

Appendix 3

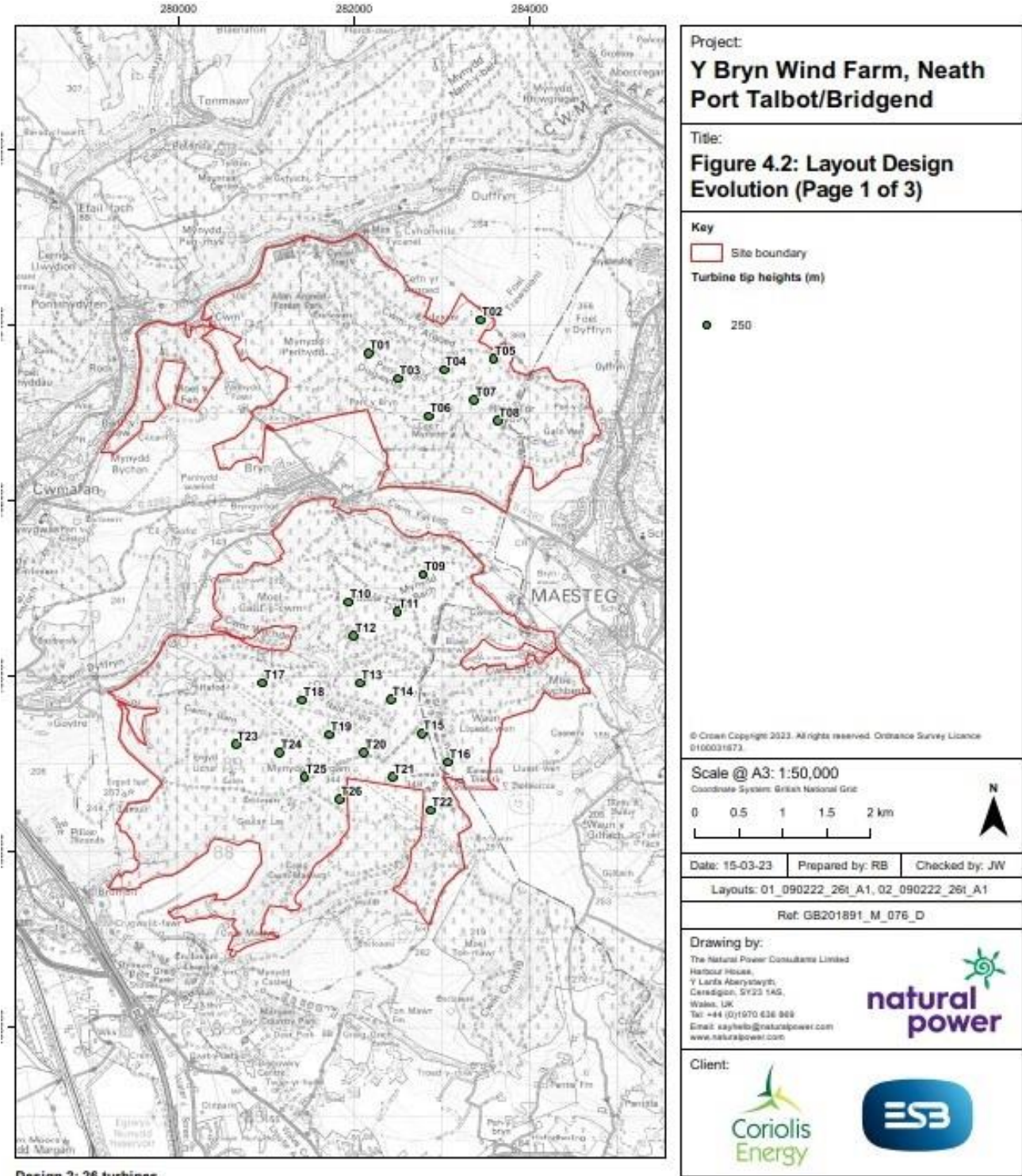
Approach to EIA

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Design 2: Scoping Layout– January 2021

Natural Power



Design 2: 26 turbines
Figure 3.1.1: Scoping layout for Y Bryn Wind Farm

A3.1 SCOPING REPORT



Y Bryn Wind Farm

Scoping Report



07 January 2021
1233647

Y Bryn Wind Farm Ltd

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1. Introduction

- 1.1.1. This scoping report has been prepared by Natural Power Consultants Limited (Natural Power) on behalf of Y Bryn Wind Farm Limited in anticipation of an application for a Development of National Significance (DNS) for a proposed wind farm development incorporating battery energy storage. The site is located north-east of the M4 motorway between Port Talbot and Maesteg. The majority of proposed infrastructure presented in this scoping report is located in Neath Port Talbot County Borough Council (NPTCBC) area with some in the Bridgend County Borough Council (BCBC).
- 1.1.2. As of April 2019, all energy generation projects between 10 MW and 350 MW, including overhead electric lines of up to 132 kV which are associated with a devolved generation station, are considered a DNS project.
- 1.1.3. Under the statutory procedures set out in The Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017 (EIA Regulations) it is proposed that any such application is accompanied by an Environmental Statement (ES).
- 1.1.4. The site has been identified as potentially suitable for a large scale wind farm because it is located within Strategic Search Area F (SSA F), as set out in the Welsh Assembly Government's Technical Advice Note 8: Planning for Renewable Energy (July 2005). Further, the site was subsequently retained by local authorities within their Annex D refinement study (December 2006). Integration of a wind farm with other forms of renewable energy and / or energy storage is also encouraged as being particularly conducive to fulfilling Welsh Government's Natural Resources Policy 2017.
- 1.1.5. At the time of writing this scoping report, Future Wales: The National Development Framework (NDF) has been laid before the Senedd on 21st September 2020 for assembly scrutiny, to be adopted in February 2021. An initial review of draft NDF would indicate that the site is located within an area where large scale wind development would benefit from policy support subject to assessments including landscape impacts.
- 1.1.6. This scoping report has been prepared to identify the likely significant environmental effects of the proposed wind farm which will need to be assessed in detail in the Environmental Impact Assessment (EIA) and reported within the ES, which will accompany the planning application. This scoping request is made in relation to a DNS for the purposes of section 62D of the 1990 Act.
- 1.1.7. This scoping report is specifically for the proposed Y Bryn Wind Farm. The applicant intends to submit one planning application and one EIA that addresses the wind farm and all associated infrastructure and access.
- 1.1.8. The purpose of this scoping report is to provide sufficient information for consultees to agree the scope of the ES. Information has been provided on what the applicant intends to assess within the ES. Where the applicant is proposing to 'scope out' particular elements sufficient information and justification has been provided in this report. The intention is to ensure that the focus in the ES is on any receptors impacted by the proposed development that may experience significant effects.
- 1.1.9. Consultees will note that the scoping report contains a number of questions, which it would be useful to receive a response on. Not all questions will be relevant to all consultees; therefore, we request that consultees provide feedback only on those questions appropriate to them. The questions should not be considered an exhaustive list, and consequently, consultees are invited to provide further responses on any issue they consider relevant to the proposed development. If consultees elect not to respond, Y Bryn Wind Farm Ltd will assume that consultees are satisfied with the approach adopted/proposed.

2. The Applicant

- 2.1.1. Y Bryn Wind Farm Limited is a project company wholly owned by development partners ESB and Coriolis Energy.
- 2.1.2. ESB is Ireland's premier energy company and is a leading independent power generator in the UK market. ESB has a track record of over 20 years as a successful investor in the UK since commissioning one of the first independent power generating plants at Corby in Northamptonshire in 1994.
- 2.1.3. ESB owns and operates wind farms across the UK and Ireland with a total installed capacity of 500 MW, including the operational Mynydd Y Betws Wind Farm (34.5 MW) in Carmarthenshire.
- 2.1.4. Coriolis Energy identifies and works on the development of wind farm proposals, and ESB constructs and operates those wind farms.
- 2.1.5. Coriolis Energy is a specialist independent wind farm development company operating throughout the UK. Its principals have been responsible for successfully developing some 15 onshore wind farms in the UK with a capacity of over 500 MW over two decades.

3. The Proposed Y Bryn Development

- 3.1.1. The proposed Y Bryn wind farm site boundary comprises combined a large upland area primarily under coniferous forestry. The closest settlements are Bryn and Maesteg. The wider site is split in to two blocks – the Bryn block to the south of the B4282, and the Penhydd block to the north. The approximate site centre of the Bryn block is at OS Grid Ref SS 81659 89497. A regional context and indicative constraints plan can be found at the end of the document, Figure 3.1 and Figure 3.2 respectively.
- 3.1.2. The wind farm design may evolve from the layout submitted as part of this scoping report. At this stage, however, the proposed development is envisaged as comprising:
- up to 26 turbines of up to 250 m maximum tip height and indicative up to 170 m rotor diameters, and associated crane hardstandings;
 - transformers housed adjacent to turbines;
 - onsite access tracks plus underground cable runs alongside;
 - an onsite sub-station building;
 - construction compound(s);
 - battery storage;
 - one or more permanent anemometry masts (at up to the hub height of the turbines); and
 - borrow pits.
- 3.1.3. In a post-subsidy commercial environment, achieving maximum potential turbine numbers, tip heights and rotor diameters will be more critical than ever to the prospects of project delivery. However, this consideration must of course be balanced with the requirement for the wind farm's benefits to outweigh its other environmental impacts, and be judged to do so by decision makers within the consenting process.
- 3.1.4. Technical Advice Note 8, published in 2005, was prepared by Welsh Government, identifying seven areas in Wales suitable for large scale wind farm developments. The site is located within Technical Advice Note 8, Strategic Search Area F, and critically also remains inside of the local authorities Annex D refinement identified areas.
- 3.1.5. Together with the level of wind resource, proximity and availability to grid connection and absence of statutory designations in the area, the proposed development is in an ideal location to help contribute to the UK and Welsh Government's renewable energy targets.

- 3.1.6. The wind farm development responds to Welsh Government's commitment to addressing the Climate Emergency through achieving Net Zero carbon emissions by 2050, by decarbonising electricity generation with a target of 70% of Wales' electricity demand (including for substantial increase owing to electrification of heat and transport sectors) to be met from renewable sources by 2030. Y Bryn Wind Farm will be seeking to maximise the potential of this site to deliver on these objectives and will be designed in such a way as to balance society's needs for efficient sustainable energy generation with the relevant environmental considerations.

3.2. Project Design

- 3.2.1. The following key considerations have been taken into account thus far during the design process of Y Bryn Wind Farm:
- Relationship to the surrounding landscape and communities;
 - Relationship with cumulative developments; and
 - Technical and environmental constraints.
- 3.2.2. A key aim of the design process has been to limit the overall footprint of the development whilst minimising the environmental impacts wherever possible.

3.3. Grid

- 3.3.1. Grid connection works may fall outside the scope of the EIA. However, it is important that surveys will be incorporated into the EIA if required. Connection to the electricity network is currently anticipated to be into the local transmission system network.

3.4. Transport

- 3.4.1. The EIA will involve consideration of the environmental impacts of access to the site by both abnormal indivisible loads (AILs) and heavy goods vehicles (HGVs).

3.5. Operational Period

- 3.5.1. The lifetime of the proposed development would be up to 50 years from commissioning to decommissioning.

3.6. Decommissioning

- 3.6.1. At least six months prior to the decommissioning of the site a Decommissioning Method Statement would be prepared and agreed with the relevant consultees. Best practice guidelines will be utilised at this time. The applicant would expect to commit to a planning condition regarding decommissioning and expected to set up a restoration fund should this development receive consent.

4. Consultation

4.1. Community Consultation

- 4.1.1. Natural Power, Coriolis and ESB, together with communication partners Thirty4/7, believe public consultation is important throughout the development of a renewable energy project. As this is a DNS project there is a requirement under article 11 of the Developments of National Significance (Procedure)

(Wales) Order 2016 that a DNS application must be accompanied by a Pre-Application Consultation report.

- 4.1.2. The community within the area surrounding the proposed development will be consulted in accordance with a Consultation Plan which is to be agreed, separately to this current EIA scoping consultation, with relevant stakeholders, including Planning Inspectorate (PINS), Neath Port Talbot County Borough Council (NPTCBC) and Bridgend County Borough Council (BCBC). This is anticipated to include meetings and public exhibitions in local community venues, such as village halls and will allow local residents an opportunity to view and discuss the proposal, provide comments and ask any questions. English and Welsh speaking staff will be on hand as well as bilingual written information. The events will be timed to allow any concerns to be raised and potentially addressed in the final design of the wind farm development and access routes. A project website will also be established and updated as development progresses. Contact details for the project would be made available on the website and shared in the local community including a dedicated project email address to field any queries and ensure two way communications.

Question 1: Do consultees have any comments in relation to the proposed approach to community consultation?

4.2. Other Stakeholder Consultation

- 4.2.1. Natural Power, Coriolis and ESB consider that consultation with statutory and non-statutory consultees as an integral part of the iterative EIA process and recognise the benefits in carrying out early consultation with all concerned parties. The consultation will progress with the circulation of this scoping report and will continue for the duration of EIA process.

5. Approach to the Environmental Impact Assessment (EIA)

- 5.1.1. The EIA is a statutory procedure which draws together in a systematic way an assessment of the likely significant environmental effects arising from a proposed development.
- 5.1.2. As the process has numerous steps, it allows for the opportunity to 'design out' adverse environmental effects at an early stage through the design of the proposed development. This of course is generally preferable to mitigation or remedy at a later stage.
- 5.1.3. An iterative design approach is already in process for this proposed development and will continue to be adopted throughout the EIA process, which will allow the proposed development to have adopted a design that works well for both the local environment and environmental resources within the area, as well as being an economically viable scheme with the ability to deliver on Welsh, UK and international renewable energy targets.
- 5.1.4. The steps taken for informing and developing the EIA process are identified in the flow diagram below:

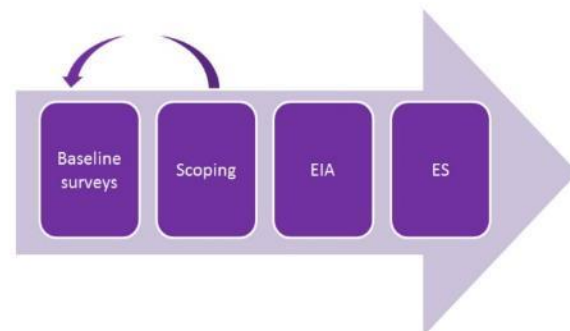


Figure 5.1: EIA Process

- 5.1.5. For this particular project the **collection of the baseline data** has begun. Along with Coriolis' and Natural Power's project experience in the area, we have a comprehensive understanding of the site and the local vicinity. Likewise, statutory and non-statutory consultees will also be aware of the environmental resources in the area, and the possible impacts from the proposed development.
- 5.1.6. The information within this scoping report will be sufficient to provide consultees with the information to agree on those features and topics that are likely to experience a significant effect, and thus 'scope out' the rest if applicable. In doing so the **impact assessment** will be **focussed** and **proportionate** to those that will actually **influence** the **decision** as to whether or not the **proposed development** should **receive consent**.
- 5.1.7. The impact assessment will determine for those assessed receptors what the effect, either directly or indirectly will be from the proposed development, by comparing the baseline conditions with the conditions that would prevail should the proposed development be constructed, operated (and decommissioned). The environmental effects of the proposed development will be predicted in relation to environmental receptors, built resources and natural resources.

5.2. What the EIA will Assess

- 5.2.1. The EIA will address the construction phase of the wind farm, the operational phase which would last up to 50 years, and the decommissioning phase.
- The geographical coverage of the EIA will take account of the following:
- The physical extent of the proposed works;
 - The nature of the baseline environment and the manner in which effects are propagated; and
 - The National and Local planning and policy context for the proposed development.

5.3. Gathering Baseline Information

- 5.3.1. Some of the baseline data has already been collected for the proposed development, and the assessment team will ensure that sufficient data is obtained to enable a robust assessment, appropriate to the nature and scale of the proposed works.
- 5.3.2. The extent of the baseline assessment will be determined using both professional judgement and industry best practice. The EIA will also identify areas where the baseline may change, prior to the construction and operational phases of the proposed development from current conditions (for example, maturation of landscape). However, the EIA will assume continued ongoing forestry operations to be the future baseline for the site.

- 5.3.3. The collection of baseline data will be achieved through desk study (including the use of data gathered for other developments in the area), consultation, field survey and monitoring, and will be clearly reported in the subsequent sections, or within the ES (should there be an expected significant effect from the development).
- 5.3.4. In line with the regulations, the ES will also indicate any difficulties encountered in compiling environmental baseline conditions, such as access to land to carry out surveys where permission was not granted.

5.4. Prediction and Evaluation of Impacts and Effects

- 5.4.1. A distinction will be made in the assessments between impacts and effects, where:
- **Impacts** are defined as the predicted change to the baseline environment attributable to the scheme; and
 - **Effects** are the consequence of impacts on environmental resources or receptors.
- 5.4.2. The prediction of impacts examines the change to the baseline environment that could result from the construction and operation of the wind farm.
- 5.4.3. The effects will be classified into one or more of the following:
- Positive effects that have a beneficial influence, and negative effects that have an adverse influence;
 - Temporary effects that persist for a limited period only (whether for the short, medium or long-term);
 - Permanent effects that result from an irreversible change to the baseline environment;
 - Direct effects that arise from activities that form an integral part of the proposed development;
 - Indirect/secondary effects that arise from activities not explicitly forming part of the proposed development; and
 - Cumulative effects that arise from the combination of different impacts at a specific location, the recurrence of impacts of the same type at different locations, the interaction of different impacts over time, or the interaction of impacts arising from the scheme in conjunction with other development projects.
 - Synergistic effects are when several individual impact factors combine to have an effect on a receptor which is greater than the sum of the individual impacts.
- 5.4.4. There is no statutory definition of what constitutes a significant effect. A significant effect may be broadly defined as an effect which, either in isolation or combination with others, should be taken into account in the decision making process. This general definition will be used as the basis against which the significance criteria for environmental disciplines will be developed. The threshold of significance for predicted effects tends to vary between the environmental topics. The assessment team will ensure that a consistent approach is applied where suitable to prevent undue weight being given to a particular discipline to the detriment of another.

5.5. Cumulative

Consideration and assessment of cumulative impact of wind farm sites within the vicinity of the proposed Y Bryn development will be undertaken as part of the EIA. Each discipline notes the scope of the cumulative assessment in this scoping report.

5.6. Mitigation, Enhancement and Monitoring of Environmental Effects

- 5.6.1. Mitigation measures will be considered for each significantly adverse effect. The ES will include a description of the measures envisaged to prevent, reduce and where possible remedy any significant adverse effects.

- 5.6.2. Mitigation will be discussed in two ways:
- It can be in the form of embedded mitigation, i.e. those measures incorporated in the design as environmental assessments were developed; or
 - impact or additional mitigation i.e. for effects that are unavoidable through design, applying best practice and guidance recognised within the industry to attain environmentally acceptable levels, or those which are deemed acceptable through determination.
- 5.6.3. In addition, any significant positive effects arising from enhancement measures will be identified. These positive effects could be as a result of: –
- direct mitigating impacts arising from the wind farm development; or
 - enhancement measures that are incorporated into the scheme – but not as a direct result of mitigation for significant effects.
- 5.6.4. In line with the regulations, when identifying mitigation measures, the proposed development will take into account the practicability and cost effectiveness of the proposals and their efficiency in reducing environmental impacts. Where practical, mitigation measures will be set out as commitments which will ensure they are implemented. Where the effects of the impact are significant, and where there is uncertainty in the mitigation proposed, monitoring may be proposed to ensure that the mitigation is both required and effective. Monitoring will allow for adaptation of the mitigation measures to ensure that they are fit for purpose. Monitoring will be proportionate to the level of significance experienced and not simply proposed as monitoring for monitoring sake.
- 5.6.5. Once the final design has been adopted and account has been taken of any mitigation measures, residual effects will be listed. The significance of a residual effect will be determined by correlating the magnitude of the change arising from the scheme with the sensitivity of the particular attribute under consideration. The magnitude of change will be evaluated in accordance with Table 5.1, unless a specific magnitude of change table is presented for that discipline in this scoping report.

Table 5.1: Magnitude of Change

Magnitude	Description
	Total loss or major alteration to key elements/features of the baseline conditions
High	
Medium	Partial loss or alteration to one or more key elements/features of the baseline conditions
Low	Minor shift away from the baseline conditions
Negligible	Very slight change from baseline conditions

Source: Natural Power

- 5.6.6. Where applicable in carrying out individual assessments, a scale of increasing sensitivity of the resource or receptor will be defined. This may be defined in terms of quality, value, rarity or importance and can be classed as 'Low', 'Medium' or 'High', however again, the sensitivity methodology may vary for each discipline considered in the ES. For certain assessment areas, guidance will be taken from the value attributed to elements through designation or protection under law. Where assessment of this nature takes place the correlation of magnitude against sensitivity will determine a qualitative expression for the significance of the residual adverse effect. This is demonstrated in the matrix below, Table 5.2:

Table 5.2: Significance of Effect

		Magnitude of Change			
Sensitivity		Substantial	Moderate	Low	Negligible
	High	Major	Major/Moderate	Moderate	Moderate/Minor
	Medium	Major/Moderate	Moderate	Moderate/Minor	Minor
	Low	Moderate	Moderate/Minor	Minor	Minor/Negligible

Source: Natural Power

- 5.6.7. Those residual adverse effects indicated as **Major and Major/Moderate** will be regarded as being **significant** effects in terms of the relevant legislation if using the significance matrix in Table 5.2. However, other factors may have to be considered including the duration and the reversibility of the effect. It should also be noted however that while in the main the assessment considers the adverse effects, where positive effects are identified these will be also be discussed.

Question 2: Do consultees have any comments in relation to the Approach to the Environmental Impact Assessment and to mitigation, enhancement and monitoring? We intend to focus the EIA on the significant effects and therefore propose to scope out likely non-significant effects.

5.7. Securing Commitments and Mitigation through Planning Conditions

- 5.7.1. Where commitments and mitigation have been discussed within this scoping report they will form part of the ES and therefore ensure that they are secured if the proposal receives consent through specific planning conditions.

6. Legal and Policy Context

- 6.1.1. The application will conform to the statutory requirements legislated by the EIA Regulations.
- 6.1.2. A Planning Statement will accompany the application for consent and assess the proposed development in a legal and policy context against the relevant legislation and planning policies in force. The Planning Statement will assess such documents at international, national, regional and local levels, where applicable, including but not limited to:
- Paris Climate Agreement (2016);
 - Climate Change Act (2008);
 - Planning Policy Wales Edition 10 (December 2018);
 - Technical Advice Note 8 (2005) Welsh Government;
 - Draft National Development Framework for Wales (currently laid before the Senedd September 2020, for scrutiny, with a view to adoption in February 2021);
 - Neath Port Talbot County Borough Council Local Development Plan (2016); and
 - Bridgend County Borough Council Local Development Plan (2013) and replacement LDP (2018-2033).
- 6.1.3. Any other emerging Supplementary Planning Guidance will also be accounted for in the submitted ES with the appropriate weighting given relative to established policies.
- 6.1.4. It is recognised that this renewable energy development would contribute to the goals of the Well-being of Future Generations (Wales) Act 2015 and meet the principles of the Sustainable Management of Natural Resources (SMNR) as required by the Environment (Wales) Act 2016. The Planning Statement would

focus on these and references will be provided as to how the proposed development helps meet the goals and principles set out in these Acts.

7. Environmental Statement

- 7.1.1. The EIA process will result in the production of an ES. The ES will identify those features/receptors that have been agreed are likely to have a significant effect from the proposed development (or cumulatively with other projects) and will have an influence on the decision process.
- 7.1.2. The ES will focus on each of the broad topics identified within this scoping report, plus any others that develop throughout the remainder of the EIA process until submission.
- 7.1.3. Where features are considered, the assessment methodology, results, effects and mitigation proposed (if any) will be included. This will allow for the residual effect from the proposed development to be identified to allow the PINS sufficient information to determine the application.
- 7.1.4. The ES is likely to follow the structure in Table 7.1:

Table 7.7.1: Proposed ES structure

	Section	Title
Introductory	1	Introduction
	2	Legal and Policy Context
	3	Approach to EIA
	4	Site Selection and Design Evolution
	5	Project Description
Biological Environment	6	Ecology Assessment
	7	Ornithology Assessment
Physical Environment	8	Landscape and Visual Impact Assessment (LVIA)
	9	Cultural Heritage Assessment
	10	Hydrology, Geology and Hydrogeological Assessment
Population and Human Health	11	Traffic and Transport Assessment
	12	Noise Assessment
	13	Forestry Assessment
	14	Health and Public Safety
	15	Aviation and Existing Infrastructure
Conclusion	16	Residual Effects, Mitigation & Enhancement

Source: Natural Power

Question 3: Do consultees have any comments in relation to the proposed sections to be included in the ES?

- 7.1.5. The ES will be produced electronically and also in hard copy print if required. For the majority of consultees, unless otherwise requested, the ES will be provided electronically.

- 7.1.6. Upon submission of the application, these documents will be made available for public inspection at appropriate locations to be agreed with the determining body and local planning authorities and will be distributed to the relevant consultees, subject to COVID-19 restrictions. They will also be made available on the project consultation website www.ybryn-windfarm.cymru.
- 7.1.7. A bilingual Non-Technical Summary will be submitted alongside the ES, which will provide a summary of the main findings and will be written in a non-technical language to help enable a better understanding and overview of the assessments for the general public.

8. Embedded Mitigation and Further Layout Iterations

- 8.1.1. The design of the proposed Y Bryn Wind Farm to date has been an iterative process, and the layout has avoided environmental and physical constraints as far as possible (embedded mitigation).
- 8.1.2. Throughout the remainder of the EIA process (until the submission of the ES) it is likely that the layout presented here in the scoping report will develop further (especially in light of the scoping opinion and public consultations).
- 8.1.3. Should any changes occur to the layout that are likely to have a significant effect on a receptor that had previously been agreed to be scoped out, these will be included within the EIA. If the changes are not likely to have a significant effect, these will first be discussed with the relevant consultees, to ensure that they too are in agreement with the applicants' understanding before excluding them from the EIA.

9. Purpose of this Scoping Report

- 9.1.1. The applicant and its competent experts, as well as stakeholders, have already gained a sound understanding of the proposed development area from the work at Y Bryn Wind Farm and other adjacent wind farms.
- 9.1.2. For this application we propose to continue stakeholder consultation beyond the scoping stage in order to provide information on the proposed development area's baseline conditions and the possible impacts from the development. Therefore, this report utilises the existing information, experience from the existing wind farms and data gathered to date to focus on key areas and likely significant effects in agreement with consultees. Other minor and non-significant issues will be scoped out, and thus not included within the final submission in the ES.
- 9.1.3. Whilst this larger scoping report will inevitably require more engagement from key consultees at an early stage, the eventual ES submitted should be more streamlined than previous ES submissions and **focus only on likely significant effects**. The applicant will ensure that regular and continued liaisons with key stakeholders (including the community) are carried out and documented to agree the assessment baseline, methodology and thus the EIA process and final ES documents will be more efficient and streamlined.

Question 4: Do the consultees have any comments about the proposed approach to scoping and the purpose of the scoping report?

- 9.1.4. In the following sections the subject areas to be covered in the scoping report and ES are provided. Where it is considered that certain subjects or particular aspects within subjects can be scoped out of the ES, evidence and a rationale is provided.

10. Ecology

10.1. Introduction

- 10.1.1. The intention of this section of the scoping report is to provide PINS and its consultees with sufficient information (where it currently exists) on the likely impacts of the proposed Y Bryn Wind Farm on important ecological features.
- 10.1.2. Baseline ecology survey work to inform scoping, and therefore the EIA, commenced in August 2020 and to date includes a desk study review and an ecology survey consisting of an extended Phase 1 habitat survey of Y Bryn Site Boundary. The results are summarised in the following sections.
- 10.1.3. As the ecological baseline surveys to inform the planning application for Y Bryn Wind Farm are at an early stage, this section principally sets out the proposed approach to assessing potential ecological effects of the proposed Y Bryn Wind Farm.

10.2. Legislation and Guidance¹

- 10.2.1. The approach to the collection of baseline ecological data will be based on industry standard guidance wherever this is available and applicable to the site. For example, Phase 1 habitat survey has been undertaken in accordance with JNCC (2016) guidelines², otter survey will follow Chanin (2003)³, and bat surveys have been designed to take account of wind farm guidance (SNH, 2019)⁴ as well as the guidance it superseded when published (Bat Conservation Trust, 2012)⁵.
- 10.2.2. Particular consideration has been given to habitats and species listed under Annexes 1 and 2 of the Habitats Directive (92/43/EEC)⁶, Schedules 5, 8 and 9 of the Wildlife and Countryside Act 1981 (as amended)⁷, and Section 7 of the Environment Wales Act (2016)⁸ in deriving the detailed approach to the work.
- 10.2.3. The approach to ecological impact assessment will be based on Chartered Institute for Ecology and Environmental Management (CIEEM) guidance⁹.

10.3. Methodology

- 10.3.1. To date, a desk study review has been undertaken and an ecology survey conducted: consisting of an extended Phase 1 habitat survey of Y Bryn Site Boundary. A programme of protected species surveys

1 Existing EU environmental legislation will continue to operate in UK law after 1 January 2021

2 Joint Nature Conservation Committee. (2016). *Handbook for Phase 1 habitat survey - a technique for environmental audit (2010 reprint)*. JNCC, Peterborough

3 Chanin, P. (2003). *Monitoring the otter Lutra lutra*. Conserving Natura 2000 Rivers Monitoring Series No 10. Peterborough, English Nature

4 Scottish Natural Heritage (2019). *Bats and onshore wind turbines - survey, assessment and mitigation*. NatureScot, Inverness.

5 Bat Conservation Trust. (2012). *Bat surveys: good practice guidelines*. Second edition. Bat Conservation Trust, London.

6 <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A31992L0043>

7 <http://www.legislation.gov.uk/ukpga/1981/69>

8 <http://www.legislation.gov.uk/anaw/2016/3/section/7>

9 CIEEM (2018) *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine*. Chartered Institute of Ecology and Environmental Management, Winchester.

shall be undertaken in 2021, in accordance with any feedback obtained from consultees. The proposed methodologies for these surveys are described within this ecology section.

Desk-based Review

- 10.3.2. The desk study initially involved study of open source aerial photography and Ordnance Survey mapping. A web-based search was also undertaken to identify and provide information on statutory sites with an international or national designation for ecological interests in relation to the proposed Y Bryn Wind Farm. The search also included locally designated sites within close proximity of the proposed development. The Natural Resource Wales (NRW) website¹⁰ and online GIS tool MAGIC (Multi-Agency Geographic Information for the Countryside)¹¹ were used.
- 10.3.3. Data were sought for the following sites with protected habitats and ecological (non-avian) species as designated features:
 - Special Areas of Conservation (SACs) – within 10 km of Y Bryn Site Boundary;
 - Sites of Special Scientific Interest (SSSIs) – within 5 km of Y Bryn Site Boundary;
 - National Nature Reserves (NNRs) – within 5 km of Y Bryn Site Boundary; and
 - Local Nature Reserves (LNRs) within 2 km of Y Bryn Site Boundary.
- 10.3.4. Data has also been obtained from the South East Wales Biodiversity Records Centre (SEWBRc). The data requested was of all species of conservation interest and protected sites, within Y Bryn Site Boundary and a 2 km buffer. The list of protected sites includes locally important (non-statutory) Sites of Importance for Nature Conservation (SINCs) and other priority areas, such as Ancient Semi-Natural Woodlands. Data was received in November 2020 and covers all years up to, and including, 2020. This provides an update to the SEWBRc data that was summarised in a Preliminary Ecological Assessment (PEA) of Y Bryn¹², commissioned by Coriolis and undertaken in 2018.
- 10.3.5. The results of this data search have helped determine the likely ecological features of interest at Y Bryn Wind Farm, and this has been used in conjunction with the results of the extended Phase 1 survey to determine the species-specific surveys required as part of ongoing baseline recording (as described later in this section).

Habitat Survey

- 10.3.6. An extended Phase 1 Habitat Survey of the site was completed in late August to mid-September 2020 in accordance with industry standard survey guidance². This survey aimed to characterise the habitats within Y Bryn Site Boundary, to identify any habitats of significant conservation value and/or protected plant species. Note that access beyond the site boundary was not permitted. During the extended Phase 1 habitat survey, the habitats were assessed for their suitability to support protected species, avian and non-avian. Target notes were made on any notable non-floral features, where this may benefit other ecological surveys (e.g. signs of reptiles, bats, badger, otter and water vole).

10 Available online from: <https://naturalresources.wales/> (last accessed 22.10.20)

11 Available online from: <https://magic.defra.gov.uk/MagicMap.aspx> (last accessed 22.10.20)

12 ARUP (2018) Y-Bryn Preliminary Ecological Appraisal, Commissioned by Coriolis

10.4. Results

Desk-based Review

Designated Sites

- 10.4.1. Four designated sites of International importance are located less than 10 km from the proposed Y Bryn Site Boundary (Table 10.1). The nearest site is Kenfig SAC, lying less than 4 km south of the site boundary and designated for protected coastal habitats (dunes and saltmarsh) and two plant species associated with these habitats. Cefn Cribwr Grasslands SAC lies less than 5 km south-east of the site boundary and is designated for its marshy grassland and a butterfly associated with this habitat, marsh fritillary. Crymlyn Bog SAC and Blackmill Woodlands SAC are less than 9 km directly west and south-east of the site boundary, respectively, and have been designated for protected habitats.
- 10.4.2. Three additional sites designated as SSSI for ecological interests are located within 5 km of the site boundary (Table 10.1).
- 10.4.3. One NNR and one LNR are located within 5 km and 2 km of the site boundary, respectively (Table 10.1).

Table 10.1: Designated sites: SACs within 10 km and SSSIs & NNRs within 5 km of Y Bryn Site Boundary

Site	Designation	Distance from Proposed Site Boundary	Size (ha)	Designation Criteria
Kenfig	SAC/SSSI	<4 km south	1192	Extensive sand dune habitats and standing waters, together with a mixture of associated coastal habitats. Assemblages of nationally scarce and rare vascular plants, rare macrofungi and invertebrates.
Cefn Cribwr Grasslands including Caeau, Pencastyll, Bryn-Bach and Waun Fawr	SAC/SSSI	<5 km south-east	58	Marshy grassland and species-rich neutral grassland and associated habitats. Populations of two notable vascular plants and a nationally scarce butterfly (marsh fritillary).
Crymlyn Bog	SAC/SSSI	<9 km west	299	Fen habitats and wet woodland and associated invertebrate assemblages.
Blackmill Woodlands	SAC/SSSI	<9 km south-east	71	Sessile oak woodland
Margam Moors	SSSI	<3 km southwest	108	Fen and marshy grassland mosaic with standing water and associated aquatic invertebrate assemblage. The shrill carder bee in the dune grasslands.
Cwm du Woodlands	SSSI	<3 km east	24	Semi-natural broadleaved woodland
Waun Cimla	SSSI	<5 km southeast	16	Marshy grassland

Site	Designation	Distance from Proposed Site Boundary	Size (ha)	Designation Criteria
Kenfig Pool and Dunes	NNR	< 4 km south	514	One of Wales' top sand-dune reserves, with all the special plants, birds and insects that depend on this type of coastal habitat for their survival.
Bryn Tip*	LNR	Adjacent to site	-	An old coal pit now managed to enhance natural habitats and protect species of bird, reptile and invertebrate.

*No data available as to size of site

Source: MAGIC Online GIS tool

Non-statutory Designated Sites

- 10.4.4. A total of 35 SINCs lie within the search area (Y Bryn Site Boundary plus 2 km buffer). Of these, there are 14 SINCs that lie within, or immediately adjacent to, the site boundary. These are:
- Abercerdin Wood;
 - Afan Mineral Railway;
 - Bryn Goytre Cycleway;
 - Bryn Tip;
 - Caerau West;
 - Cwmavon Coal Tips;
 - Cwm Cerdin;
 - Cwm Cerwyn;
 - Cwm Sychbant;
 - Margam Country Park;
 - Nant-y-Crynwydd;
 - NPT watercourses;
 - Sychbant Fields; and
 - Y Parc (south).
- 10.4.5. The SEWBRc data request also returned the additional priority areas (Table 10.2).

Table 10.2: NRW Priority Areas within Y Bryn Site Boundary and 2 km Buffer

Site Type	No. of Sites	Category
Ancient semi-natural woodland	136	Priority Area
Restored ancient woodland site	29	Priority Area
Plantation on ancient woodland site	84	Priority Area
Ancient woodland site of unknown category	21	Priority Area
NRW priority area (woodland - PAWS)	83	Priority Area
NRW priority area (heathland and grassland)	4	Priority Area
NRW priority area (lowland wetland)	1	Priority Area

Site Type	No. of Sites	Category
B lines	1	Local, non-statutory

Source: SEWBRcC

Species Data

10.4.6. The SEWBRcC data of priority and protected species within 2 km of Y Bryn Site Boundary is summarised below (Table 10.3). The table shows records of vertebrates (mammals, herptiles and fish) from the period 2010 to 2020.

Table 10.3: Records of selected ecological features within Y Bryn Site Boundary and 2 km Buffer

Sub-group	Species	No. of Records	Most recent
Amphibian	Common frog	24	2019
	Common toad	11	2017
	Palmate newt	5	2019
	Smooth newt	1	2011
Reptile	Adder	37	2018
	Common lizard	32	2018
	Grass snake	16	2019
	Slow-worm	23	2020
Fish	Brown/sea trout	2	2016
Terrestrial Mammal*	Badger	26	2019
	Brown hare	9	2018
	Harvest mouse	5	2019
	Hedgehog	35	2019
	Otter	5	2019
	Polecat	3	2019
Bat	Barbastelle	1	2015
	Brandt's bat	1	2016
	Brown long-eared bat	14	2020
	Common pipistrelle	31	2020
	Daubenton's bat	13	2019
	Greater horseshoe bat	3	2016
	Leisler's bat	2	2016
	Lesser horseshoe bat	5	2016
	Nathusius's pipistrelle	7	2019
	Natterer's bat	5	2019
	Noctule bat	20	2020
	Serotine	2	2016
	Soprano pipistrelle	19	2020
	Whiskered bat	4	2020

*Only terrestrial mammal species listed within Section 7 of the Environment Wales Act (2016) are included

Source: SEWBRcC

10.4.7. Most of the bat records come from the wider area to the east and south of the site boundary, rather than the site itself. Many of these records (roosting and foraging) refer to bats at Margam Country Park, located adjacent to a section of the southern Y Bryn Site Boundary. Three Annex II bat species were recorded here: barbastelle, lesser horseshoe and greater horseshoe bats.

10.4.8. Note that the PEA¹² presents data of priority ecological features recorded within a previous alternative search area and, as such, includes some records that fall outside the search criteria of the data presented above. The most notable of these are included here for completeness, although these records are all c.4 km distant from the currently proposed Y Bryn Site Boundary. These records are: one hazel dormouse record to the south of the site boundary; a large number of great crested newt records from water bodies to the south-east of the site boundary; and a record of spawning brook lamprey to the south of the site boundary.

Habitat Survey

10.4.9. Habitats found during the Phase 1 Habitat survey of Y Bryn Site Boundary are described below and in Figure 10.1a and Figure 10.1b. The target notes that accompany the figures are presented at the end of this document.

Woodland and scrub

10.4.10. The site boundary is dominated by coniferous plantation, typically formed of dense, even-aged plantings of Sitka spruce and Lodgepole pine. The plantation is managed in rotation, and all growth stages are represented, from recently felled or replanted areas to stands of intermediate age and mature trees. In the field layer of the younger stands (and, where tree density is low, also in some of the intermediate-age stands) other habitats were present including scrub, dry heath, continuous and scattered bracken and acid and marshy grassland as described below.

10.4.11. Areas of semi-natural and planted broadleaved and mixed woodland were predominantly along riparian corridors and in the north-west of the site near/within Afan Forest Park. There was a mixture of trees within the canopy, especially oak, birch and sweet chestnut with alder and willow in more damp areas. Some blocks of woodland had a canopy dominated by beech usually with little ground flora or shrub layer.

10.4.12. Dense and scattered scrub often associated with forestry edges and/or felled forestry that may not have been replanted are usually dominated by a few species including bramble, European gorse and willow in the wetter areas, especially along riparian corridors.

Grassland and marsh

10.4.13. Grassland and marsh within the site boundary comprised acid, marshy and poor semi-improved grassland. A few areas classified as acid grassland were within clearings in the forestry adjacent to a track and in forestry rides. Although acid grassland indicators were present, such as heath bedstraw, the sward tended to be dominated by grass species such as common bent and Yorkshire fog, with some scrub and bracken encroachment. Marshy grassland habitat is more frequent within the study area and is located along track sides, within forestry rides and within unplanted areas at the head of or alongside streams. Additionally, marshy grassland had naturally regenerated in some felled woodland areas. The marshy grassland was usually dominated by purple moor-grass and/or rushes, usually soft-rush. The fields of poor semi-improved grassland are associated with Hafod Farm.

Tall herb and fern

10.4.14. Areas of bracken were found across the site in small and large patches. Some patches were continuous, while others were more scattered and in mosaic with heath and/or acid grassland and often in the field layer of woodlands.

Heathland

- 10.4.15. Patches of dry dwarf shrub heath, sometimes creating a mosaic with acid grassland were present along track sides, in areas of felled woodland and in the field layer of woodlands. Heather and bilberry were the most common dwarf shrubs present although bell heather was also recorded. A couple of patches of wet dwarf shrub heath in mosaic with purple moor-grass dominated marshy grassland were mapped adjacent to a forestry track.

Open Water

- 10.4.16. Two large waterbodies are present including Cwmwernderi Reservoir. Additionally, nine ponds are present within the site boundary. There are numerous watercourses throughout the study area.

Other habitats

- 10.4.17. Other habitats are limited to several small quarries and two buildings.

Non-native invasive species

- 10.4.18. Three non-native invasive plant species were noted on the site; montbretia, common rhododendron and Himalayan balsam. All are listed under Schedule 9 of the Wildlife and Countryside Act, 1981 (as amended).

Protected Species

- 10.4.19. No signs of protected species were noted during the extended Phase 1 habitat survey.

10.5. Scoping

Discussion

- 10.5.1. The EclA will assess the likely effects of construction, operation and decommissioning of the proposed Y Bryn Wind Farm on ecological receptors.
- 10.5.2. To update and provide a more comprehensive list of protected species within the vicinity of the proposed development, further desk-based work will be undertaken for the EIA and it is proposed that this will involve approaching the following organisations for contemporary ecological data:
- SEWBReC (to obtain further bat records using a wider search area (10 km) and to obtain any records that have been added to the database since the existing data request);
 - Vincent Wildlife Trust (for protected mammal species particularly pine marten);
 - South East Wales Rivers Trust; and
 - Natural Resources Wales (NRW) Energy Delivery Team and Operational Land Management Team with knowledge of the site.
- 10.5.3. The results of this data search shall inform the EclA but it is not considered necessary to have this data in order to determine the ecological survey programme planned for 2021; a precautionary approach shall be followed.

Designated sites

- 10.5.4. It is proposed that all of the statutory designated sites listed in Table 10.1 be scoped out of the EIA. The distance between the nationally and internationally designated sites and Y Bryn Wind Farm, and the lack of hydrological connectivity, means that there is a lack of a clear effect pathway with regard to the habitats/ species for which sites have been designated. Therefore, it is unlikely that there will be significant impacts on the ecological interest of these designated sites (alone or cumulatively) as a result of the wind farm proposal.

- 10.5.5. Bryn Tip LNR lies close to the site boundary, but with the embedded mitigation measures described in 10.1.7 it is considered unlikely that the development shall have a significant effect on the integrity of the LNR. Therefore, Bryn Tip LNR shall be scoped out of the EIA. (Note, however, that Bryn Tip shall be 'scoped in' as part of the approach for assessing SINC.)
- 10.5.6. The approach to scoping in/out local non-statutory designated sites (SINC), is proposed to be as follows. SINC lying within the site boundary, or immediately abutting it, shall be scoped into the EIA irrespective of the qualifying feature. Additionally, SINC with habitats as a qualifying feature shall be scoped in if the SINC lies within 250 m of the site boundary; and SINC with protected mammal species as a qualifying feature shall be scoped in if the SINC lies within 500 m of the site boundary.

Habitats

- 10.5.7. Habitats shall not be scoped out of the EIA.
- 10.5.8. The result of the Phase 1 habitat survey has provided an overview of the habitats present at the proposed Y Bryn Wind Farm.
- 10.5.9. There is a requirement under the Water Framework Directive to carry out assessment of the likely impacts of development on habitats which are dependent on Groundwater Dependent Terrestrial Ecosystems (GWDTEs). The habitat survey work undertaken to date has identified broad habitats that may have high or moderate potential to support GWDTEs, as well as several Annex I and Section 7 habitats – see Table 10.4 below.

Table 10.4: Summary of protected habitats with potential for impact during development

Phase 1 Habitat	Conservation Status
Semi-natural broadleaved woodland	Potential GWDTE (high) for any wet woodland; Annex 1; Section 7
Acid grassland	Section 7
Marshy grassland	Potential GWDTE (high/moderate); Potential Annex 1 and/or Section 7
Dry dwarf shrub heath	Annex 1; Section 7
Wet dwarf shrub heath	Potential GWDTE (moderate) Annex 1; Section 7
Streams	Section 7
Standing open waters – ponds and lakes	Section 7

Source: GWDTE – Groundwater dependent terrestrial ecosystem; Annex 1 – Listed on Annex 1 of EU Habitats Directive; Section 7 – Listed on Section 7 of the Environment Wales Act (2016).

- 10.5.10. It is proposed that a National Vegetation Classification (NVC) survey will be undertaken in summer 2021 to further define the important vegetation communities found within the vicinity of the Proposed Development, following the standard survey method¹³. The NVC survey will target those areas of potential conservation value highlighted in Table 10.4 that lie within 250 m of proposed infrastructure. The NVC survey shall allow for the identification of any notable or rare plant species present within these areas and will produce a detailed habitat map that shall be used both in development design and in the impact assessment.

13 Rodwell, J. S. 2006. *National Vegetation Classification: Users' handbook*. JNCC, Peterborough

Protected Species Surveys 2021

- 10.5.11. Based upon the results of the initial desk study, the results of the extended Phase 1 survey and using expert judgement as to the likely ecological considerations for a development in this area, the following protected species surveys are proposed for 2021.

Bat Surveys

- 10.5.12. Bat activity surveys: It is anticipated that 17 full spectrum static detectors will be deployed at the site in 2021. Fifteen detectors¹⁴ shall be located near/at proposed turbine locations following recent NatureScot (formerly SNH) guidance⁴. Access to some proposed turbine locations may not be possible due to dense plantation cover and, in such cases, detectors will be relocated to the nearest edge feature (including rides and fire breaks). The detector locations will sample the different habitats and topographical features present on the site including open areas such as nearby clearings and felled areas in the forestry, to provide an indication of how bats may adapt to and use the new habitat created through turbine construction. In addition, if logistics and health & safety considerations allow, two static detectors will be located on a meteorological mast on the site to collect 'at height data'. This will allow determination of difference between bat activity below and above canopy level. Data will be collected on a seasonal basis (for 14 consecutive nights in each of spring, summer and autumn). The meteorological mast will collect site-specific weather data (wind speed, temperature and rainfall) for the duration of the work to help in the interpretation of the bat activity data. Bat calls shall be analysed using Kaleidoscope Pro software and bat activity levels shall be assessed using Ecobat.
- 10.5.13. Bat roost surveys: An assessment of potential roost features shall be undertaken in 2021, covering all buildings (including ruins and bridges), mine adits and mature trees that are situated along edges and corridors within the forest. (The interior of plantation forestry blocks shall not be surveyed.) These surveys shall cover a 250 m buffer around all proposed infrastructure (where access allows). Should evidence of bat roosts be found as part of these surveys, emergence/ re-entry surveys led by a licenced bat ecologist, will be completed in 2021 to gain an indication of the size and likely type of any roosts present.

Dormouse survey

- 10.5.14. Y Bryn PEA¹²¹² found dormouse records c.4 km distant from Y Bryn Site Boundary. The main habitat within the site boundary is coniferous forest, which is considered poor-quality habitat for dormouse, however the Phase 1 survey showed that there are some habitats (broad-leaved/mixed woodland and scrub) that could have potential to support dormice, although such habitat is largely fragmented. However, following a precautionary approach, the presence of dormouse in the region and the presence of areas of suitable habitat within the site boundary means that a targeted dormouse survey shall be undertaken in 2021, to determine their presence or absence.
- 10.5.15. The dormouse survey will follow recommended guidance¹⁵. One hundred nest tubes (50 in the northern part of the site and 50 in the southern part of the site) shall be placed at 20 m intervals in areas of suitable habitat that lie within 120 m¹⁶ of proposed infrastructure. Suitable habitat shall be areas of mixed/broadleaf woodland and scrub that are considered to be 'linked' with other areas of suitable habitat. The nest tubes shall be in place from April to November and will be checked monthly for occupancy during this period.

14 Where developments have more than ten turbines, detectors should be placed within the developable area at ten potential turbine locations plus a number of detectors should be placed at representative locations across the site, equal to a third of additionally proposed turbines (25 turbines = 10 + (15/3) = 15 detectors).

15 Bright, P. and Morris, P., (2006) *The dormouse conservation handbook Second Edition*. English Nature.

16 Distance is based upon the maximum foraging distance of dormice (70 m) plus a 50 m buffer to allow for micro-siting of infrastructure.

Great crested newt survey

- 10.5.16. Nine ponds and two larger water bodies were recorded during the Phase 1 habitat survey. Using the results of the extended Phase 1 survey and a desk-based appraisal using aerial images, an assessment of each pond's suitability for great crested newts has been undertaken, based upon the criteria listed in the Habitat Suitability Index¹⁷ (HSI). It is considered that three of the ponds have 'poor' suitability for great crested newts, whilst the other six ponds are considered to fall into the 'below average', 'average' and 'good' categories. Using a precautionary approach, all ponds in these categories shall be subject to eDNA analysis for detecting presence of newts; where these ponds lie within 500 m of proposed infrastructure (predicted to be five locations). Based upon the results of the eDNA analysis further surveys will be undertaken if required.

Otter and water vole survey

- 10.5.17. All permanent watercourses within Y Bryn Site Boundary, will be surveyed for signs of otter and water vole using a combined survey. Signs of otter have been recorded previously on site as well as some potentially suitable water vole habitat being identified during the extended Phase 1 survey. Otter survey methods will be based on those recommended in Chanin (2003)¹⁸ and water vole survey methods will be based on those recommended in Strachan *et al* (2011)¹⁹. Surveys shall be undertaken in suitable weather conditions (low water levels) and are anticipated to take place in the summer months of 2021 by experienced ecologists.

Badger, pine marten and polecat survey

- 10.5.18. Y Bryn Site Boundary will be surveyed for badger. Surveyors shall walk all linear features within the site boundary (fences, walls, tracks) and all signs of presence, such as latrines, runs and setts, shall be recorded and mapped following recommended survey methods²⁰. Additionally, during the badger survey, surveyors shall also record any signs they encounter of pine marten and polecat presence (e.g. scats, footprints and potential den sites)²¹. The surveys will be carried out during summer 2021.

Fish survey/ fish habitat survey

- 10.5.19. It is **not** proposed that surveys are undertaken for recording fish species within Y Bryn Site Boundary. Instead data shall be obtained through desk study. It is considered that this shall be sufficient to assess any piscine features on site and shall negate the need for intrusive surveys such as electrofishing. Water courses shall be protected from significant negative effects during construction and operational activities through embedded mitigation.

10.6. Proposed Mitigation and Enhancement

Embedded Mitigation

- 10.6.1. The current proposed site design incorporates the following:

17 <http://www.narrs.org.uk/documents/HSI%20guidance.pdf>

18 Chanin P (2003). *Ecology of the European Otter. Conserving Natura 2000. Rivers Ecology Series No. 10*. English Nature

19 Strachan R., Moorhouse T. and Gelling M. (2011) *Water Vole Conservation Handbook Third Edition*, Wildlife Conservation Research Unit.

20 Scottish Badgers (2018) *Surveying for Badgers: Good Practice Guidelines Version 1*

21 Cresswell, W.J., Birks, J.D.S., Dean, M., Pacheco, M., Trehwella, W.J., Wells, D. and Wray, S. (2012). *UK BAP Mammals: Interim Guidance for Survey Methodologies, Impact Assessment and Mitigation*. The Mammal Society, Southampton.

- A 50 m setback from all mapped watercourses and waterbodies. This is primarily a measure to minimise the potential for impacts on potable water supplies (e.g. through sedimentation during construction); however, it will also reduce the potential for impacts on mammals, fish and invertebrates associated with freshwater habitats;
- Soils identified by NRW-provided data as 'bog' have been avoided for turbine placement;
- All areas of Ancient Woodland, including Planted Ancient Woodland Sites, have been avoided; and
- Avoidance of all Sites of Importance for Nature Conservation (SINCs) located partially or wholly on site.

Additional Mitigation During Construction

- 10.6.2. To ensure compliance with legislation, and to follow good practice guidance and consultation recommendations, a number of standard measures will be implemented should the application be consented. The standard measures which are relevant to avoiding and reducing impacts on ecological features are described in paragraphs 10.6.3 to 10.6.6.
- 10.6.3. A maximum of six months prior to commencement of works, pre-construction ecology walkover surveys will be carried out to update the results of the baseline surveys, e.g. to determine badger sett activity, identify any new otter holt locations, etc. This will enable any refinements to be made if necessary, to mitigation, micro-siting and/or the construction programme to take account of any updated distribution or presence of protected species, with a suitable mitigation plan adopted on a case by case basis;
- 10.6.4. No development shall take place (including demolition, ground works, vegetation clearance) until a construction environmental management plan (CEMP), incorporating a Construction Method Statement (CMS), has been submitted to and approved in writing by the local planning authorities. The CEMP shall include the following:
- Practical measures (both physical measures and sensitive working practices) to avoid or reduce impacts during construction (may be provided as a set of method statements), including a Pollution Prevention Plan outlining measures to control pollution and a Drainage Management Plan outlining measures for management of surface and groundwater;
 - The location of sensitive works to avoid harm to ecological features;
 - The times and locations during construction when specialist ecologists need to be present on site to oversee works;
 - Species Protection Plans outlining specific measures to avoid and reduce impacts on protected species;
 - Responsible persons and lines of communication; and
 - The role and responsibilities on site of an Ecological Clerk of Works (ECoW) or similarly competent person.
- 10.6.5. No development shall commence until the role and responsibilities and operations to be overseen by an appropriately competent ECoW have been submitted to and approved in writing by the local planning authorities. The appointed person shall undertake all activities, and works shall be carried out, in accordance with the approved details. The ECoW will monitor and advise on potential effects on ecological features during construction in order that impacts are avoided or minimised through best practice. This includes maintaining water quality and minimising the potential for disturbance or risk of injury/death for protected species which may be using the site.
- 10.6.6. The approved CEMP shall be adhered to and implemented throughout the construction period strictly in accordance with the approved details, unless otherwise agreed in writing by the local planning authority.

- 10.6.7. In addition, opportunities for providing biodiversity net gain through enhancement measures above and beyond base offsetting mitigation will be sought, both within and off-site.

10.7. Summary

- 10.7.1. Ecological work to inform the planning application for Y Bryn Wind Farm remains at an early stage and a programme of further desk-based review and ecological surveys are proposed to provide more detailed assessment of ecological receptors listed below.
- 10.7.2. The following lists the ecological features requiring more detailed assessment and are, therefore, **scoped in** to the EIA (an asterisk (*) denotes those receptors for which field surveys shall be undertaken during continued baseline recording):
- Non-statutory designated sites (SINCs) within Y Bryn Site Boundary and agreed buffer;
 - Habitats*;
 - Great Crested Newt*;
 - Bats*;
 - Hazel dormouse*;
 - Otter*;
 - Water vole*;
 - Pine marten*;
 - Polecat*;
 - Badger*; and
 - Fish.
- 10.7.3. The following statutory designated sites have been **scoped out** due to their distance from Y Bryn Site Boundary:
- Kenfig SAC/SSSI;
 - Cefn Cribwr Grasslands SAC including Caeau, Pencastyll, Bryn-Bach and Waun Fawr SSSIs;
 - Crymlyn Bog SAC/SSSI;
 - Blackmill Woodlands SAC/SSSI;
 - Margam Moors SSSI;
 - Cwm Du Woodlands SSSI;
 - Waun Cimla SSSI;
 - Kenfig Pool and Dunes NNR; and
 - Bryn Tip LNR.
- 10.7.4. Common species of herptile (reptiles and amphibian) are highly likely to be present. However, measures such as a working method statement will ensure legislative compliance during any construction phase impacts on these species and hence they have been scoped out.
- 10.7.5. To date, there is no evidence that any specially protected invertebrates or red squirrels are present within Y Bryn Site Boundary and hence they have also been scoped out of the assessment.
- 10.7.6. Regular communication with NRW with regard to emerging results will be undertaken when required.

Question 5: Do consultees agree with the approach used for scoping in/out statutory and non-statutory designated sites?

Question 6: Do consultees consider the proposed baseline survey methodologies appropriate?

Question 7: Do consultees see value to any particular mitigation and/or enhancement measures for any local or regional species or habitats, whether referred to above or otherwise?

11. Ornithology

11.1. Introduction

- 11.1.1. The intention of this section of the scoping report is to provide PINS and its consultees with sufficient information (where it currently exists) on the likely impacts of the proposed Y Bryn Wind Farm on important ornithological features. This will allow for an EIA that focusses on features which could be significantly affected, or for which the predicted effects are currently unknown.
- 11.1.2. Baseline survey work to inform scoping and therefore the EIA commenced in October 2019; the results of these surveys are summarised in the following sections. These results are used to identify important ornithological features that could sustain positive or negative impacts as a result of the development of the proposed Y Bryn Wind Farm. Where likely non-significant impacts are identified in this section, it is proposed that these are not carried forward for inclusion in the relevant EclA (Ecological Impact Assessment) and are 'scoped out'.
- 11.1.3. This section also provides information on statutory sites of international importance, upon which the proposed development may have a 'Likely Significant Effect' (LSE). A screening process will be undertaken alongside the EIA to determine whether the predicted impacts of Y Bryn Wind Farm will result in a LSE. The screening process will allow PINS to determine whether an Appropriate Assessment (AA) will be required.

11.2. Legislation and Guidance²²

Legislative and guidance documents with relevance to ornithology are listed below:

Legislation:

- Council Directive 2009/147/EC on the Conservation of Wild Birds (the Birds Directive);
- Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (the Habitats Directive);
- The Conservation (Natural Habitats, &c.) Regulations 2017 (as amended) (the Habitats Regulations), which transposes the Habitats Directive into UK law;
- Wildlife and Countryside Act 1981 (as amended); and
- Environment (Wales) Act 2016.

Other guidance:

²² Existing EU environmental legislation will continue to operate in UK law after 1 January 2021

- Guidelines for EclA in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine 2018²³;
- Recommended bird survey methods to inform impact assessment of onshore wind farms²⁴;
- Birds and Wind Farms: Risk Assessment and Mitigation²⁵;
- Developing field and analytical methods to assess avian collision risk at wind farms²⁶;
- Windfarms and birds: calculating a theoretical collision risk assuming no avoidance action²⁷;
- Assessing significance of impacts from onshore windfarms on birds outwith designated areas²⁸;
- Monitoring the impacts of onshore wind farms on birds²⁹;
- Guidance on methods for monitoring bird populations at onshore wind farms³⁰;
- Avoidance rates for the onshore SNH (NatureScot) wind farm collision risk model³¹;
- Assessing the cumulative impact of onshore wind energy developments³²; and
- Assessing connectivity with Special Protection Areas (SPAs)³³.

To note, although the guidance referred to as standard for assessing impacts for birds is provided by NatureScot (formerly SNH (Scottish Natural Heritage)), this is accepted as standard by NRW.

11.3. Methodology

Consultation

- 11.3.1. NRW (statutory consultee function) and the two relevant local county councils (Neath Port Talbot County Borough Council and Bridgend County Borough Council) were contacted in July and August 2020 to seek agreement as to the baseline ornithology surveys being carried out at Y Bryn Wind Farm. Consultees were provided with a concise summary of the survey programme and of the results of Year 1.
- 11.3.2. Further details of the surveys undertaken and of the results of these surveys are provided within this Scoping section.

²³ CIEEM, 2018. Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Chartered Institute of Ecology and Environmental Management, Winchester.

²⁴ SNH, 2017. Recommended bird survey methods to inform impact assessment of onshore wind farms. Scottish Natural Heritage, Battleby.

²⁵ de Lucas, M., Janss, G. & Ferrer, M. (eds.) 2007. Birds and Wind Power. Quercus, Madrid.

²⁶ Band, W.; Madders, M.; Whitefield, D. 2007. Scottish Natural Heritage, Natural Research Ltd.

²⁷ SNH. 2000. Windfarms and birds: calculating a theoretical collision risk assuming no avoidance action. Scottish Natural Heritage, Edinburgh.

²⁸ SNH. 2018. Assessing significance of impacts from onshore windfarms on birds outside designated areas. Scottish Natural Heritage, Inverness.

²⁹ SNH. 2009. Monitoring the impact of onshore wind farms on birds (Guidance note). Scottish Natural Heritage, Edinburgh.

³⁰ SNH. 2009. Guidance on methods for monitoring bird populations at onshore wind farms. Scottish Natural Heritage, Edinburgh.

³¹ SNH, 2017. Avoidance rates for the onshore SNH wind farm collision risk model. Scottish Natural Heritage, Battleby.

³² SNH. 2018. Assessing the cumulative impacts of onshore wind farms on birds: guidance. Scottish Natural Heritage, Inverness.

³³ SNH. 2016. Assessing connectivity with Special Protection Areas (SPAs) (Guidance note: Version 3). Scottish Natural Heritage, Edinburgh.

Desk based review

Designated Sites

- 11.3.3. A web-based search was undertaken to identify and provide information on statutory and non-statutory sites with an international or national designation for ornithological interests located within the vicinity of the proposed Y Bryn Wind Farm. For all sites a search radius of 10 km was used, except where geese or gulls are listed (due to the larger foraging ranges of these species) for which a 25 km radius was used. Distances were measured from the currently proposed site boundary. The online GIS tool MAGIC (Multi-Agency Geographic Information for the Countryside)³⁴ was used.
- 11.3.4. Data were sought for the following:
- Special Protection Areas (SPAs);
 - Ramsar sites (Ramsar Convention on Wetlands of International Importance) where waterfowl or waterfowl habitat are described as ecological features;
 - Sites of Special Scientific Interest (SSSIs);
 - Important Bird Areas (IBAs);
 - Locally designated sites such as Sites of Important Nature Conservation (SINCs) and Sites of Nature Conservation Interest (SNCIs); and
 - Local and National Nature Reserves (including RSPB (Royal Society for the Protection of Birds) and Wildlife Trust Reserves).

Species of Note

- 11.3.5. Ornithological data has been obtained from the South East Wales Biodiversity Records Centre (SEWBRc). The data obtained was part of a request for records of all species of conservation interest within Y Bryn Site Boundary and a 2 km buffer. Data was received in November 2020 and covers all years up to, and including, 2020. This provides an update to the SEWBRc data that was summarised in a Preliminary Ecological Assessment (PEA) of Y Bryn³⁵, commissioned by Coriolis and undertaken in 2018.
- 11.3.6. To provide further background information regarding the baseline status of notable ornithological features in the local environment, a data request was made to RSPB Cymru for data.
- 11.3.7. Before the EIA is submitted, further records of relevant ornithological data shall be requested from the following parties:
- SEWBRc, to obtain contemporary data and to obtain ornithological data from a wider search area (20 km);
 - Local raptor surveyors; and
 - NRW Energy Delivery Team and Operational Land Management Team with knowledge of the site.
- 11.3.8. In addition, a desk study to assess relevant information from the EIA of other wind farm developments in the vicinity of Y Bryn Wind Farm shall be undertaken.

Field Surveys

- 11.3.9. The baseline ornithology surveys undertaken so far (one non-breeding season and one breeding season) are described below. A suite of complementary surveys was carried out between October 2019 and August 2020, comprising vantage point (VP) surveys, breeding bird surveys, dedicated raptor surveys and dedicated nightjar surveys.

³⁴ Available online from: <https://magic.defra.gov.uk/MagicMap.aspx> (last accessed 12.11.20)
35 ARUP (2018) Y-Bryn Preliminary Ecological Appraisal, Commissioned by Coriolis

- 11.3.10. Survey methodology followed standard NatureScot guidance. Surveys were all carried out by appropriately qualified and experienced personnel, in possession of a Schedule 1 licence where appropriate, and were undertaken in suitable weather conditions. These surveys are summarised in the following sections.
- 11.3.11. Full information on the dates, times and weather conditions for all ornithology surveys undertaken at Y Bryn can be provided upon request.

Target Species

- 11.3.12. NatureScot guidance states that work to establish the ornithological baseline should focus on those species which are afforded a higher level of legislative protection, or those which, as a result of their behaviour, may be more likely to be subject to impact from wind farms. There are three important species lists from which target species may be drawn:
- Annex I of the EC Birds Directive;
 - Schedule 1 of the Wildlife & Countryside Act 1981; and
 - Red-listed Birds of Conservation Concern (BoCC³⁶).
- 11.3.13. Consideration should also be given to species of regional conservation concern, as listed within Local Biodiversity Action Plans (LBAPs).
- 11.3.14. Target species should be restricted to those likely to be affected by wind farms. It is generally considered that passerine species are not significantly impacted by wind farms.
- 11.3.15. As such, and in accordance with NatureScot guidance, surveys focused on the following target species:
- All species of raptors and owls listed in Annex I of the EC Birds Directive and/or Schedule 1 and 1A of the
 - WCA 1981 (as amended);
 - All species of wildfowl (with the exception of Canada goose and mallard);
 - All wader species; and
 - Nightjar.
- 11.3.16. In addition, 'large gull species' (e.g. herring gull) were also recorded as targets during VP surveys. Due to the number of flights it was considered precautionary to include these species so that data was obtained for any subsequent collision risk modelling (CRM) that may be required.
- 11.3.17. Raptor species that do not appear on the Annex I/ Schedule 1 lists (such as kestrel), and which are considered to be of lower conservation concern than target species, are termed secondary species. Recording of secondary species is subsidiary to recording of target species. The following species were considered secondary species for the purposes of flight activity surveys:
- All other raptor and owl species (buzzard, sparrowhawk, kestrel, tawny owl and long-eared owl);
 - Small gull species;
 - Grey heron;
 - Raven; and
 - Any large aggregations of red-listed passerines.

³⁶ Eaton, M.A., Aebischer, N.J., Brown, A.F., Hearn, R.D., Lock, L., Musgrove, A.J., Noble, D.G., Stroud, D.A. and Gregory, R.D. 2015. Birds of Conservation Concern 4: the population status of birds in the UK, Channel Islands and Isle of Man. British Birds 108, 708-746.

Vantage Point Surveys

- 11.3.18. Vantage Point (VP) surveys were undertaken during the 2019/2020 non-breeding season (September to February) and the 2020 breeding season (March to August) to complete twelve months of baseline monitoring. These surveys were used to record the flight activity of target species within the vicinity of the proposed Y Bryn Wind Farm. The flight activity of secondary species was also recorded.
- 11.3.19. Eight vantage points were used to carry out the VP surveys: VPs 1, 2, 3 and 8 covering the proposed turbine layout in the northern section of the site, and VPs 4, 5, 6 and 7 covering the proposed turbine layout in the southern section of the site. The VP locations were carefully selected based on viewshed analysis and a ground-truthing visit prior to surveys commencing (Figure 11.1).
- VP1 - SS 83821 92996
 - VP2 - SS 82259 93844
 - VP3 - SS 81525 93131
 - VP4 - SS 82385 90473
 - VP5 - SS 81051 90016
 - VP6 - SS 80530 89920
 - VP7 - SS 82919 87554
 - VP8 - SS 83705 92730
- 11.3.20. Due to the hill and valley terrain within the proposed development area and the forested nature of the site, the siting of VPs was not straightforward. However, the viewsheds of the eight VPs that have been chosen are able to fully cover the locations of the proposed turbines, with only small gaps in coverage of the surrounding 500 m buffer. It is considered that the coverage provided by the VPs is more than sufficient for recording ornithological features within the vicinity of the proposed turbines.
- 11.3.21. NatureScot guidance recommends 36 hours of survey effort per VP per survey season (September to February: non-breeding; and March to August: breeding). VP surveys in the 2019/20 non-breeding season did not begin until October 2019 but extra surveys in that month meant that three of the VPs reached a minimum of 36 hours survey effort over the 2019/20 non-breeding season, with the remainder receiving 33 hours of coverage. Although not quite meeting the recommended number of hours it is considered that the surveys satisfactorily inform baseline conditions for the non-breeding season (surveys were completed in favourable survey weather and flight activity was low). A second non-breeding season, starting September 2020 is now underway and this shall complete 36 hours at each vantage point over the 2020/21 non-breeding season.
- 11.3.22. During the 2020 breeding season, surveys were impacted upon by the COVID-19 pandemic, which prevented access to site during March and early April. However, extra survey effort over the season made up for this and all VPs were surveyed for a minimum of 36 hours over the course of the breeding season. A second year of breeding season VP surveys shall be undertaken in 2021.
- 11.3.23. A summary of the number of hours completed at each VP is shown in Table 11.1.

Table 11.1: Vantage Point survey effort (baseline year 1)

Month	VP1	VP2	VP3	VP4	VP5	VP6	VP7	VP8
October 2019	9	9	9	12	15	9	12	9
November 2019	6	6	6	6	6	6	6	6
December 2019	6	6	6	6	6	6	6	6
January 2020	6	6	6	6	6	6	6	6

Month	VP1	VP2	VP3	VP4	VP5	VP6	VP7	VP8
February 2020	6	6	6	6	6	6	6	6
Total non-breeding season	33	33	33	36	39	33	36	33
April 2020	3	3	3	12	6	6	6	3
May 2020	15	12	15	9	12	15	15	21
June 2020	6	9	6	6	6	6	6	3
July 2020	6	6	6	6	6	6	6	6
August 2020	6	6	6	6	6	6	6	6
Total breeding season	36	36	36	39	36	39	39	36

- 11.3.24. For each hour of survey, weather conditions were recorded including wind speed and direction, precipitation, cloud cover and visibility. Due to the large amount of data generated, only a summary of the weather data is provided here but full details of the dates, timings and weather conditions of each VP survey can be provided on request, in the form of an *Excel* spreadsheet. Based upon the full dataset of weather conditions it was determined that over two thirds (69.9%) of VP survey hours (non-breeding and breeding season) were undertaken in wind speeds between Beaufort Scale force 2 and 4, with all wind speeds between force 0 and force 7 (one hour) represented. Most surveys were undertaken in dry conditions (73.5% of survey hours), with just 5.0% of survey hours undertaken in persistent rain. Similarly, only 4.3% of survey hours were undertaken in low visibility (though surveys were abandoned if conditions were too poor to continue). The VPs were carried out at varying times of day, with survey hours completed between 0730 and 1830 in the non-breeding season and between 0415 to 2200 in the breeding season.

Collision Risk Modelling

- 11.3.25. Collision Risk Modelling (CRM) uses data collected during flight activity (VP) surveys to predict the number of individuals per species that have the potential to collide with turbine rotors. CRM has not been undertaken at this stage but is briefly described here to provide assurance that this will be included within the EIA. The EIA shall provide full details of CRM undertaken using the data collected over the full two years of baseline surveys (two breeding seasons and two non-breeding seasons). CRM will be carried out based upon the Band *et al.* (2007)³⁷ model recommended by NatureScot.
- 11.3.26. Y Bryn Wind Farm flight activity data have been recorded, thus far, using the following height bands:
- 1) <20 m;
 - 2) 20-40 m;
 - 3) 40-140 m; and
 - 4) >140 m.
- 11.3.27. The turbines currently proposed for Y Bryn Wind Farm shall have a rotor swept height that straddles both height band 3 and height band 4. A precautionary approach shall be used that shall incorporate all flights within a band that overlaps with rotor swept height. When discussing the VP survey results within this Scoping section, those species recorded in height bands 3 and 4 are highlighted as being at potential collision height (PCH). Three or more flights and/or 10 or more individuals at PCH are considered as qualifying a species for CRM. In actuality only records at PCH that are also within the collision risk zone

37 Band, W., Madders, M. & Whitfield, D.P. 2007. *Developing field and analytical methods to assess avian collision risk at wind farms*. In de Lucas, M., Janss, G. & Ferrer, M. (eds.) *Birds and Wind Power*. Quercus, Madrid.

(CRZ) (blade width plus 200 m buffer) shall be used in the actual CRM so the approach used in this Scoping document can be considered precautionary.

- 11.3.28. To aid the pending CRM, it is proposed that new height bands be utilised for the remaining duration of baseline recording. The height bands shall provide a better match with the currently proposed turbine dimensions. These are proposed to be as follows:
- 1) <30 m;
 - 2) 30-80 m;
 - 3) 80-200 m;
 - 4) 200-250; and
 - 5) >250 m.

Breeding Bird Surveys

- 11.3.29. Breeding bird surveys (BBS) were undertaken in 2020 based upon standard guidance. These surveys covered all areas of open ground within the proposed site (Figure 11.2) including clearfelled areas. Access was not permitted to surrounding land but open areas in the buffer were surveyed by walking the forest edge and making regular stops in suitable locations to look and listen for birds within the buffer. Birds recorded within the woodland edge were also recorded. Although not the focus of the BBS, this provided some data as to the breeding bird assemblage present within the plantation, and other forested areas, within the survey area. Woodland point counts in the forested areas were not undertaken as this is no longer recommended in survey guidance²⁴Error! Bookmark not defined.
- 11.3.30. The surveys followed the widely used Brown & Shepherd (1993)³⁸ methodology, but utilising four survey visits, as is currently recommended (Calladine *et al.*, 2009)³⁹. All bird species encountered were recorded during the BBS undertaken at Y Bryn Wind Farm. Due to access restrictions as a result of the COVID-19 pandemic the first visit was not made until early May; but visits were then spread throughout the rest of the survey season. The breeding bird survey effort for 2020 is summarised in Table 11.2. Note that each visit took four surveyor days to cover but some visits were completed by more than one person.

Table 11.2: Breeding bird survey effort 2020

Visit	2020
1st	5th/8th May
2nd	24th/26th/29th May
3rd	4th/7th/11th/13th June
4th	10th/11th/25th July

- 11.3.31. Upon completion of the fourth survey visit, records from all visits were combined and analysed to estimate the location of any breeding territories of non-passerines within open-ground habitats, based upon the territory analysis method outlined in Bibby *et al.*, (2000)⁴⁰. Passerine species are generally considered to be at low risk from wind farm developments and so territory mapping focussed on non-passerines only. For passerines, and near-passerines, a list of all species recorded was created along with any evidence

38 Brown, A.F. & Shepherd, K.B. 1993. A method for censusing upland breeding waders. *Bird Study*, 40: 189-195.

39 Calladine, J., Garner, G., Wernham, C. & Thiel, A. 2009. The influence of survey frequency on population estimates of moorland breeding birds. *Bird Study*, 56(3), 381-388.

40 Bibby, C.J., Burgess, N.D., Hill, D.A & Mustoe, S. 2000. *Bird Census Techniques*. Second edition. Academic Press, London.

of breeding (using data from the four survey visits), but no territory analysis was undertaken. This follows current NatureScot guidance.

Breeding Raptor Surveys

- 11.3.32. Dedicated surveys targeting breeding Schedule 1 species, covering the Y Bryn site boundary, were carried out during 2020 (Figure 11.2). Access was not permitted to surrounding land but suitable locations were found to scan the buffer area for raptors, in order to cover those areas not visible from the standard VP locations. Thus, the actual breeding raptor survey area covered a greater extent than that indicated in Figure 11.2. The nature of these surveys was determined by the target species recorded during the VP surveys and by those species considered to have the potential to breed within the survey area, including goshawk and honey buzzard, based upon the available habitat and knowledge of the area. Surveys involved walkovers and short VP watches to identify any breeding sites and to monitor these sites through the season. Surveys were undertaken by experienced surveyors holding a Schedule 1 Licence. Species-specific survey methods were informed by the methods outlined in Gilbert *et al.*⁴¹ (1998) and Hardey *et al.*⁴² (2013).
- 11.3.33. Surveys early in the breeding season were restricted due to the COVID-19 pandemic and subsequent effort being focussed on undertaking sufficient VP survey effort. This meant that the peak time for goshawk detection was not fully surveyed. A second season of raptor surveys shall be undertaken in 2021 and this shall include a focus on detecting displaying goshawk early in the breeding season (February/March).
- 11.3.34. The breeding raptor survey effort for 2020 is summarised in Table 11.3.

Table 11.3: Breeding raptor survey effort 2020

Month	Dates	Reason for visit
April	13th/30th	Check for raptor occupancy.
May	14th/28th	Check for raptor occupancy.
June	3rd/6th/7th/9th/30th	Further checks for occupancy and evidence of breeding.
July	19th/20th/25th/28th/29th/30th	Targeted monitoring based on previous surveys and surveys for honey buzzard.
August	13th/16th/26th/28th/31st	Further surveys to detect honey buzzard.

- 11.3.35. A summary of the weather data during the raptor surveys is as follows: all surveys were carried out in wind speeds judged to be between Beaufort Scale force 1 and 4; the majority of surveys (76.9% of survey hours) were carried in dry conditions, with 7.1% of survey hours carried out in prolonged rain. Most survey effort was completed during the middle part of the day to coincide with peak raptor activity, but over the course of the season surveys were carried out to cover all parts of the day between 07:30 and 21:00.

41 Gilbert, G., Gibbons, D.W. & Evans, J. 1998. *Bird Monitoring Methods A Manual of Techniques for Key UK Species*. RSPB, Sandy.

42 Hardey, J., Crick, H., Wernham, C., Riley, H., Etheridge, B. & Thompson, D. 2013. *Raptors: a field guide to survey and monitoring*. Third edition. The Stationary Office, Edinburgh.

Nightjar Surveys

- 11.3.36. Dedicated nightjar surveys, covering suitable habitat within the site, were undertaken in the 2020 breeding season (Figure 10.2). Methods followed standard guidance as set out in Gilbert *et al.* (1998)⁴³ and were undertaken at dusk on evenings with favourable weather conditions.
- 11.3.37. Survey visits were undertaken in June and July, to determine presence and breeding behaviour. All nightjars seen or heard were recorded and mapped. The breeding nightjar survey effort for 2020 is summarised in Table 11.4.

Table 11.4: Breeding nightjar survey effort 2020

Visit	Dates
1st	2nd/7th/11th June
2nd	19th/23rd/25th/29th July

11.4. Results

Consultation

A summary of the consultation responses is provided in Table 11.5.

Table 11.5: Consultation Responses pre-Scoping

Consultee	Response	How Addressed
NRW (statutory consultee function)	Further information required in order to comment on all surveys, including both survey effort (e.g. dates, times) and findings.	Due to the detail requested, NRW is being asked to comment again on this Scoping section.
Neath Port Talbot CBC	VP viewsheds appropriately cover the turbine locations, provided that these locations do not change.	It is acknowledged that changes in turbine locations may require further survey work if these are placed in locations without current coverage.
	Any gaps in survey effort as a result of COVID-19 should be addressed.	A second year of VP surveys and raptor surveys shall provide coverage of the early spring (March/April) period in 2021.
	Further information required regarding raptor surveys to comment on suitability.	Details provided within this Scoping section.
	BBS and nightjar surveys likely to be adequate if they followed guidance but further information required.	Surveys were carried out by experienced ecologists following the relevant survey guidance. Further details provided within this Scoping section.
Bridgend CBC	Further information to be provided in order to comment on scope.	Bridgend County Borough Council shall be provided with this draft scoping section in order to provide a more informed response.

Gilbert, G., Gibbons, D.W. & Evans, J. 1998. *Bird Monitoring Methods A Manual of Techniques for Key UK Species*. RSPB, Sandy.⁴³

Desk-based Review

- 11.4.1. Table 11.6 lists the protected areas within the vicinity of the proposed site, based upon the search criteria described in Section 11.2.3. The desk study did not identify any SPAs within the search criteria.

Table 11.6: Summary of protected sites designated for their ornithological interest, within 10 km of the proposed site (within 25 km for geese and gulls)

Site name	Designation	Distance and direction from proposed site	Designated feature
Bryn Tip	LNR	<1 km	Restored natural habitat; species include skylark and linnet.
Eglwys Nunydd Reservoir	SSSI	1.7 km to south	Wintering wildfowl and passage migrants, including pochard and tufted duck. Breeding species include; great crested grebe, little grebe, mallard, gadwall and coot.
Melincwrt Waterfalls	Wildlife Trust Reserve	6.9 km to north	Breeding bird assemblage includes redstart, wood warbler and pied flycatcher.

- 11.4.2. RSPB Cymru confirmed that they do not have any data for the search area requested.

- 11.4.3. Table 11.7 lists the target species highlighted in data returned by SEWBRcC, for the period 2010-2020.

Table 11.7: Data search records of ornithological features (Schedule 1, Annex I and red-listed species only) recorded within the vicinity of Y Bryn Wind Farm

Ornithological Feature	Detail of Records
Arctic tern	Two records from Eglwys Nunydd Reservoir.
Barn owl	29 records, including an occupied nest-box sited on forest edge (2013).
Bar-tailed godwit	One record; not recorded on site.
Bittern	Three records; nearest >1 km from site.
Black-necked grebe	Two records from Eglwys Nunydd Reservoir.
Black-throated diver	One record from Eglwys Nunydd Reservoir.
Black redstart	One record, > 1km from site.
Black tern	Two records from Eglwys Nunydd Reservoir.
Brambling	Irregular records; including from site.
Cetti's warbler	Irregular records; but not from site.
Common crossbill	Numerous records; including from site.
Common scoter	One record from Eglwys Nunydd Reservoir.
Common tern	Two records from Eglwys Nunydd Reservoir.
Cuckoo	Numerous records; including from site.
Curlew	Two records from Eglwys Nunydd Reservoir.
Dartford warbler	Three records; including from site.

Ornithological Feature	Detail of Records
Fieldfare	Numerous records; including from site.
Firecrest	Two records; not recorded on site.
Golden plover	Irregular records; including from site.
Goshawk	Numerous records; including from site.
Grasshopper warbler	Numerous records; including from site.
Great northern diver	One record from Eglwys Nunydd Reservoir.
Green sandpiper	One record from Eglwys Nunydd Reservoir.
Hen harrier	Three records; including from site.
Herring gull	Numerous records; including from site.
Hobby	One record, > 1km from site.
Kingfisher	Irregular records; including from site.
Lapwing	Irregular records; including from site.
Lesser spotted woodpecker	One record, > 1km from site.
Little gull	Two records from Eglwys Nunydd Reservoir.
Long-tailed duck	Two records from Eglwys Nunydd Reservoir.
Marsh harrier	One record, > 1km from site.
Marsh tit	Irregular records; including from site.
Mediterranean gull	Two records from Eglwys Nunydd Reservoir.
Merlin	Irregular records; including from site.
Nightjar	Numerous records; including from site.
Osprey	Four records; not recorded on site.
Peregrine	Irregular records; including from site.
Pied flycatcher	Four records; including from site.
Pochard	Two records from Eglwys Nunydd Reservoir.
Quail	Two records; not recorded on site.
Red kite	Numerous records; including from site.
Redwing	Numerous records; including from site.
Ring ouzel	Five records; not recorded on site.
Scaup	Two records from Eglwys Nunydd Reservoir.
Short-eared owl	Three records; including from site.
Skylark	Numerous records; including from site.
Slavonian grebe	Two records from Eglwys Nunydd Reservoir.
Snow bunting	One record, > 1km from site.

Ornithological Feature	Detail of Records
Whimbrel	Two records; not recorded on site.
Whinchat	Irregular records; including from site.
Whooper swan	One record from Eglwys Nunydd Reservoir.
Willow tit	One record only; recorded on site.
Woodlark	One record only; recorded on site.
Wood warbler	Numerous records; including from site.
Yellow wagtail	Occasional records; including from site.

Source: SEWBRcC

VP surveys

Target Species: breeding season 2020

- 11.4.4. The breeding season surveys during April to August 2020 recorded flight lines from a total of seven target species, these being either raptors or large gull species. Table 11.8 summarises levels of flight activity for each species and the level of flight activity which was at PCH. This shows that large gull species, particularly herring gull, were the most frequently recorded species. The associated flight lines are shown in Figures 11.3a (gulls) and 11.3b (raptors). In bold are species for which flight activity meets the required criteria for conducting CRM.

Table 11.8: Results of the breeding season vantage point surveys in 2020

Species	No. of flights (individuals) - 2020	No. of flights (individuals) at PCH - 2020
Great black-backed gull	7 (8)	3 (4)
Herring gull	183 (313)	87 (170)
Lesser black-backed gull	58 (87)	17 (31)
Large gull species*	20 (215)	10 (178)
Goshawk	13 (13)	6 (6)
Red kite	18 (19)	5 (5)
Merlin	1 (1)	1 (1)
Peregrine	1 (1)	-

*denotes either great black-backed gull, herring gull or lesser black-backed gull

- 11.4.5. Where an assessment into the impacts on large gulls is undertaken, the individuals recorded as 'large gull species' shall be apportioned, based on the proportion of gulls positively identified to each of the three species. On this basis, the 215 'large gulls' recorded during the 2020 breeding season would result in a further 166 herring gulls (479 individuals in total), 45 more lesser black-backed gulls (132 individuals in total) and a further four great black-backed gulls (12 individuals in total).

Target Species: non-breeding season 2019/2020

- 11.4.6. A total of six target species were recorded during non-breeding season VP surveys between October 2019 and February 2020 (inclusive). Five of those species were also recorded during the breeding season, the only target species not recorded during the breeding season being woodcock. Table 11.9 summarises

levels of flight activity for each species and the level of flight activity which was at PCH. In terms of number of records, herring gull was the most frequently recorded species. The flight lines for the non-breeding season target species are shown in Figure 11.4. No species met the required criteria for conducting CRM, following one year of non-breeding season surveys.

Table 11.9: Results of the non-breeding season vantage point surveys in 2019/20

Species	No. of flights (individuals) - 2019/20	No. of flights (individuals) at PCH – 2019/20
Woodcock	2 (2)	-
Herring gull	16 (86)	1 (2)
Lesser black-backed gull	1 (1)	-
Goshawk	4 (4)	1 (1)
Red kite	4 (4)	2 (2)
Peregrine	2 (2)	-

Incidental Records

- 11.4.7. A number of incidental records of target species were made during VP surveys (breeding and non-breeding season). Records in this category may include any of the following: birds not in flight; birds heard only; birds seen simultaneously where only one could be tracked; birds recorded before/after formal survey effort; and, most commonly, birds beyond the viewshed. These records are summarised in Table 11.10 for completeness.

Table 11.10: Incidental records of target species recorded during VP surveys

Species	Number of records/flights	Number of individuals
Golden plover	1	28
Great black-backed gull	1	1
Herring gull	6	7
Lesser black-backed gull	1	1
Goshawk	3	3
Red kite	2	2
Merlin	1	1

Secondary Records

- 11.4.8. Table 11.11 summarises the secondary species recorded during the VP surveys (breeding and non-breeding season combined). Both buzzard and raven showed evidence of breeding within the survey area.

Table 11.11: Summary of secondary species recorded during VP surveys

Species	Number of flights recorded (Individuals)
Canada goose	2 (4)
Mallard	2 (2)
Grey heron	7 (7)
Cormorant	1 (1)

Species	Number of flights recorded (Individuals)
Sparrowhawk	23 (23)
Buzzard	489 (576)
Kestrel	25 (27)
Raven	436 (639)

- 11.4.9. A second year of non-breeding and breeding season VP surveys shall be undertaken from September 2020 to August 2021.

Breeding Bird Surveys

- 11.4.10. The results of the breeding bird survey and breeding status are presented in Table 11.12. A total of 42 species were recorded across the breeding bird survey area, of which the large majority were passerines or near-passerines. Many of the species listed in Table 11.12 are arboreal species and were recorded in the woodland edge rather than in the open ground habitat that is the focus of this survey method, but are included to provide evidence of the baseline bird community within forested parts of the survey area.
- 11.4.11. No species of wader were recorded on any of the four survey visits. Raptor species are included in Table 11.12, as they were recorded on the BBS, but these species are self-evidently the focus of the dedicated raptor surveys. With all other records being of passerines and near-passerines, no territory mapping was undertaken.
- 11.4.12. Table 11.12 shows all species recorded within the survey area during breeding bird surveys. The table also shows which of these species showed evidence of breeding; as oppose to just being recorded as being present on site.

Table 11.12: Status of all species recorded during the breeding bird survey 2020

Species	Present survey (site/buffer)	within area	Evidence of breeding within site	Evidence of breeding within buffer
Cuckoo	X		X	X
Woodpigeon	X		X	
Sparrowhawk	X		X	
Goshawk	X		X	
Red kite	X			
Buzzard	X			
Great spotted woodpecker	X		X	
Green woodpecker	X		X	
Kestrel	X			
Jay	X		X	
Carrion crow	X		X	X
Raven	X			
Coal tit	X		X	

Species	Present survey (site/buffer)	within area	Evidence of breeding within site	Evidence of breeding within buffer
Marsh tit	X		X	
Blue tit	X		X	X
Great tit	X		X	
Skylark	X		X	X
Swallow	X			
Long-tailed tit	X		X	
Wood warbler	X			
Willow warbler	X		X	
Chiffchaff	X		X	X
Blackcap	X		X	
Whitethroat	X		X	
Goldcrest	X		X	
Wren	X		X	
Nuthatch	X		X	
Treecreeper	X		X	
Blackbird	X		X	X
Song thrush	X		X	X
Mistle thrush	X		X	
Robin	X		X	X
Redstart	X		X	
Stonechat	X		X	X
Dunnock	X		X	X
Grey wagtail	X			X
Pied wagtail	X			X
Meadow pipit	X		X	X
Tree pipit	X		X	
Chaffinch	X		X	X
Greenfinch	X		X	
Lesser redpoll	X		X	
Goldfinch	X		X	
Siskin	X		X	

- 11.4.13. The surveys recorded a typical community of mostly passerine species. Target species such as waders were not recorded and the BBS did not detect breeding target species that would not otherwise have been recorded by the other surveys.
- 11.4.14. The BBS undertaken in 2020 is considered sufficient to be able to assess the impacts of Y Bryn Wind Farm on the breeding bird assemblage and on this basis, the breeding bird survey shall not be repeated in 2021.

Breeding Raptor Survey

- 11.4.15. The results of the dedicated raptor surveys are shown on Figure 11.5 in the Confidential Annex. Two target raptor species were recorded during these surveys: goshawk and red kite. A pair of goshawk was recorded as breeding within the survey area. This nest lies approximately 600 m from the nearest proposed turbine. During the May survey an adult female was present at the nest and was thought to be incubating. Continued monitoring suggested that the nesting attempt failed at the chick-rearing stage.
- 11.4.16. Red kite was infrequently recorded during most months of the breeding season but there was no evidence of this species breeding within the survey area.
- 11.4.17. Despite the significant survey effort, particularly in July and August when detection rates are considered to be highest (Rare Breeding Birds Panel, 2020)⁴⁴, no honey-buzzards were recorded during the dedicated raptor surveys.
- 11.4.18. The secondary raptor species recorded were sparrowhawk, kestrel and buzzard. Data recorded during the raptors surveys suggests that both buzzard and sparrowhawk bred within the survey area.
- 11.4.19. Of the other raptor species recorded during the VP surveys, both merlin and peregrine were recorded once during the breeding season (each on one date in April 2020), and there is no suggestion that these birds bred in the vicinity of the site and they were not recorded during the dedicated raptor surveys.
- 11.4.20. Raptor surveys shall be repeated in 2021 and shall be undertaken between February and August.

Nightjar Survey

- 11.4.21. The dedicated surveys recorded a total of 16 males 'churring' during June and 12 males in July. All data compiled during territory analysis estimated that 15-20 pairs were present within Y Bryn Wind Farm and buffer. These territories were recorded throughout the northern and southern halves of the site. During the July surveys three nests were located with young present. The results of the dedicated nightjar surveys are shown in Figure 11.6 in the Confidential Annex.
- 11.4.22. These surveys shall be repeated in 2021.

11.5. Scoping

- 11.5.1. In order to produce an EIA that focusses on significant effects, rather than including all ecological effects, this section states those ornithological features that shall be carried forward for inclusion within the EIA and those that it is considered can be 'scoped out' based upon the baseline survey undertaken in Year 1.

Statutory Sites

- 11.5.2. The Habitats Directive is largely transposed into law in Wales by the Conservation of Habitats and Species Regulations 2017 which consolidated and repealed the 2010 Habitats Regulations. Under the regulations any development that may have a LSE on an SPA or SAC, either alone or in combination with other

⁴⁴ <http://www.rbbp.org.uk/rbbp-surveys-HZ.htm>

projects, requires an AA to be carried out by PINS, to determine whether or not the development would have an adverse effect on the integrity of the SPA or SAC.

- 11.5.3. Before an AA is initiated, a screening process is undertaken to determine whether any of the predicted impacts of the development will result in a LSE. This screening assessment provides information to PINS to allow them to reach a decision on whether or not the development will have a LSE on any SPA or SAC and therefore whether an AA is required.
- 11.5.4. Within 25 km of Y Bryn Wind Farm there is one site of international ornithological importance designated for wintering wildfowl and waders:
- Burry Inlet SPA/RAMSAR (c. 22.5 km) to the west of the site.
- 11.5.5. Given that none of the listed features of the SPA were recorded during the breeding and non-breeding season surveys, it is unlikely that there is connectivity between Y Bryn Wind Farm and the Burry Inlet SPA/Ramsar. However, full consideration will be given towards likely Habitat Regulations Assessment (HRA) requirements in the EIA.
- 11.5.6. No other SPAs are considered to lie close enough to Y Bryn Wind Farm for there to be connectivity between the listed ornithological features and the Development.

Target Species

Nightjar

- 11.5.7. Nightjar is a migrant breeder and passage migrant and is BoCC amber listed due to its localised breeding range in the UK. Nightjar also appears on the Welsh Government list of species of principal importance in Wales (the *Section 7* list)⁴⁵.
- 11.5.8. From the data gathered during the dedicated nightjar surveys it is estimated that 15-20 breeding pairs were present within Y Bryn Wind Farm and buffer during 2020, with territories recorded throughout the site. Nightjar surveys shall be undertaken again in 2021 to determine baseline conditions in a second breeding season.
- 11.5.9. Due to the number of breeding pairs and the potential for disturbance/displacement effects during construction and operation, **we would scope in nightjar to the EIA.**

Golden Plover

- 11.5.10. Golden plover is a resident breeder and wintering migrant in the UK. Golden plover is an Annex 1 species and appears on the Welsh Section 7 species list.
- 11.5.11. This species was only recorded incidentally during the VP surveys (one record of 28 individuals).
- 11.5.12. Unless the level of recorded flight activity increases substantially in the second year of VP surveys, to the level required to meet CRM, we would seek to **scope out golden plover from the EIA.**

Woodcock

- 11.5.13. Woodcock is a resident breeder and winter migrant in the UK and is BoCC red-listed due to breeding range declines.
- 11.5.14. Two flights (each of individual birds) were recorded during the first year of VP surveys, both during the non-breeding season and both were in height band 1 (below PCH).

⁴⁵ Available online from: <https://www.biodiversitywales.org.uk/Environment-Wales-Bill> (last accessed 11.12.20)

- 11.5.15. Unless the level of recorded flight activity increases substantially in the second year of VP surveys, to the level required to meet CRM, we would seek to **scope out woodcock from the EIA.**

Great black-backed gull

- 11.5.16. Great black-backed gull is a resident breeder and winter migrant. It is a BoCC amber-listed species due to breeding and non-breeding population declines.
- 11.5.17. A total of seven flights involving eight individuals were recorded during the breeding season VP surveys; however, following apportioning of the 'large gull' category an estimated 12 individuals were recorded during the breeding season. Three flights (four individuals) were at PCH.
- 11.5.18. Based upon scoping in species that qualify for CRM, we would **scope in great black-backed gull to the EIA.**

Herring gull

- 11.5.19. Herring gull is a resident breeder and winter migrant. and is BoCC red listed due to breeding and non-breeding population decline. Herring gull also appears on the Welsh Section 7 species list.
- 11.5.20. A total of 183 flights were recorded during the breeding VP surveys and a further 16 flights during the non-breeding VP season. There were 313 individuals recorded during the breeding season (479 individuals when incorporating those recorded as 'large gulls'). There were 87 flights (numbering 170 individuals) recorded at PCH in the breeding season, though this species did not qualify for CRM in the non-breeding season.
- 11.5.21. The level of recorded flight activity for this species during the breeding season allows for conducting CRM. On this basis, we would **scope in herring gull to the EIA.**

Lesser black-backed gull

- 11.5.22. Lesser black-backed gull is a resident and migrant breeder in the UK and is BoCC amber-listed.
- 11.5.23. In total 58 flights were recorded during the breeding season VP surveys, numbering 87 individuals (132 individuals following apportioning of 'large gulls'). There were 17 lesser black-backed gull records (31 individuals) at PCH. A single flight was recorded during the non-breeding season, not within PCH.
- 11.5.24. The level of recorded flight activity for this species allows for conducting CRM during the breeding season. On this basis, we would **scope in lesser black-backed gull to the EIA.**

Goshawk

- 11.5.25. Goshawk is a former and naturalised breeder in the UK and is a Schedule 1 species.
- 11.5.26. During the non-breeding and breeding season VPs a total of 17 flights (all single birds) were recorded, of which six were recorded at PCH in the breeding season and one at PCH in the non-breeding season. In 2020 an active goshawk nest was located during the raptor surveys within the site, approximately 600 m from the nearest turbine. There were a further two incidental records made in February and May 2020.
- 11.5.27. The level of flight activity recorded for this species suggests some collision risk, at least in the breeding season. Also, given the breeding attempt within the site, potential disturbance/displacement effects for this species during construction and operation are also possible. For these reasons, we would **scope in goshawk to the EIA.**

Red kite

- 11.5.28. Red kite is a resident breeding bird in the UK and is a Schedule 1 and an Annex 1 species.

11.5.29. Collectively 22 flights were recorded during VPs of which five flights (all individuals) were within PCH during the breeding season and two flights (both individuals) were recorded in the non-breeding season. An incidental flight within PCH was also recorded in June 2020.

11.5.30. The level of recorded flight activity in the breeding season qualifies this species for CRM. On this basis, we would **scope in red kite to the EIA**.

Merlin

11.5.31. Merlin is a resident and migrant breeder, passage and winter migrant. Merlin is BoCC red-listed due to its historical decline in population and is a Schedule 1 species.

11.5.32. A single flight was recorded during the breeding season VPs and an incidental flight was also observed in January 2020.

11.5.33. The level of flight activity recorded suggests negligible collision risk for this species and no route to impact as a result of disturbance/displacement. Unless the level of recorded flight activity increases substantially in the second year of VP surveys, to the level required to meet CRM, we would seek to **scope out merlin from the EIA**.

Peregrine

11.5.34. Peregrine is a resident breeder, passage and winter migrant. It is a Schedule 1 species.

11.5.35. A total of three flights were recorded; one during the breeding season and two during the non-breeding season. Only the breeding season flight (one individual) was at PCH.

11.5.36. The level of flight activity recorded suggests negligible collision risk for this species and no route to impact as a result of disturbance/displacement. Unless the level of recorded flight activity increases substantially in the second year of VP surveys, to the level required to meet CRM, we would seek to **scope out peregrine from the EIA**.

Secondary Raptor Species

11.5.37. Buzzard (no species-specific conservation designations) was regularly recorded during the VP surveys with 489 flights. Buzzard is believed to have bred within the survey area. Sparrowhawk (no species-specific conservation designations) is also believed to have bred within the survey area but was much less frequently recorded during VP surveys (total of 23 flights). Kestrel (BoCC Amber-listed and on the Section 7 list) was also infrequently recorded the VP surveys and showed no evidence of breeding within the survey area.

11.5.38. Turbine collision is a potential risk for these species, however, any such effects are considered unlikely to have any more than a local impact on these populations.

11.5.39. Given the relatively low predicted potential impact of collision effects, and very localised disturbance/displacement effects, we would **scope out buzzard, kestrel and sparrowhawk from the EIA**.

Other Secondary Species

11.5.40. Raven (no conservation designations) was regularly recorded during baseline VP surveys, with 436 flights recorded. Canada goose, mallard and grey heron were only recorded sporadically, with all species recorded less than 10 times in the year of VP surveys.

11.5.41. Turbine collision is a potential risk for species such as raven, however, any such effects are considered unlikely to have any more than a local impact on these populations.

11.5.42. Given the relatively low predicted potential impact of collision effects (or of disturbance/displacement effects) we would **scope out other secondary species from the EIA**.

Passerine Species

11.5.43. Of the passerine species recorded as breeding on site during the BBS, those that appear on the Welsh Section 7 species list are: cuckoo, lesser redpoll, marsh tit, skylark, song thrush and tree pipit. In addition, common crossbill (a Schedule 1 species) was noted during VP surveys (less than five flights) and may breed within the plantation forestry.

11.5.44. Passerines are not considered to be significantly affected by collision with turbines. As such, it is expected that there will be no significant population level impact of collisions on these species as a result of construction and operation of the proposed Development. The effect of disturbance/displacement on passerine species is also considered to be minimal at a population level and we would seek to **scope out all passerines and near-passerines (except nightjar) from the EIA**.

11.6. Proposed Mitigation and Enhancement

11.6.1. To minimise impacts and comply with legislation, appropriate mitigation measures will be adopted to minimise potential effects on ornithological features, specifically breeding birds, during the construction phase. This will include pre-construction surveys to be conducted to identify locations of breeding birds and will be repeated throughout construction as necessary.

11.6.2. Baseline surveys will be used to inform additional suitable mitigation, for example specific measures to protect nightjar.

11.6.3. The following general mitigation measures will be required for birds:

- Pre-felling and pre-construction surveys will be required to identify any Schedule 1 bird species nest sites (e.g. goshawk) in the breeding season before felling/construction works commence;
- Where possible all tree felling will be undertaken outside of the main breeding bird season (i.e. February to July inclusive). Where this is not possible, trees would only be felled during this period following an assessment by an ornithologist as to the likelihood that birds are nesting within the felling area. In practice, with densely planted Sitka spruce it can be very difficult, if not impossible, to determine categorically and therefore shall be judged on a precautionary basis.
- In addition to the Schedule 1 bird species pre-construction surveys, in advance of works commencing during the main bird breeding season all works areas will be checked by the site ecologist/ornithologist for the presence of any nesting birds.

11.6.4. The above measures shall be applied to new infrastructure in Y Bryn Wind Farm as well as improvement works to existing infrastructure (e.g. upgrading of roads and tracks) and for new or upgraded grid connection routes.

11.6.5. In addition, opportunities for providing biodiversity net gain through enhancement measures above and beyond base offsetting mitigation will be sought, both within and off-site.

11.7. Summary

Ornithological Features Proposed for Assessment within the EclA

11.7.1. In order to ensure compliance with the EIA Directive, and to ensure that the EclA is focussed on potentially significant effects only, we propose that only those important ornithological features and impacts identified in Table 11.13 be assessed within the relevant EIA.

Table 11.13: Features and impacts to be assessed within the EIA

Ornithological Feature	Impact	Assessment
Nightjar	Disturbance/displacement	EclA
Great black-backed gull	Collision	EclA, including CRM
Herring gull	Collision	EclA, including CRM
Lesser black-backed gull	Collision	EclA, including CRM
Goshawk	Collision & Disturbance/displacement	EclA, including CRM
Red kite	Collision & Disturbance/displacement	EclA, including CRM

11.7.2. It is acknowledged that the second year of baseline surveys may identify additional ornithological features not listed in Table 11.13 that should be considered for assessment (for example if VP surveys record flights/individuals that reach the threshold for undertaking CRM or if a target raptor species breeds on site). Similarly, ornithological features may be brought to light in a data search, that have not previously been highlighted. Thus Table 11.13 is based upon the data available after one year of baseline surveys but should be considered indicative of the approach that shall be taken to EclA.

List of Questions for Consultees

Question 8: Are consultees satisfied with the coverage provided by the vantage point locations?

Question 9: Are consultees satisfied with the ornithology surveys proposed for a second year of baseline recording (i.e. a full year of VP surveys at standard effort (36hrs per season: September to February and March to August), raptor surveys (February to August) nightjar surveys (June and July) and with no repeat of the breeding bird survey)?

Question 10 Do consultees agree with those ornithological features that have been highlighted for assessment within EIA and those that have been 'scoped out'?

Question 11: Are there any other key ornithological features that consultees believe should be considered that have not been discussed above?

Question 12: Do consultees consider any Natura 2000 not discussed above as requiring consideration as part of screening for AA?

Question 13: Do consultees see value to any particular mitigation and/or enhancement measures for any local or regional species, whether referred to above or otherwise?

12. Landscape and Visual Impact Assessment (LVIA)

12.1. Introduction

- 12.1.1. The intention of this section of the scoping report is to provide PINS and its consultees with sufficient information (where it currently exists) on the likely impacts of the proposed Y Bryn Wind Farm on the physical landscape within the site boundary, as well as the wider effects on landscape character and visual amenity within the study area.
- 12.1.2. Baseline survey work to inform EIA, commenced in September 2020. Specialist landscape consultant, Soltys Brewster Consulting Limited carried out a desk-based review of landscape related designations, policy and LANDMAP to identify areas of potential sensitivity to change as a result of the development of the proposed Y Bryn Wind Farm. Viewpoints are proposed throughout the study area to demonstrate

potential visual effects. Preliminary site visits were undertaken in October 2020 to ensure suitability of the locations selected. As a result of the desk-based review and site visit representative landscape and visual receptors that could sustain positive or negative impacts as a result of the proposed Y Bryn Wind Farm have been identified.

- 12.1.3. As noted in paragraph 3.1.2, the proposed wind farm currently comprises a total of 26no.turbines to a maximum tip height of 250 m. In order to assess the worst-case scenario in terms of effects on landscape character and visual amenity, the turbine model used in the assessment will be based on the maximum hub height currently available for the tip height proposed for the application.

Question 14: Do consultees agree that assessing the maximum hub height available for the tip height in question is appropriate?

12.2. Guidance

- 12.2.1. The assessment will adopt a methodology developed in accordance with the following current guidance:
- Guidelines for Landscape and Visual Impact Assessment, Third Edition. Landscape Institute with the Institute of Environmental Management and Assessment (2013);
 - Assessing the Cumulative Impact of Onshore Wind Energy Developments, SNH, (March 2012);
 - A Guide to the Assessment of Cumulative Effects of Wind Farm Developments, ETSU/DTI (2000);
 - Siting and Designing Wind Farms in the Landscape, Version 3, SNH (2017);
 - LANDMAP Information Guidance Note 3: LANDMAP, Using LANDMAP for Landscape and Visual Impact Assessment of Onshore Wind Turbines: Natural Resources Wales (2013);
 - Visual Representation of Wind Farms, Version 2.2, SNH (February 2017);
 - Visual Representation of Development Proposals – Technical Advice Note 06/19, Landscape Institute (November 2011), including supporting Technical Information Notes 07/19, 08/19 and 09/19.
 - TGN2/19 Residential Visual Amenity Assessment (RVAA), Landscape Institute, March 2019.

12.3. Scope

- 12.3.1. The Landscape and Visual section of the EIA will assess effects on the physical landscape within the site boundary, together with the wider landscape character and visual amenity within the study area. A study area of 45 km from the outermost proposed wind turbine will be adopted. The LVIA will assess the construction phase of the wind farm, the operational phase which would last up to 50 years.

Question 15: Do you agree with the proposed size of the study area?

- 12.3.2. Landscape and visual assessments are separate, although linked, procedures. Landscape effects derive from changes in the physical baseline landscape, which may give rise to changes in its character and how this is experienced. Visual effects relate to changes that arise in the composition of available views as a result of changes to the landscape, to people's responses to the changes, and to the overall effects with respect to visual amenity.

Landscape Effects

- 12.3.3. Direct landscape impacts comprise changes to the physical baseline landscape resulting directly from the development itself. These will likely arise as a consequence of changes to the existing pattern of landform, vegetation, habitats and other features through the imposition of turbines, access tracks and other associated infrastructure. Effects will be assessed using a combination of relevant site-based investigations and surveys to inform the baseline study and field work.

- 12.3.4. Indirect landscape impacts result from consequential change resulting from the development and are often produced away from the site of the proposed development or as a result of a complex pathway or secondary association and will include changes to the landscape character within the study area. Landscape character will be assessed using LANDMAP and site assessment field work, supplemented by Landscape Character Assessments where these are available.
- 12.3.5. The LVIA will include a review of available LANDMAP data. Aspect layers for Geological Landscapes and Landscape Habitats will be considered within a study area of between 2.5 km and 5 km, Historic and Cultural aspect layers will be considered within a study area of between 5 km and 15 km. Landscape and Visual Aspect Layers will be considered within the 45 km study area. Aspect areas evaluated as outstanding or high overall will be described and considered in more detail to enable the LVIA to focus on pertinent matters. An appendix will also be provided of all aspect areas within the study areas to supplementary information to the focus of the assessment. Landscape Character Areas (LCAs) will then be identified to form a baseline against which to assess effects as a result of the development of the proposed Y Bryn Wind Farm.
- 12.3.6. Landscape-related designations and policy reflect the different levels of importance attached to landscapes within the study area. The Landscape and Visual section will consider effects upon Statutory and Non-Statutory policy, and designated landscapes at National and Local levels within the study area, including the following:
- National.
- Brecon Beacons National Park (BBNP).
 - Gower Area of Outstanding Natural Beauty (AONB).
 - Margam Park – Grade 1 status Registered Parks and Gardens of Special Historic Interest in Wales (RPG).
- Local Policy: Neath Port Talbot County Borough Council (CBC) Local Development Plan (LDP) (Adopted January 2016)
- Special Landscape Area (Policy EN2).
 - Landscape of Historic Interest (Policy SP21/4a).
 - Bridgend CBC LDP (Adopted September 2013).
 - Special Landscape Area (Policy ENV3).
 - Historic Landscapes (SP5).
 - Historic Parks/Gardens (SP5).
 - Historic Parks/Gardens Essential Settings (SP5).
- Other/Non-Statutory
- Margam Mountain Registered Landscape of Special Historic Interest (HLW).
 - Glamorgan Heritage Coast.
- 12.3.7. The LVIA will consider visual effects from designated footpaths, bridleways and open access land. This will include the following long-distance routes within the 45 km study area, subject to analysis of the ZTV to identify sections likely to experience significant visibility, as well as distance from the proposed Y Bryn Wind Farm:
- Wales Coast Path.
 - Ogwr Ridgeway Walk.
 - St Illtyd's Walk.
 - Coed Morgannwg Way.

- Beacons Way.
- Gower Way

- 12.3.8. The LVIA will also consider effects on transport corridors, including scenic driving routes, tourist attractions, heritage areas and cycle routes. Relevant transport corridors and attractions within the study area that will be assessed will include:
- The M4 Motorway.
 - 'A' roads including the A4107 and A1063.
 - National Cycle Network (NCN) cycle routes.
 - Afan Forest Park, including the Glynccorwg Mountain Bike Centre and Visitor Centre.
 - Seafront locations along the South Wales Coast, including The Mumbles, Black Pill, Aberavon, Porthcawl and Ogmore-by-Sea.

Visual Effects

- 12.3.9. Visual impacts relate to the changes that arise in the composition of available views as a result of changes to the landscape resulting from the proposed Y Bryn Wind Farm. The LVIA will consider people's responses to the changes, and to the overall effects with respect to visual amenity. Twenty-two viewpoints will be assessed within the LVIA to enable an evaluation to be made regarding visual impacts and effects. These are listed in Table 12.1, together with a brief reason for their inclusion.

Table 12.1: Viewpoint Locations

VP No.	Location	Distance to nearest proposed turbine (km)	Easting	Northing	Reason for Inclusion of Viewpoint
1	Evans Terrace, Caerau.	2.04	285605	193878	NCN Route 885. Residents of Caerau. Users of Public Open Space (P.O.S).
2	Maesteg Golf Course.	0.95	283621	191607	Public Footpath. Recreational users (Golf).
3	Bryn, (Play area, off Neath Road).	1.49	281347	192438	Users of P.O.S. Residents of Bryn.
4	Brynna Road, Cwmafan.	4.28	277535	192500	Residents of Cwmafan. Users of P.O.S.
5	Rhiwlas, Neath	9.41	274240	198775	Residents of Rhiwlas. Users of P.O.S. Road users.
6	Mumbles Hill, Swansea.	17.96	262781	187443	Users of Public Footpath/Open Access Land. AONB.
7	Gower Way National Trail, Cefn Bryn	31.24	249418	189883	Users of Public Footpath, (Gower Way National Trail). AONB.

VP No.	Location	Distance to nearest proposed turbine (km)	Easting	Northing	Reason for Inclusion of Viewpoint
8	Margam Park, (Deer Park).	2.25	281391	186391	Users of Public Footpath (St.Illtyd's Walk/Ogwr Ridgeway Walk. RPG HLW.
9	Ogof-Ffynnon-Ddu, (BBNP).	22.33	287452	216032	Users of Public Footpath (Beacons Way). Open Access Land. BBNP.
10	St Illtyd's Way National Trail, near Cynonville.	1.60	281835	195244	Users of Public Footpath (St Illtyd's Way).
11	Wales Coast Path, Ogmore-by-Sea	13.77	286147	175099	Users of Public Footpath (Wales Coast Path). Residents of Ogmore-by-Sea.
12	Twmbarlwm.	40.56	324198	192624	Open Access Land.
13	Junction of Heol Gelli Lenor and Brynllwarch, Maesteg	2.17	284793	190339	Residents of Maesteg. Road users
14	Swansea Promenade, Black Pill.	18.70	261996	190610	Public Open Space. Wales Coast Path.
15	Clwyd Road, Pen-Lan, Swansea.	17.24	264710	195785	Public Open Space. Residents of Pen-Lan. Road users.
16	The Princess Margaret Way, Aberavon	6.90	273832	190276	Public Open Space. Wales Coast Path. Residents of Aberavon. Road users.
17	Margam Park.	2.86	280636	186001	Visitors to Country Park. RPG. HLW.
18	Pen-y-Fan, BBNP.	32.72	301202	221547	Public Footpath, (Beacons Way). Open Access Land. BBNP.
19	Wales Coast Path, Rest Bay/Royal Porthcawl Golf Club, Porthcawl.	10.06	279987	178709	Public Footpath (Wales Coast Path). Open Access Land. Recreational users, (Golf Club).
20	Bridgend Circular Walk, Bryncoch.	9.51	290961	183470	Public Footpath (Bridgend Circular Walk).

VP No.	Location	Distance to nearest proposed turbine (km)	Easting	Northing	Reason for Inclusion of Viewpoint
21	Sarn Helen, Aberdulais.	8.74	279397	201980	Public Footpath/Byway. Open Access Land.
22	Baxter Terrace, Glynccorrwg	6.74	287625	199343	Residents of Glynccorrwg. Road users.

Source: Soltys Brewster

12.3.10. Viewpoints 1 to 22, listed above in Table 12.1, were selected following a desk-based study, which included the production of zones of theoretical visibility (ZTV) mapping to indicate areas of theoretical visibility (on a 'bare earth' model) for Y Bryn Wind Farm. Each viewpoint was then visited, and the position refined to ensure adequate visibility and to take account of local conditions, including intervening vegetation, buildings and other structures. The viewpoints are intended to be broadly representative of the landscape character and visual sensitivities of the study area. They are not intended to cover all areas and receptors from where views may be possible, but are a sample designed to represent a 'balanced' range of receptors, (including footpath users, road users and residents of settlements), distances, elevations and directions within the study area.

12.3.11. The viewpoints will illustrate:

- areas of notable visibility, as identified on the preliminary ZTV (Figure 12.1). Wherever possible, viewpoints have been selected and micro-sited to display the worst-case scenario, (i.e. within the range of 24-26 number of turbines likely to be visible on the ZTV).
- Typical views from valued, designated landscapes, including the Brecon Beacons National Park to the north, the Gower AONB to the east and Margam Park RPG, to the south.
- Key recreational routes and public footpaths across the study area, including the Wales Coast Path, St Illtyd's Way and the Ogwr Ridgeway Walk.
- Residential areas including the major settlements of Swansea, Bridgend, Neath and Port Talbot, as well as smaller settlements nearer the proposed Y Bryn Wind Farm, including Bryn, Maesteg and Cwmafan. Relevant viewpoints and supporting text included with the LVIA will focus on public views and public visual amenity within residential settlements.

12.3.12. A separate Residential Visual Amenity Assessment (RVAA) for properties up to 1.5 km from the outermost turbines of the proposed Y Bryn Wind Farm will be produced and provided as a separate appendix to the LVIA. This will focus on private views and private visual amenity from residential properties and will comply with LI Technical Guidance Note 2/19.

12.3.13. A fully navigable 3D model, incorporating terrain data; aerial and OS imagery; tree location and height data; building location, shape and height data; and wind turbine (including cumulative) location and dimension information has been procured by the applicant and will be utilised to assist in the design and assessment of the proposed wind farm development.

Question 16: Do consultees agree with the number, location and receptor types that have been selected as the representative viewpoints in order to assess the effects on visual amenity within the study area?

Design

- 12.3.14. The design of the proposed wind farm development will aim to achieve a coherent and structured form, in line with guidance provided by the Welsh Government and NatureScot. The ES will present the rationale behind the final design strategy. The objective in designing the wind farm will be to develop a layout that accords with its setting in terms of landform and pattern, and which presents a simple visual image, avoiding where possible the clustering of turbines and the isolation of outlying turbines in views from key locations, whilst recognising that the final layout will need to balance a wide range of technical, environmental and economic considerations.
- 12.3.15. All elements of the proposed wind farm infrastructure will be considered in terms of locational and design choice, and the LVIA will set out how the design of ancillary elements has evolved to minimise visual impact, especially from nearby and sensitive visual receptors.
- 12.3.16. A brief high-level appraisal/summary description of the potential landscape and visual effects associated with the grid connection will be provided within the LVIA. The level of detail provided will depend upon the nature of the grid connection (i.e. underground cable or overhead line). It is likely that export infrastructure associated with the grid connection within the proposed site will be located underground and, therefore, photomontages and wireframe supporting illustrations will include turbines only.
- 12.3.17. Aviation lighting will be considered within the LVIA. This is subject to further consideration to understand likely requirements, including responses from aviation consultees. It is likely that a ZTV for lighting will be produced in the first instance and a methodology developed to assess effects following this. A number of methods to mitigate the effects of lighting are available. These will be explored post scoping.
- 12.3.18. At the end of the operational phase, the wind farm will be decommissioned in line with the agreed decommissioning method statement via planning condition. Decommissioning will involve the removal of all above ground infrastructure, including the turbines. Access tracks will likely be left in-situ subject to agreement via planning condition. The changes to the landscape arising during the decommissioning of the wind farm will be very similar to those arising during construction, following which the site will return to approximately its pre-construction condition, (subject to decommissioning method statement).

12.4. Methodology

- 12.4.1. In accordance with best practice guidance and in order to provide a less prescriptive approach through an emphasis on creating a narrative approach to describing the landscape and visual effects and judgements made on their significance, the assessment will follow the methodology set out below. This is based on criteria for determining effects on landscape character and visual amenity, as outlined in the tables that follow.

Landscape Character Significance

- 12.4.2. The significance of effects on landscape character will be determined in part by combining the sensitivity of the Landscape Character Area with the magnitude of change that would occur. The criteria for informing the sensitivity, magnitude and the significance of effects on landscape character are demonstrated in the following tables:

Table 12.2: Landscape Sensitivity

Sensitivity	Description
High	A landscape highly sensitive to wind farm development of the size proposed, by virtue of the inherent physical form and elements, aesthetic and perceptual qualities that form its character. The landscape will be unique, rare, contain valued features and will be designated at a national or local level. The landscape may be highly susceptible to change and considered to be of high value.
Medium	A landscape where a wind farm development of the size proposed may be accommodated to some degree without affecting overall character, by virtue of its inherent physical form and elements, aesthetic and perceptual qualities. The landscape may display some characteristics and features that are considered to be of high susceptibility and/or value and may be designated at a local level, although not exclusively so.
Low	A landscape where a wind farm development of the size proposed may be more readily accommodated , by virtue of its inherent physical form and elements, aesthetic and perceptual qualities that form its character. The landscape may be of generally low susceptibility to change and of low value.

Source: Soltys Brewster

Table 12.3: Magnitude of Landscape Effects

Magnitude	Description
High	The proposed development would result in substantial loss or major alteration to key elements of landscape character to the extent that there is a fundamental and permanent change to landscape character. The change may occur over an extensive area.
High - medium	The proposed development would result in major loss or alteration to key elements of landscape character to the extent that there is a considerable change. The change may occur over a wide area and for a duration extending into the foreseeable future.
Medium	The proposed development would result in the loss or alteration to key elements of landscape character to the extent that there is a partial change to landscape character that may have a duration extending into the long term. The change may occur over a notable area.
Medium - Low	The proposed development would result in minor loss or alteration to key elements of landscape character to the extent that there is a slight change to landscape character. The change may be temporary or occur over a limited area.
Low	The proposed development would result in such a minor loss or alteration to key elements of landscape character that there would be no fundamental change .

Source: Soltys Brewster

Table 12.4: Significance of Landscape Effects

Significance	Description
Major	The development would have direct effects upon characteristic landscape features, altering elements of the landscape that contribute toward distinct character. The proposed development is likely to become a defining landscape element across a significant proportion of the LCA. Characteristic features affected or substantially influenced may include topography, woodland, prominent hedgerows or other

Significance	Description
	dominant land cover features. The development is likely to become the defining landscape element.
Major/Moderate	The development is likely, although not exclusively, to have direct effects upon characteristic landscape features, resulting in changes to elements of the landscape that contribute toward its distinct character. The proposed development is likely to become a prominent , but not necessarily defining landscape element across a wide area of the LCA.
Moderate	The proposed development may be a characteristic component of landscape character, the alteration of which may influence key attributes to the extent that changes to the character of the landscape are noticeable. The development, however, would not become a defining landscape element. Effects may be direct or indirect and extend across a notable proportion of the LCA. Landscape character may be equally defined by the development and other existing landscape attributes .
Moderate/Minor	Where the proposed development can be integrated into the existing landscape, without the loss of key underlying landscape attributes. Effects are likely to be indirect and extend across a limited area of the LCA. The proposed development would have little, or no effect on existing landscape character.
Minor	The development would be integrated into the existing landscape without having a material effect upon the distinctive and valued landscape characteristics.

Source: Soltys Brewster

- 12.4.3. Effects determined to have major or major/moderate landscape significance will be considered to be **significant**. Conversely, where it is determined that effects are moderate/minor or minor will be considered **not significant**.
- 12.4.4. Where effects are determined to be of moderate significance, whether these effects are significant or not significant will depend on the individual and specific mitigating circumstances and the professional opinion of the landscape specialist will determine this.

Visual Amenity Significance

- 12.4.5. The significance of effects on visual amenity will be determined by combining the sensitivity of the visual receptors with the magnitude of visual change that would occur. The criteria for informing the sensitivity, magnitude and the significance of effects on visual amenity are demonstrated in the following tables:

Table 12.5: Sensitivity of Visual Receptors

Sensitivity	Description
High	Receptors highly responsive to new visual elements of the type proposed, by virtue of their location, nature and/or existing visual qualities and elements. Receptors would be highly susceptible to change and considered to be at a location that may be valued for its views. Receptors would typically include occupiers of residential properties and people engaged in recreational activities in the countryside such as using public rights of way.
Medium	Receptors are able to accommodate some new visual elements of the type proposed, by virtue of their location, nature and/or existing visual qualities and elements. Receptors may be susceptible to change , although may not be at a location valued for its views. Receptors would typically include people engaged in outdoor sporting activities and people travelling through the landscape on minor roads and trains.

Sensitivity	Description
Low	Receptors are able to accommodate a high degree of new visual elements of the type proposed, by virtue of their location, nature and/or existing visual qualities and elements. Receptors are unlikely to be highly susceptible to change or at a location of valued for its views. Receptors would typically include people at place of work and people travelling through the landscape on A roads and motorways.

Source: Soltys Brewster

Table 12.6: Magnitude of Visual Effects

Magnitude	Description
High	The proposed development would be an immediately apparent feature that would occupy a wide proportion of the view, contrasting with existing built features within the view. It would affect and change the overall appearance of the view and to which other features would become subordinate. Development is likely to be visually dominant. Views of the development are likely to be from close distance and long in duration.
High - medium	The proposed development would be an apparent feature that is likely to occupy a significant proportion of the overall view. The development may contrast with existing features within the landscape. The proposed development is likely to be visually prominent to the extent that it would affect and change the appearance of a number of key existing elements within the view. Views are likely to be medium to short distance and long in duration.
Medium	The proposed development would form a recognisable new element within the overall view and would be readily observed without changing the overall nature of the view. Overall quality of the view may remain intact. Development is likely to be visible although not prominent. Views are likely to be medium distance and moderate in duration.
Medium - Low	The proposed development would form a component of the wider view that might be missed by the casual observer. Awareness of the development would not have a marked effect on the overall quality of the view. Development may be visible although not prominent. Views are likely to be medium to long distance and glimpsed or brief in duration.
Low	The proposed development would be barely perceptible, or imperceptible , and would have no marked effect on the overall quality of the view. Development is unlikely to be visible or restricted to long distance views that would be glimpsed or very brief in duration.

Source: Soltys Brewster