submitted survey shall also include mitigation measures to ensure compliance with background noise levels as required by condition 6. The development shall then be undertaken in accordance with the approved plans.

Reason: In the interests of residential amenity and in compliance with Policy 18 of Future Wales and Policies SP11, RE3 and GP1 of the LDP.

- 9) No development shall take place until a Construction Traffic Management Plan ("CTMP") has been submitted to and approved in writing by the local planning authority. The CTMP shall be implemented in accordance with the approved details.

Reason: In the interests of highway safety, residential amenity and biodiversity, and in compliance with Policies 9 and 18 of Future Wales and Policies SP11, SP14, EQ4, EQ5, TR3 and GP1 of the LDP.

- 10) Other than as proposed in the application, there shall at no time be any means of construction vehicular access to the development from the C2134.

Reason: In the interests of highway safety, in compliance with Policy 18 of Future Wales and Policies TR3 and GP1 of the LDP.

- 11) No development or site clearance shall take place until a final Landscape Mitigation Plan (P20-1336-09) has been submitted to and approved in writing by the local planning authority. The plan shall include the following: -

i) Plant specification:

- Plant species, varieties and cultivars
- Planting stock specification (stock size, form, root condition etc.)

ii) Planting specification:

- Depths of topsoil and subsoil; ground preparation and cultivation
- Dimensions of planting pits or trenches and proposed backfill material
- Planting densities/spacing or numbers
- Methods of weed control, plant protection and support
- Seed mix specifications and sowing rates; and/or turf specification.

Reason: In the interests of biodiversity, residential amenity and visual amenity, and in compliance with Policies 9 and 18 of Future Wales and Policies RE3, SP11, SP14, EQ4, EQ5, EQ6, EQ7 and GP1 of the LDP.

- 12) The approved Landscape Mitigation Plan shall be implemented in the first planting season following the commencement of development. If within a period of 5 years from the date of the planting of any tree or hedge proposed as part of the Landscape Framework, or any tree or hedge planted in replacement of it, is removed, uprooted or destroyed or dies or becomes seriously damaged or defective, another tree or hedge of the same species and size as that originally planted shall be planted at the same place during the next planting season immediately following the death/removal/destruction of that tree or hedge.

Reason: In the interests of biodiversity, residential amenity and visual amenity, and in compliance with Policies 9 and 18 of Future Wales and Policies RE3, SP11, SP14, EQ4, EQ5, EQ6, EQ7 and GP1 of the LDP.

- 13) No development or site clearance shall take place until a Construction Environmental Management Plan (CEMP) and Ecological Protection Plan (EPP) have been submitted to and approved in writing by the local planning authority. The CEMP shall include:

- i) Measures to ensure environmental protection at the site to cover all construction operations;
- ii) Measures to ensure ecological protection at the site to cover all construction operations, including lighting;
- iii) Construction Phase Soil Management Plan developed from the Outline Soil Management Plan (dated January 2022)
- iv) Detailed construction schedule and implementation timescales for all elements of the CEMP; and,
- v) Reporting and monitoring responsibilities and delivery mechanisms for all elements of the CEMP.

The EPP shall include:

- i) All ecological objectives; and management, maintenance and monitoring proposals to deliver the objectives,
- ii) An Arboricultural Method Statement consistent with the Heads of Terms set out in Appendix 6.2 of the Environmental Statement,
- iii) Reporting and monitoring responsibilities and delivery mechanisms for all elements of the EPP.

The CEMP and EPP shall be implemented in accordance with the approved details.

Reason: In the interests of biodiversity, visual amenity and environmental protection, and in compliance with Policies 9, 17 and 18 of Future Wales and Policies RE3, SP11, SP14, EQ4, EQ5, EQ6, EQ7 and GP1 of the LDP.

- 14) No development or site clearance shall take place until a Landscape and Ecological Management Plan (LEMP) has been submitted to and approved in writing by the local planning authority. The LEMP shall include:

- i) All landscape and ecological objectives; and management, maintenance and monitoring proposals to deliver the objectives,
- ii) Schedules and timescales for delivery of the LEMP,
- iii) reporting and monitoring responsibilities and delivery mechanisms for all elements of the LEMP.

The LEMP shall be implemented in accordance with the approved details. A written report of the effectiveness of the LEMP shall be submitted to the local planning authority every 5 years on the anniversary of the first exportation of electricity to the national grid. The report shall include proposed measures to address any failings for written approval by the local planning authority and the approved measures implemented to a timetable to be agreed in writing by the local planning authority.

Reason: In the interests of biodiversity, residential amenity and visual amenity, and in compliance with Policies 9 and 18 of Future Wales and Policies RE3, SP11, SP14, EQ4, EQ5, EQ6, EQ7 and GP1 of the LDP.

- 15) No development shall commence until;
- i) Details of site investigations designed to establish the risks posed to the development by past coal mining activity has been submitted to and approved in writing by the local planning authority,
 - ii) The results of those investigations have been submitted to the local planning authority along with details of any proposed remediation works and/or mitigation measures to address land instability arising from coal mining legacy. Those details to be approved in writing by the local planning authority,
 - iii) The implementation of any approved remediation works and/or mitigation measures.

Reason: In order to protect those constructing and operating the development hereby permitted and future users of the land in accordance with Policy 17 of Future Wales and Policies SP11 and EP6 of the LDP.

- 16) Prior to the development hereby permitted exporting electricity to the national grid, a signed statement or declaration prepared by a suitably competent person confirming that the site is, or has been made, safe and stable for the approved development shall be submitted to and approved in writing by the local planning authority. This document shall confirm the completion of any remedial works and/or mitigation necessary to address the risks posed by past coal mining activity.

Reason: In order to protect those constructing and operating the development hereby permitted and future users of the land in accordance with Policy 17 of Future Wales and Policies SP11 and EP6 of the LDP.

- 17) No development shall take place until the applicant has secured agreement for a written scheme of historic environment mitigation which has been submitted to and approved by the local planning authority. Thereafter, the programme of work will be fully carried out in accordance with the requirements and standards of the approved written scheme.

Reason: In order to afford appropriate protection to potential archaeological features in accordance with Future Wales Policy 18 and LDP policies SP13, GP1 and EQ1.

Appendix B: Appearances

Hearing 1: Preliminary matters; landscape, visual and residential amenity

FOR THE APPLICANT:

Stephen Humphreys	Legal Director, Ashfords
Lesley Giles	Project Manager, Island Green Power
Gareth Roberts	Director (Planning), Pegasus
Andy Cook	Executive Director (Planning), Pegasus
Paul Barton	Director, Barton Hyett Associates
Gavin Irvine	Director, Ion Acoustics
Kai Frolic	Director, Pager Power

FOR THE LOCAL PLANNING AUTHORITY:

Gary Glenister	Senior Enforcement & Monitoring Officer
Steve Welchman	Landscape Officer
Steven C Williams	Environmental Health Officer
Chris Flattery	Environmental Health Officer

INTERESTED PERSONS:

Cllr Tina Higgins	County Councillor for Tycroes Ward
David Davies	Llanedi Community Council
Jill Davies	Local resident
Leighton Davies	Local resident
Eirwen Thomas	Local resident
Raymund Thomas	Local resident

Hearings 2 & 3 (combined): Ecology; Conditions

FOR THE APPLICANT:

Stephen Humphreys	Legal Director, Ashfords
Lesley Giles	Project Manager, Island Green Power

Gareth Roberts	Director (Planning), Pegasus
Paul Barton	Director, Barton Hyett Associates
Harry Fox	Principal Ecologist, Clarkson & Woods
Rob Askew	Director, Rob Askew Associates

FOR THE LOCAL PLANNING AUTHORITY:

Gary Glenister	Senior Enforcement & Monitoring Officer
Rosie Carmichael	Rural Conservation Manager
Steve Welchman	Landscape Officer

INTERESTED PERSONS:

Cllr Tina Higgins	County Councillor for Tycroes Ward
Eirwen Thomas	Local resident
Raymund Thomas	Local resident

Appendix C: Documents

Note: Documents shown in strikethrough are updated or superseded by later versions

Documents submitted as part of the original application (September 2021)

Prefix	Name
APP001	Copy of Acceptance of Notification of DNS
APP002	Application Form
APP003	Applicant's covering letter 16 September 2021
APP004	Design and Access Statement
APP005	Drawing No 1 Site Boundary
APP006	Drawing No 2 Site Location Plan Plus Access Details
APP007	Drawing No 3 Site Layout Plan
APP008	Drawing No 4 Construction Access
APP009	Drawing No 5 Mounting Structure Elevation Details
APP010	Drawing No 6 Conversion Units Details
APP012	Drawing No 7 Security Fence Details
APP011	Drawing No 8 CCTV System Details
APP013	Drawing No 9 Site Layout Plan and Coal Mining Areas
APP014	Drawing No 10 Substation Building
APP015	Badger Survey (Not published)
APP016	Drawing No BHA_791_02 Rev A Tree Retention, Removal and Protection Plan
APP017	Drawing No P20-1336_09 Rev D Landscape Mitigation Plan
APP019	Environmental Statement Non-Technical Summary
APP020-024	Environmental Statement – Written Statement <i>The following parts are superseded/updated by later versions:</i> • Chapter 6 Landscape and Visual • Chapter 7 Ecology and Nature Conservation
APP018	Environmental Statement – Technical Appendices <i>The following parts are superseded/updated by later versions:</i> • Appendix 4.1 Outline Construction Environmental Management Plan • Appendix 4.2 Outline Decommissioning Plan • Appendix 4.5 Construction Traffic Management Plan

- ~~Appendix 6.2 Arboricultural Impact Assessment~~
- ~~Appendix 7.3 Outline Landscape and Ecological Management Plan~~
- ~~Appendix 7.4 Ecological Protection Plan~~

APP025	Planning Statement
APP026	Pre-application Consultation Report
APP027	Residential Visual Amenity Assessment
APP028	Solar PV Glint and Glare Assessment

Documents submitted by applicant after submission of the initial application

Prefix	Name
<i>Varied application – submission documents</i>	
APP VAR	Applicant's covering letter 20 January 2022
APP VAR	Drawing No 3 Version 2 Site Layout Plan
APP VAR	Drawing No 4 Version 2 Construction Access Plan
APP VAR	Drawing No 9 Version 2 Site Layout Plan and Coal Mining Areas
APP VAR	Drawing No 10 / GCS0015-1 Rev 7 Substation Building
APP VAR	Drawing No BHA_791_02 Rev B Tree Retention, Removal and Protection Plan
APP VAR	Drawing No P20-1336_09 Rev E Landscape Mitigation Plan
APP VAR	ES Addendum: Non-Technical Summary
APP VAR	ES Addendum: Chapter 0 Introduction to the ES Addendum
APP VAR	ES Addendum: Chapter 6 Landscape and Visual
APP VAR	ES Addendum: Chapter 7 Ecology and Nature Conservation
APP VAR	ES Appendix 4.1: Outline Construction Environmental Management Plan Issue 2
APP VAR	ES Appendix 4.2: Outline Decommissioning Plan Issue 2
APP VAR	ES Appendix 4.5: Construction Traffic Management Plan Issue 2
APP VAR	ES Appendix 6.2: Arboricultural Impact Assessment Issue 2
APP VAR	ES Appendix 7.3: Outline Landscape and Ecological Management Plan Issue 2
APP VAR	ES Appendix 7.4: Outline Ecological Protection Plan Issue 2
APP VAR	Glint and Glare Study Addendum
APP VAR	Outline Soil Management Plan
APP VAR	Residential Visual Amenity Assessment Issue 2

Applicant's Regulation 15(2) submission (Further information and response to LIR and initial representations)

EXINFO	Applicant's covering letter 3 February 2022
EXINFO	Applicant's Response to Regulation 15(2) Request for Further Information
EXINFO	Applicant's Response to LIR and Relevant Representations
<i>Hearing statements, accompanying documents and revised application documents</i>	
APP APR22	Applicant's cover letter dated 26 April 2022
HEARSTAT	Hearing statements for sessions 1, 2 and 3
APP APR22	ES Appendix 4.1 Outline Construction Environmental Management Plan Issue 3
APP APR22	ES Appendix 4.5 Construction Traffic Management Plan Issue 3
2022-08-01	Applicant's cover letter dated 01 August 2022, including weblinks to: - Renewable Energy in Wales (May 2022) - Energy Generation in Wales 2020 (30 June 2022)
2022-08-01	Copy of signed Deed of Gift to Llanedi Community Council
2022-08-01	Response from The Coal Authority, 3 May 2022
2022-08-01	Statement of Common Ground between Brynrhyd Solar Farm Ltd and NRW
2022-08-01	Glint and Glare Summary of Analysis and Site Visit July 2022
2022-08-12	List of conditions agreed and not agreed between applicant and CCC as at 12 August 2022
2022-08-12	Amended ZTV showing all viewpoints
2022-08-12	Landscape Mitigation Plan with Field Numbers (to assist at hearings)
<i>Documents submitted after the hearings</i>	
2022-08-19	Applicant's final list of application documentation, 19 August 2022
2022-08-19	Drawing SK/07 (Visibility splays at B4297 & A48, as referred to in ES Appendix 4.1)
2022-08-19	Statement of Common Ground between Brynrhyd Solar Farm Ltd and NRW (signed 19 July 2022)

Additional documents submitted by other parties following the submission of initial representations

Prefix	Name
<i>Responses to varied application and further information</i>	
REPS2-01	National Grid

REPS2-02	Dwr Cymru
REPS2-03	The Coal Authority
REPS2-04	Cefin Campbell MS
REPS2-05	Health and Safety Executive
REPS2-06	B&P Gill
REPS2-07	Cadw
REPS2-08	Llanedi Community Council
REPS2-09	City and County of Swansea Council
REPS2-10	Raymund and Eirwen Thomas
REPS2-11	Natural Resources Wales
REPS2-12	Mark and Tracey Davies
REPS2-13	Carmarthenshire County Council
<i>Responses to Regulation 15(2) request for further information</i>	
EXINFO LPA	LDP Proposals Map
EXINFO LPA	Solar PV Development Landscape Sensitivity and Capacity Study (main report, changes agreed by Council, Llanelli Hills and Llwchwr Valley assessments)
EXINFO NRW	Letter from NRW regarding HRA
EXINFO WGNM	Letter regarding construction traffic arrangements
<i>Hearing statements</i>	
HEARSTAT	Carmarthenshire County Council (Hearings 1, 2 and 3)
HEARSTAT	Natural Resources Wales (Hearing 2)
HEARSTAT	Mrs Eirwen Thomas (Hearings 1 & 2)