Fferm Solar Larnog

Environmental Statement

Volume II, Chapter 1: Introduction

November 2026

Issue Sheet

Report Prepared for Trydan Gwyrdd Cymru

Document Title

Volume II, Chapter 1: Introduction

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1. Introduction

1.1. Overview of the Proposed Development

1.1.1. This Environmental Statement (ES) has been produced on behalf of Trydan Gwyrdd Cymru (hereafter 'the Applicant') and considers the construction, operation and decommissioning of the proposed Larnog Solar Farm, comprising approximately 35 megawatts (MW) of direct current (DC) ground-mounted solar PV, including substation and Battery Energy Storage System (BESS), ancillary equipment and associated infrastructure (hereafter the 'Proposed Development').

1.1.2. The Proposed Development would be located on land approximately 500 m south-west of Penarth and 550 m east of Sully (hereafter 'the Site'). The Site is approximately 46.54 hectares (ha) in size and largely comprises agricultural land with defined field boundaries and pockets of woodland. The wider Land Ownership Boundary consists of 117 ha.

1.1.3. The location of the Proposed Development is presented in **Figure 1.1: Site Location Plan**, which presents both the Site Boundary and wider Land Ownership Boundary. The Proposed Development is located within the administrative boundary of the Vale of Glamorgan Council (hereafter 'the Council').

1.1.4. The Proposed Development consists of the following elements:

- Ground mounted Solar Photovoltaic (PV) modules, with a total installed capacity of approximately 35 MW;
- Project Substation compound;
- Battery Energy Storage System (BESS) (capacity expected to be between 3 MW and 10 MW);
- Balance of Solar System (BoSS) which comprises transformers and switchgear;
- Ancillary infrastructure works, including cables, boundary treatments, security equipment, lighting, weather stations, and access tracks;
- Landscaping, habitat management, biodiversity enhancement and amenity improvements;
- Permanent diversion of Public Footpath L1/5/2; and
- Associated safety and security infrastructure.

1.1.5. All temporary and permanent activities relating to the construction, operational and decommissioning activities of the Proposed Development would be contained within the Site. Further details are provided within **Chapter 5: Project Description**.

1.2. The Applicant and the Project Team

Applicant

1.2.1. Trydan Gwyrdd Cymru is a wholly owned subsidiary of the Welsh Government operating autonomously via an independent board of directors. Wales, its people, its communities, and its prosperity, will always be at the heart of Trydan's vision and values, as mandated by Welsh Ministers.

Project Team

1.2.2. This ES has been prepared on behalf of the Applicant by WSP UK Ltd (hereafter 'WSP'). WSP is registered under the EIA Quality Mark operated by the Institute of Sustainability and Environmental Professionals (ISEP) (formerly the Institute of Environmental Management and Assessment (IEMA)). The scheme allows organisations that lead the co-ordination of EIAs in the UK to make a commitment to excellence in its EIA activities and have this commitment independently reviewed.

1.2.3. In line with Regulation 17 (4) (a) of the Town and Country Planning (Environmental Impact Assessment) (Wales) regulations 2017[1] (hereafter referred to as the 'EIA Regulations'), the ES and technical assessments which inform the ES have been undertaken by a suitably qualified project team. The relevant experience and qualifications of the competent experts are provided in **Table 1.1**.

Table 1.1: Expertise of environmental topic specialists for this ES

Topic	Staff	Relevant Expertise / Qualifications
Chapter 6: Landscape and Visual	Nick Bunn	• Chartered Member of the Landscape Institute (CMLI); • BA (Hons) Spatial Design: Interior and Landscape; • Postgraduate Diploma Landscape Architecture; and • MA Landscape Architecture.
	Sophie Entwisle	• Chartered Member of the Landscape Institute (CMLI); • BA (Dual Hons) Architecture and Landscape Architecture; and • MLA Landscape Architecture.

[1] The Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017 – Welsh Statutory Instruments 2017 No. 567 (W.136).

Topic	Staff	Relevant Expertise / Qualifications
Chapter 7: Biodiversity	Nia Bowen	• BSc (Hons) Zoology; and • Full member of Chartered Institute of Ecology and Environmental Management (CIEEM).
	Cass Wigley	• BSc (Hons.) Zoology; and • Associate Member of CIEEM.
Chapter 8: Noise and Vibration	Patrick Hoyle	• BSc (Hons), Acoustics; • HND, Sound Engineering & Multimedia Integration; and • Corporate member of the Institute of Acoustics.
	James Powlson	• BSc (Hons) Audio Technology; and • Member of the Institute of Acoustics (MIOA).
Chapter 9: Historic Environment	Gabriella Amos	• Associate Member, Chartered Institute for Archaeologists (ACIfA); • MSc Archaeological Science; and • BA Archaeology & Ancient History.
	Simon Atkinson	• Member, Chartered Institute for Archaeologists (MCIfA); and • BA (Hons) Archaeology and Prehistory.
Chapter 10: Intra-project Cumulative Effects	James Thomas	• BSc (Hons) Geography; • Msc Sustainable Environmental Management; and • Practitioner of Institute of Sustainability and Environmental Professionals (PISEP).
	Will Batten	• BSc (Hons) Environmental Science; • MSc - Environmental Biology - Conservation and Resource Management; and • Chartered Member of the Institute of Environmental Sciences (CEnv).

Topic		Staff	Relevant Expertise / Qualifications
Chapter 11: Other Environmental Effects	Carbon Balance Assessment	Gareth Oakley	• BSc (Hons) Chemistry; • MSc Renewable Energy Systems Technology; • PhD Chemistry; • Associate Member of the Energy Institute; • Affiliate - Chartered Institution of Building Services Engineers; and • Member of UK Association of Energy Engineers.
	Glint and Glare	Camilo Diaz	• Dip Arch Diploma of Architecture; • Grad Dip (MSc Equivalent) Housing and Urbanism; and • PhD in Energy & Environmental Design.
	Preliminary Risk Assessment	Katy Woodhouse	• Registered SoBRA risk assessor for Human Health, Controlled Waters and vapours; • Fellow of the Geological Society; • MSc Environmental Engineering; and • BSc Biology.
	Mineral Safeguarding Assessment	Niall Richards	• BSc Applied Geology; • MSc Applied Environmental Geology; • Member of the Institute of Environmental Sciences; and • R-SoBRA (Human Health and Controlled Waters).
		Ellie Hale	• MESci Geology and Physical Geography.
		Dave Watts	• Chartered Environmentalist; • Chartered Water and Environmental Manager (C.WEM); • Specialist in Land Conditions; • BSc (Hons) Geology with Physical Geography; and • MSc Applied Environmental Geology.
	Flood Consequences Assessment and Outline Drainage Statement	Ryan Palmer	• BSc (Hons) Physical Geography; and • Graduate Member of Chartered Institution of Water and Environmental Management (CIWEM).

Topic		Staff	Relevant Expertise / Qualifications
		Vic Mohun	• Chartered member of CIWEM; • Chartered Environmentalist; • BEng Chemical and Environmental Engineering; and • MSc Environmental Engineering.

1.3. Definition of an Environmental Impact Assessment (EIA)

1.3.1. The term Environmental Impact Assessment (EIA) describes a process that must be followed for certain types of projects when making a planning application. The iterative process is a means of drawing together, in a systematic way, an assessment of a project's likely significant environmental effects. The process requires the consideration of the likely changes to the environment, where these arise as a consequence of a development, through comparison with the existing and future baseline conditions.

1.3.2. This helps to ensure that the importance of the predicted effects and the scope for avoiding, preventing, reducing or, if possible, offsetting them are properly understood by the public and the authority responsible for determining whether to grant planning permission for the application before it makes its decision.

1.4. Environmental Impact Assessment

1.4.1. Under the EIA Regulations, the Proposed Development falls within the description of energy industry development in paragraph 2 of Schedule 2 of the EIA Regulations as an 'industrial installation for the production of electricity'. The Proposed Development exceeds the applicable threshold for this type of development because the area of development exceeds 0.5 ha.

EIA Screening

1.4.2. Under regulation 6 of the EIA Regulations, a request for an EIA Screening Opinion was submitted to the Council on 16 December 2025, following pre-application advice received from the Council in relation to the Proposed Development.

1.4.3. A Screening Opinion (**Appendix 1A: EIA Screening Opinion**) was issued by the Council on 27 March 2026 and, having considered the selection criteria in Schedule 3 of the EIA Regulations and the advice in Welsh Office Circular 11/99: Environmental Impact Assessment on establishing whether EIA is required, the Council concluded that the Proposed Development constitutes 'EIA development' within the meaning of the EIA Regulations.

1.4.4. The Council noted that the Proposed Development constitutes 'EIA development' due to:

- The size of the Proposed Development and the local context;
- The potential for significant adverse landscape and visual impacts;
- Impacts to mineral resource of national importance;
- Impacts to protected sites and species; and
- Impacts to archaeological resources.

EIA Scoping

1.4.5. An EIA Scoping Report was submitted to the Council on 23 June 2026 to request a Scoping Opinion under Regulation 14 of the EIA Regulations, following the Screening Opinion received from the Council in relation to the Proposed Development. The EIA Scoping Report set out the proposed scope and methodology for the environmental assessments to be undertaken as part of the EIA (see **Appendix 1B: EIA Scoping Report**).

1.4.6. A formal Scoping Opinion was subsequently received from the Vale of Glamorgan Council on 7 October 2026 (**Appendix 1C: EIA Scoping Opinion**). Further details on the Scoping Opinion and how it has informed this ES are provided in **Chapter 2: Approach to the EIA**.

Environmental Statement

1.4.7. This ES has been prepared to allow consultees an opportunity to comment on its contents, and for the Applicant to consider and respond to any comments received. The ES presents an assessment of effects based on current information available at the time of writing, with respect to project design and baseline environmental information. Following consultation and a review of responses received, a final assessment of likely significant effects associated with the Proposed Development during its construction, operation and decommissioning will be presented within a final ES.

1.4.8. This ES has been based on the EIA Scoping Opinion (**Appendix 1C**), as well as subsequent consultation and assessment work. It includes an assessment of the likely significant environmental effects of the Proposed Development based on current proposals, leading to a conclusion about which effects were assessed as likely to be significant and identifying potential environmental mitigation measures in respect of likely significant adverse effects. The overall approach to the assessment of likely significant effects is outlined in **Chapter 2: Approach to the EIA**.

1.4.9. Regulation 17 and Schedule 4 of the EIA Regulations provides details of the information required for inclusion in an ES. **Table 1.2** summarises the requirements and where the information can be located within the ES.

Table 1.2: EIA Information requirements and their location within this ES

Required Information		Location within this ES
1	Description of the development, including in particular:	
	(a) a description of the location of the development;	A description of the Proposed Development is provided in **Chapter 3: Site and Surrounding Area**.
	(b) a description of the physical characteristics of the whole development, including, where relevant, requisite demolition works, and the land-use requirements during the construction and operational phases;	**Chapter 5: Project Description** provides a description of the Proposed Development and the parameters used for assessment within this ES. This includes details of the construction, operation and maintenance and decommissioning phases. Potential environment effects arising from these activities are assessed in **Chapters 6** to **11** of the ES.
	(c) a description of the main characteristics of the operational phase of the development (in particular any production process), for instance, energy demand and energy used, nature and quantity of the materials and natural resources (including water, land, soil and biodiversity) used; and	
	(d) an estimate, by type and quantity, of expected residues and emissions (such as water, air, soil and subsoil pollution, noise, vibration, light, heat, radiation) and quantities and types of waste produced during the construction and operation phases.	
2	A description of the reasonable alternatives (for example in terms of development design, technology, location, size and scale) studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects.	**Chapter 4: Design Evolution and Alternatives** explains the need for the Proposed Development, outlines the main alternatives considered for meeting this need, and describes the iterative design process.

Required Information		Location within this ES
3	A description of the relevant aspects of the current state of the environment (baseline scenario) and an outline of the likely evolution thereof without implementation of the development as far as natural changes from the baseline scenario can be assessed with reasonable effort based on the availability of environmental information and scientific knowledge.	Details of the baseline environmental conditions are provided in **Chapter 3: Site and Surrounding Area** and **Chapters 6** to **11** of the ES. The technical chapters (**6** to **11**) include descriptions of both the existing and future baseline environment.
4	A description of the factors specified in regulation 4(2) likely to be significantly affected by the development: population, human health, biodiversity (for example fauna and flora), land (for example land take), soil (for example organic matter, erosion, compaction, sealing), water (for example hydromorphological changes, quantity and quality), air, climate (for example greenhouse gas emissions, impacts relevant to adaptation), material assets, cultural heritage, including architectural and archaeological aspects, and landscape.	The scope of the EIA is provided in **Chapter 2: Approach to the EIA**, which includes the topics considered and justification for those topics scoped out of the assessment. **Chapters 6** to **11** consider those environmental effects scoped into the EIA, including: • **Chapter 6: Landscape and Visual;** • **Chapter 7: Biodiversity;** • **Chapter 8: Noise;** • **Chapter 9: Historic Environment;** • **Chapter 10: Intra-project Cumulative Effects; and** • **Chapter 11: Other Environmental Effects.** **Chapter 11: Other Environmental Effects** considers environmental topics that were scoped out of requiring standalone ES chapters but are addressed through supporting technical assessments submitted as part of the application. This includes matters such as flood risk and drainage, which are assessed within **Appendix 11E: Flood Consequences Assessment (FCA)**, together with other relevant technical reports. The findings of these assessments have been taken into account in the EIA and inform the conclusions presented within **Chapter 11: Other Environmental Effects**.

Required Information		Location within this ES
5	A description of the likely significant effects of the development on the environment resulting from, inter-alia	
	(a) the construction and existence of the development, including, where relevant, demolition works;	**Chapter 5: Project Description** provides a description of the Proposed Development and the parameters used for assessment within this ES. The scope of the EIA is provided in **Chapter 2: Approach to the EIA**, which includes the topics considered and justification for those topics scoped out of the assessment. **Chapters 6** to **11** consider those environmental effects scoped into the EIA, including: • **Chapter 6: Landscape and Visual;** • **Chapter 7: Biodiversity;** • **Chapter 8: Noise;** • **Chapter 9: Historic Environment;** • **Chapter 10: Intra-project Cumulative Effects; and** • **Chapter 11: Other Environmental Effects.** The cumulative effects arising due to the interaction of the Proposed Development with other planning applications is considered in **Chapters 6** to **9** of the ES. Intra-project[2] cumulative effects are considered within **Chapter 10: Intra-project Cumulative Effects** of the ES.
	(b) the use of natural resources in particular land, soil, water and biodiversity, considering as far as possible the sustainable availability of these resources;	
	(c) the emission of pollutants, noise, vibration, light, heat and radiation, the creation of nuisances and the disposal and recovery of waste,	
	(d) the risks to human health, cultural heritage or the environment (for example due to accidents or disasters);	
	(e) the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources;	
	(f) the impact of the project on climate (for example the nature and magnitude of greenhouse gas emissions) and the vulnerability of the project to climate change; and	
	(g) the technologies and the substances used.	

[2] Intra-project cumulative effects are those effects which occur where effects arising as a result of the Proposed Development interact and may combine to result in a greater environmental effect on a specific receptor.

Required Information		Location within this ES
6	A description of the forecasting methods or evidence used to identify and assess the effects on the environment, including details of difficulties (for example technical deficiencies or lack of knowledge) encountered compiling the required information and the main uncertainties involved.	The assessment methodologies, data sources and forecasting methods used to identify and assess likely significant effects are detailed in the relevant technical chapters of the ES (see **Chapters 6 – 9**). For topics addressed within **Chapter 11: Other Environmental Effects**, the assessment methodologies, data sources, forecasting methods and any associated limitations are presented within the corresponding technical reports (**Appendices 11A to 11F**), with **Chapter 11: Other Environmental Effects** providing a summary of the findings of those assessments. Each chapter also identifies any limitations to the assessment.
7	A description of the measures envisaged to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects on the environment and, where appropriate, of any proposed monitoring arrangements (for example the preparation of a post-project analysis). That description should explain the extent, to which significant adverse effects on the environment are avoided, prevented, reduced or offset, and should cover both the construction and operational phases.	**Chapter 4: Design Evolution and Alternatives** considers the iterative design process of the Proposed Development, and details the environmental constraints taken into account. **Chapter 5: Project Description** sets out the embedded mitigation measures and how they will be secured. Embedded mitigation and additional mitigation are also detailed within the individual topic chapters of the ES (see Chapters **6** to **9**).
8	A description of the expected significant adverse effects of the development on the environment deriving from the vulnerability of the development to risks of major accidents and/or disasters which are relevant to the project concerned.	**Chapter 5: Project Description** describes the embedded mitigation incorporated into the design to minimise the risk of major accidents and disasters. Major accidents and disasters has been scoped out of the EIA. Where relevant, the potential environmental effects arising from such risks are considered within the relevant technical assessment chapters of the ES.

Required Information		Location within this ES
9	A non-technical summary of the information provided under paragraphs 1 to 8.	The **Non-Technical Summary** (Volume I) is provided as a standalone document, summarising the findings of the EIA process in non-technical language.
10	A reference list detailing the sources used for the descriptions and assessments included in the environmental statement.	References are provided as footnotes within all chapters (where relevant).

1.5. Structure of this Environmental Statement

1.5.1. The ES has been prepared in accordance with the EIA Regulations. The ES is sub-divided into the following volumes;

- Volume I: Non-Technical Summary.
- Volume II: Main Written Statement, which includes the following chapters:
  - Chapter 1 – introduction to the Proposed Development and EIA (this chapter);
  - Chapter 2 – details the approach that has been adopted in preparing the ES;
  - Chapter 3 – provides a description of the Site and the surrounding area;
  - Chapter 4 – explains the need for the Proposed Development, outlines the main alternatives considered for meeting this need, and describes the iterative design process;
  - Chapter 5 – provides the description of the Proposed Development;
  - Chapters 6 to 9 – these set out the technical assessments for the environmental topics considered in this ES;
  - Chapter 10 – details the intra-project cumulative effects; and
  - Chapter 11 – considers other environmental topics that have been scoped out of requiring standalone chapters but are addressed through supporting technical assessments.
- Volume III: Figures; and
- Volume IV: Appendices.