

4. Approach to Environmental Impact Assessment

4.1 Introduction

- 4.1.1 This chapter sets out the proposed approach to the Environmental Impact Assessment (EIA) for the Fferm Wynt Nant y Maen Wind Farm (the 'Proposed Development'). The EIA will identify, describe and assess the likely significant environmental effects of the Proposed Development during construction, operation and decommissioning. The assessment will be proportionate to the scale and nature of the Proposed Development and will focus on those environmental topics where significant effects are likely to occur and will be prepared by persons with sufficient expertise, as required by Regulation 17 of the Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017 (Welsh Ministers, 2017).
- 4.1.2 The EIA for the Proposed Development will be prepared by persons with sufficient expertise to ensure the completeness and quality of the environmental information, in accordance with Regulation 17 of the Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017 (Welsh Ministers, 2017). The Applicant has appointed suitably qualified and experienced environmental professionals to undertake the assessment and prepare the Environmental Statement. The scope of the EIA will be informed by this Scoping Report, consultation responses from statutory consultees, and Scoping Direction issued by the Welsh Ministers under the Infrastructure (Wales) Act 2024 (Planning and Environment Decisions Wales (PEDW), 2025).

4.2 Legislative Framework

- 4.2.1 The EIA for the Proposed Development will be undertaken in accordance with the legal and policy framework summarised in Chapter 1, including:
- Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017 (Welsh Ministers, 2017);
 - Infrastructure (Wales) Act 2024 (Senedd Cymru, 2024); and
 - Relevant Welsh Legislation covering sustainability, biodiversity and the historic environment.
- 4.2.2 An overview of the legislative and policy context is provided in Section 1.5 and Section 1.6 of Chapter 1. Chapter 4 focuses on how these requirements inform the methodology and approach of the EIA (Planning and Environment Decisions Wales (PEDW), 2025).

4.3 Guidance and Best Practice

- 4.3.1 The EIA will be undertaken in accordance with the relevant guidance and best practice, including guidance published by the Institute of Sustainability and Environmental Professionals (ISEP), formerly the Institute of Environmental Management and Assessment

(IEMA), Welsh Government guidance, and topic specific assessment guidance including landscape, ecology, noise, cultural heritage and transport assessment guidance (Institute of Sustainability and Environmental Professionals (ISEP),(Formerly IEMA) , n.d).

- 4.3.2 The assessment methodologies for each environmental topic will be based on recognised best practice guidance and standard assessment methodologies relevant to each technical discipline. These methodologies will be described in detail within each technical chapter of the Environmental Statement.

4.4 EIA Methodology

- 4.4.1 The EIA will follow a standard iterative EIA process, which will include:
- Establishing the baseline environmental conditions against which change is assessed;
 - Identifying embedded mitigation measures incorporated into the design of the Proposed Development, which form an integral part of the scheme as assessed;
 - Identifying environmental receptors and establishing their sensitivity, value or importance, taking account of relevant designations, legal protection and professional judgement;
 - Identifying potential environmental effects arising from the Proposed Development, having regard to the embedded mitigation incorporated into the design;
 - Assessing the magnitude of change likely to affect each receptor as a result of the Proposed Development;
 - Determining whether the identified effects are significant, with the assessment focused on identifying and reporting likely significant environmental effects, having regard to receptor sensitivity and magnitude of change;
 - Identifying additional mitigation, and where appropriate, compensatory measures required to offset any likely significant effects;
 - Identifying opportunities for environmental enhancement, where the Proposed Development may deliver beneficial effects beyond mitigation or compensation
 - Assessing residual effects following the implementation of additional mitigation, compensation and enhancement measures; and
 - Assessing cumulative effects arising from the Proposed Development in combination with other relevant plans, projects or developments.
- 4.4.2 The EIA process will be iterative, and the design of the Proposed Development will evolve in response to environmental constraints identified through environmental surveys and technical assessments.

4.5 Proposed Approach to Establishing baseline conditions

- 4.5.1 The Environmental Statement (ES) will describe the relevant aspects of the current state of the environment (baseline conditions) for each topic scoped into the EIA. The baseline will be established using a proportionate and topic-specific approach, drawing on a combination of desk-based information, site visits and, where necessary, targeted surveys or technical assessments.
- 4.5.2 At scoping stage, baseline conditions have been identified at a high level to inform the scope of assessment. For the purposes of the ES, desk-based studies will form the starting point for baseline characterisation and will include the review of available environmental datasets, published information, mapping, aerial imagery, statutory and non-statutory designations, and relevant information held by public bodies and other consultees. Existing studies and publicly available data will be used where appropriate to avoid duplication of effort and to ensure that the assessment is proportionate.
- 4.5.3 Site visits will be undertaken by appropriately qualified specialists to verify desk-based information, to understand the site and its surroundings, and to inform professional judgement regarding the condition, context and value of environmental receptors. Site reconnaissance will also assist in confirming the need for, and scope of, any further survey work.
- 4.5.4 Where desk-based information and site visits indicate that existing data are insufficient to characterise baseline conditions adequately, targeted surveys or technical assessments will be undertaken. Any surveys will be scoped having regard to relevant guidance, the sensitivity of receptors, and the potential for the Proposed Development to give rise to likely significant effects. The timing, extent and methodology of surveys will be proportionate and justified within the relevant ES topic chapters.
- 4.5.5 In accordance with Schedule 4, paragraph 3 of the Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017, the ES will also include an outline of the likely evolution of the baseline scenario in the absence of the Proposed Development, insofar as this can be reasonably assessed (Welsh Ministers, 2017). This future baseline will consider natural trends, existing land management practices, and other reasonably foreseeable changes, based on the availability of environmental information and current scientific knowledge. Where there are limitations or uncertainties in predicting future baseline conditions, these will be clearly described in the ES.
- 4.5.6 The baseline information gathered through this process will provide a robust and proportionate basis for identifying and assessing the likely significant environmental effects of the Proposed Development, consistent with the purpose of EIA and the expectations of Welsh Ministers at scoping stage (Planning and Environment Decisions Wales (PEDW), 2025).

4.6 Study Areas

- 4.6.1 The study area for each environmental topic will be defined separately based on the nature of the potential effects and the relevant guidance. For example, Landscape and Visual assessments will consider a wider study area than ecology or hydrology assessments. The proposed study areas for each topic will be defined within the relevant topic sections of this Scoping Report and, where relevant, the corresponding technical chapters of the Environmental Statement and agreed through the scoping process where appropriate (Planning and Environment Decisions Wales (PEDW), 2025), (Senedd Cymru, 2024).

4.7 Assessment of Significance

- 4.7.1 The significance of environmental effects will be determined by considering the sensitivity or value of the environmental receptor and the magnitude of the predicted change resulting from the Proposed Development. A significance matrix and professional judgement informed by relevant guidance will be used to determine whether effects are significant (Institute of Sustainability and Environmental Professionals (ISEP), (Formally IEMA), n.d).
- 4.7.2 In determining whether an effect is significant, consideration will also be given to a range of additional effect characteristics, as appropriate to each topic area. These factors provide important context for the interpretation of magnitude and sensitivity and help to ensure that the assessment is proportionate and robust.
- 4.7.3 Such characteristics may include, where relevant, the duration of the effect (short-, medium- or long-term), its frequency (temporary, intermittent or continuous), and its reversibility (whether effects are reversible, partially reversible or permanent). The timing of effects, including seasonal or time-specific sensitivities of receptors, will also be taken into account where this is relevant to the assessment.
- 4.7.4 The geographical extent or spatial scale of effects will be considered, distinguishing between site-specific, local, regional or wider effects, as appropriate. In addition, the nature of the effect (direct, indirect, secondary or cumulative) and whether it is beneficial or adverse will be identified and described.
- 4.7.5 Where uncertainty exists in relation to predictions, this will be clearly acknowledged, and the likelihood or probability of effects occurring will be considered where relevant. Professional judgement, informed by topic-specific guidance and experience, will be applied to interpret these factors in a transparent manner.
- 4.7.6 These additional considerations will not be applied mechanistically but will be used to inform the overall judgement on significance, with the focus of the ES placed on the identification and reporting of likely significant environmental effects, in accordance with the EIA Regulations and established Welsh EIA practice (Welsh Ministers, 2017) (Planning and Environment Decisions Wales (PEDW), 2025).
- 4.7.7 Environmental effects will typically be described using significance categories such as:

- Major
- Moderate
- Minor
- Negligible

- 4.7.8 This approach considers both the sensitivity or value of environmental receptor and the magnitude of the predicted change resulting from the Proposed Development. For transparency and consistency, the assessment of significance will be informed, where appropriate, by the use of significance matrices and/or structured professional judgement, drawing on relevant topic-specific guidance (Institute of Sustainability and Environmental Professionals (ISEP),(Formally IEMA) , n.d).
- 4.7.9 The application of a significance matrix will be confirmed within each chapter, including the basis for the matrix used and how it reflects established guidance and accepted practice for that topic. Not all topics will necessarily rely on a formal matrix, and in such cases significance will be determined using professional judgement supported by qualitative and quantitative criteria, as appropriate.
- 4.7.10 An illustrative example of a significance matrix is shown in Table 4.1 below to demonstrate the general relationship between receptor sensitivity-and magnitude of change. This example is intended to aid understanding of the overall approach and does not pre-empt the detailed methodologies that will be set out within each technical chapter. The outcome of the significance assessment will inform identification of likely significant effects, the need for mitigation and the subsequent assessment of residual effects.
- 4.7.11 Certain environmental topics, including shadow flicker and construction-related air quality effects, have been identified as having a limited number of sensitive receptors and a low potential for likely significant effects. These topics are not dependent on the assessment of traffic movements and are therefore not addressed within the Traffic and Transport chapter.
- 4.7.12 To ensure transparency and proportionality, these matters are instead considered within a standalone chapter addressing Other Environmental Effects. This approach ensures that all potential effects are clearly identified, assessed where appropriate, and subject to scoping decisions, while avoiding unnecessary duplication across technical chapters.

Table 4.1 - Significance Matrix

Environmental Sensitivity	Magnitude of Change					
		Very High	High	Medium	Low	Very Low
	Very High	Major (Significant)	Major (Significant)	Major (Significant)	Major (Significant)	Moderate (Significant)
	High	Major (Significant)	Major (Significant)	Major (Significant)	Moderate (Significant)	Minor (Not Significant)
	Medium	Major (Significant)	Major (Significant)	Moderate (Significant)	Minor (Not Significant)	Minor (Not Significant)
	Low	Major (Significant)	Moderate (Significant)	Minor (Not Significant)	Minor (Not Significant)	Minor (Not Significant)
	Very Low	Moderate (Significant)	Minor (Not Significant)	Minor (Not Significant)	Minor (Not Significant)	Minor (Not Significant)

4.7.13 Effects identified as Moderate or Major are typically considered significant in EIA terms; however, significance will ultimately be determined using professional judgement, informed by the specific topic and relevant guidance.

4.8 Mitigation and Enhancement

4.8.1 Mitigation measures will be developed in accordance with the mitigation hierarchy, which prioritises:

1. Avoidance of effects through site selection and design;
2. Reduction of effects through embedded mitigation measures;
3. Restoration of affected environments where possible;
4. Compensation or offsetting where effects cannot be avoided.

4.8.2 Embedded mitigation measures will form part of the Proposed Development design and will be taken into account in the assessment of effects. Additional mitigation measures will be identified where necessary to reduce significant environmental effects.

4.8.3 Opportunities for environmental enhancement will also be considered where appropriate, including biodiversity enhancement measures where feasible.

4.9 Residual Effects

4.9.1 Residual effects are the environmental effects that remain following the implementation of additional mitigation measures. The Environmental Statement will identify residual effects for each environmental topic and determine whether these effects are significant.

4.10 Cumulative Effects Assessment

- 4.10.1 The EIA will include an assessment of cumulative effects, which considers the combined effects of the Proposed Development with other existing, consented and reasonably foreseeable developments within the surrounding area.
- 4.10.2 The cumulative assessment will consider developments such as other wind farms, energy infrastructure, forestry operations, and other relevant developments where cumulative effects may arise.
- 4.10.3 A list of developments to be included in the cumulative assessment will be agreed through the scoping and consultation process (Planning and Environment Decisions Wales (PEDW), 2025).

4.11 Consideration of Alternatives

- 4.11.1 In accordance with Schedule 4, paragraph 2 of the Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017, the ES will include a description of the reasonable alternatives studied by the Applicant that are relevant to the Proposed Development and its specific characteristics, together with an indication of the main reasons for the selection of the chosen option, including a comparison of the environmental effects (Welsh Ministers, 2017).
- 4.11.2 The consideration of reasonable alternatives will be proportionate and focused, reflecting the purpose of EIA and the stage at which alternatives were realistically available and capable of being delivered. Alternatives will be identified having regard to the objectives of the Proposed Development, technical and operational feasibility, policy context, environmental constraints, and land or infrastructure availability. The assessment will focus on alternatives that are genuinely reasonable, rather than all conceivable options.
- 4.11.3 Reasonable alternatives may include, where relevant to the nature of the Proposed Development, variations in location, route or alignment, design, scale, layout or technology. The scope of alternatives considered will be explained clearly in the ES, including where certain options were discounted at an early stage and the reasons for doing so.
- 4.11.4 The ES will describe how environmental considerations have informed the evolution of the Proposed Development, including the role of early appraisal and design development in avoiding or reducing potential significant environmental effects. A comparative assessment of the likely environmental effects of the reasonable alternatives considered will be provided, at a level of detail proportionate to their relevance and maturity.
- 4.11.5 The detailed methodology and presentation of the reasonable alternatives assessment, including how alternatives relate to the final Proposed Development, will be set out within the ES. This approach is intended to ensure compliance with the EIA Regulations and relevant Welsh infrastructure planning guidance, while providing Welsh Ministers with a clear and transparent explanation of how environmental factors have influenced option

selection (Welsh Ministers, 2017) (Planning and Environment Decisions Wales (PEDW), 2025).

4.12 Assumptions and Limitations

- 4.12.1 The Environmental Statement will identify any assumptions, limitations in data, or technical limitations encountered during the Environmental Impact Assessment process. Where limitations are identified, these will be clearly explained and a precautionary approach will be adopted where necessary.

4.13 References

Institute of Sustainability and Environmental Professionals (ISEP),(Formally IEMA) , n.d.

Environmental Impact Assessment guidance and resources. [Online]

Available at: <https://www.isepglobal.org/>

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Available at: <https://www.legislation.gov.uk/asc/2024/3/contents>

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Welsh Ministers, 2017. *The Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017.* [Online]

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