

Appendix 3

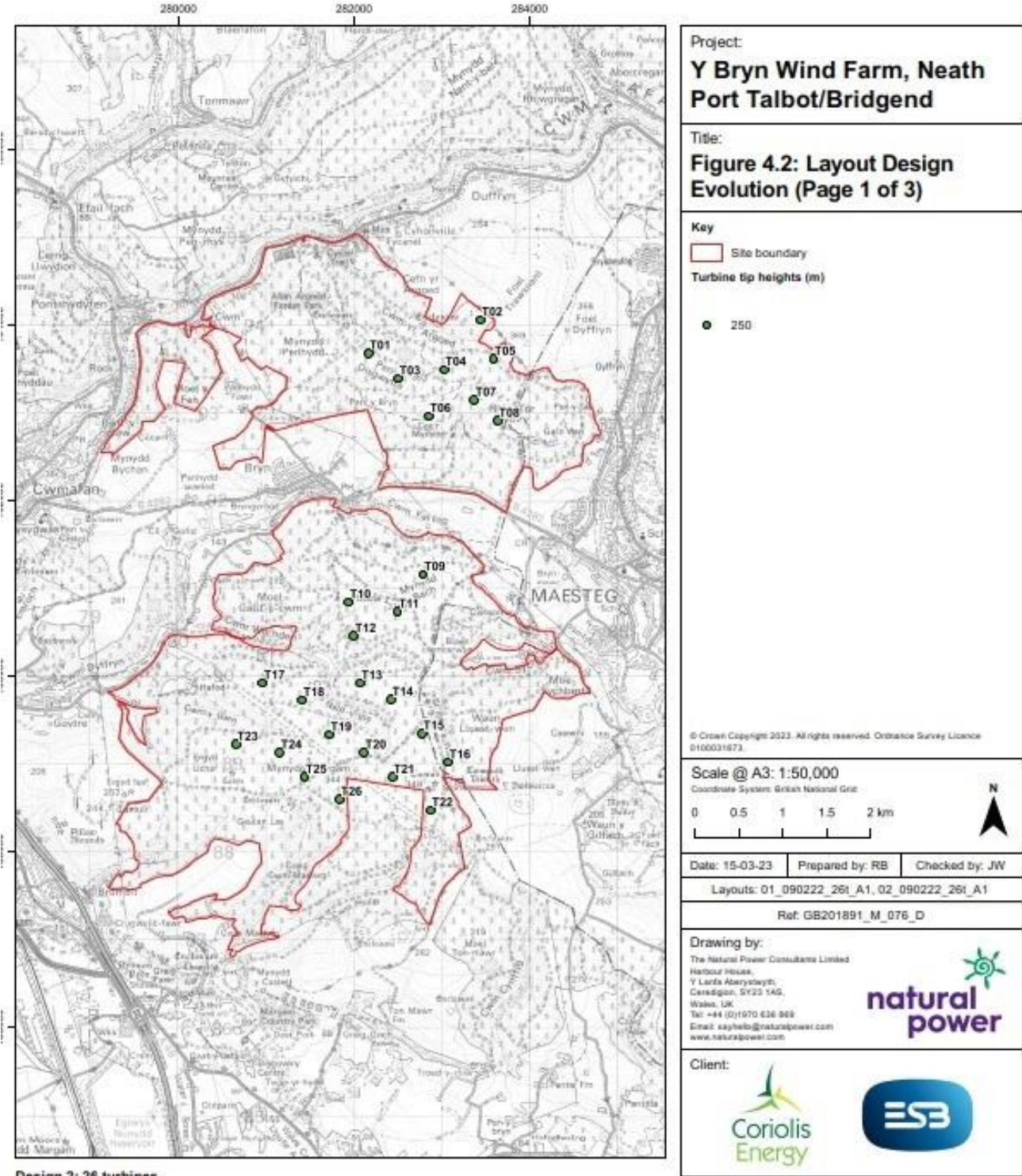
Approach to EIA

Contents

A3.1	SCOPING REPORT	3
A3.2	SCOPING DIRECTION	55
3.2.1	SCOPING DIRECTION – APPENDIX 1	62

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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Contents

1.	Introduction	1
2.	The Applicant	2
3.	The Proposed Y Bryn Development.....	2
3.2.	Project Design.....	3
3.3.	Grid	3
3.4.	Transport.....	3
3.5.	Operational Period	3
3.6.	Decommissioning.....	3
4.	Consultation	3
4.1.	Community Consultation	3
4.2.	Other Stakeholder Consultation	4
5.	Approach to the Environmental Impact Assessment (EIA)	4
5.2.	What the EIA will Assess	5
5.3.	Gathering Baseline Information.....	5
5.4.	Prediction and Evaluation of Impacts and Effects.....	6
5.5.	Cumulative	6
5.6.	Mitigation, Enhancement and Monitoring of Environmental Effects	6
5.7.	Securing Commitments and Mitigation through Planning Conditions	8
6.	Legal and Policy Context	8
7.	Environmental Statement.....	9
8.	Embedded Mitigation and Further Layout Iterations	10
9.	Purpose of this Scoping Report	10
10.	Ecology	11
10.1.	Introduction	11
10.2.	Legislation and Guidance	11
10.3.	Methodology.....	11
10.4.	Results	13
10.5.	Scoping	17
10.6.	Proposed Mitigation and Enhancement	20
10.7.	Summary	22
11.	Ornithology	23
11.1.	Introduction	23
11.2.	Legislation and Guidance	23
11.3.	Methodology.....	24
11.4.	Results	31
11.5.	Scoping	38
11.6.	Proposed Mitigation and Enhancement	42
11.7.	Summary	42
12.	Landscape and Visual Impact Assessment (LVIA)	43
12.1.	Introduction	43
12.2.	Guidance	44
12.3.	Scope	44
12.4.	Methodology.....	49
13.	Hydrology, Geology and Hydrogeology	59
13.1.	Introduction	59
13.2.	Legislation, Guidance and Consultation	59
13.3.	Survey Work Undertaken	61
13.4.	Baseline Results	62
13.5.	Impact Assessment.....	69
14.	Cultural Heritage	73
14.1.	Introduction	73
14.2.	Environmental Baseline and Potential Sources of Impact	73
14.3.	Methodology.....	75
14.4.	Scope	81
15.	Traffic and Transport.....	82
15.1.	Introduction	82
15.2.	Methodology and Scope	82
16.	Noise	84
16.1.	Introduction	84
16.2.	Methodology.....	84
17.	Forestry	89
17.1.	Introduction	89
17.2.	Consultation	90
17.3.	Legislation and Guidance	90
17.4.	Methodology.....	91
17.5.	Cumulative Assessment.....	91
17.6.	Mitigation.....	91
18.	Socio-Economics	92
18.1.	Introduction	92
18.2.	Methodology.....	92
19.	Health and Public Safety.....	93
19.1.	Shadow Flicker.....	93
19.2.	Ice Throw	94
19.3.	Lightning.....	94
19.4.	Health & Safety	94
20.	Aviation and Existing Infrastructure.....	95
20.1.	Introduction	95
20.2.	Aviation	95
20.3.	Other Existing Infrastructure	97
21.	Residual Effects, Mitigation and Enhancement.....	98
22.	ES Accompanying documentation	98
22.1.	Non-Technical Summary (NTS)	98
22.2.	Design & Access Statement (DAS).....	99
22.3.	Planning Statement.....	99
22.4.	Pre-Application Consultation (PAC) Report	99
23.	Responding to the Scoping Report	99

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:

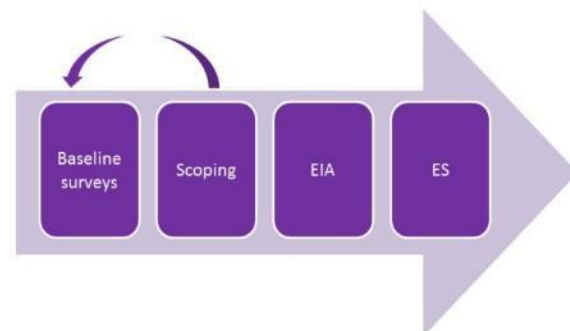


Figure 5.1: EIA Process

- 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 (SEWBrEC). 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 SEWBrEC 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:
- SEWBrEC, 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 SEWBRc, 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: SEWBRc

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, Glynccorwg	6.74	287625	199343	Residents of Glynccorwg. 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

Table 12.7: Significance of Visual Effects

Significance	Description
Major	The proposed development would affect existing views to the extent that defining visual elements would become subservient within the view . When viewed within the context of the landscape, the proposed development is likely to be seen to conflict with existing visual amenity. Receptors are likely to be categorised as being of high sensitivity.
Major - Moderate	The proposed development would be visually prominent , which may lead to the loss of some essential landscape features which contribute to the visual character or quality of the view. Receptors are more likely to be categorised as being of medium or high sensitivity.
Moderate	The proposed development would result in some alteration to landscape features which contribute to the existing visual character or quality, but the overall integrity of the landscape and its visual qualities are maintained. The proposed development may be suitably absorbed or accommodated within the view alongside existing visual elements. Receptors are likely to be categorised as being of medium sensitivity.
Moderate - Minor	The proposed development would be visually integrated within the existing landscape without the loss of essential landscape features which contribute to the visual character or quality of the view. Receptors are more likely to be categorised as being of medium or low sensitivity, although not exclusively so.
Minor	The development would be integrated into the existing landscape without having a material effect upon the distinctive and valued characteristics of the view. Receptors are likely to be categorised as being of low sensitivity.

12.4.6. Viewpoint locations from where effects are determined to have **major** or **major - moderate** visual significance will be considered to be **significant**. Conversely any locations where it is determined that visual effects are **minor** or **moderate - minor**, visual effects will be considered not significant.

12.4.7. 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 relating to each viewpoint and the professional opinion of the landscape specialist will determine this. For example, effects from a particular viewpoint may be considered to be of moderate visual significance. However, the broad nature of the view in which the proposed development would be seen may reduce these effects to an extent where effects would still be considered to be moderate though not considered to be significant.

Cumulative

12.4.8. In addition to assessing the individual effects of the proposed wind farm on landscape character and visual amenity the LVIA will also assess the cumulative effects of existing, consented, and those wind farms submitted for planning.

12.4.9. Given the large number of wind farm developments within the 45 km study area, the criteria outlined below is proposed to be applied in order that the assessment be focussed on only the wind farm developments that are likely to contribute to significant cumulative effects on landscape character and visual amenity:

- All existing, consented and submitted turbines within a 5 km radius of the outer most Y Bryn turbine.

- All existing, consented and submitted turbines with a blade tip height of 30 m or more within a 5 – 15 km radius of the outer most Y Bryn turbine.
- All existing, consented and submitted turbines with a blade tip height of 60 m or more within a 15 – 25 km radius of the outer most Y Bryn turbine.
- All existing, consented and submitted turbines with a blade tip height of 90 m or more within a 25 – 35 km radius of the outer most Y Bryn turbine.
- All existing, consented and submitted turbines with a blade tip height of 120 m or more within a 35 – 45 km radius of the outer most Y Bryn turbine.

12.4.10. It is proposed that the same viewpoints used to assess the individual effects on visual amenity as listed in Table 12.1 above, will be used to illustrate cumulative effects. Cumulative wind farms to be included within the LVIA, based on the methodology described above and on current information are listed in Table 12.8:

Table 12.8: Cumulative Wind Farms

Name	Distance to nearest Y Bryn turbine (km)	No. of Turbines	Hub Height	Tip Height
Operational				
Taff Ely	14.97	20	35	53.5
Maesgwyn	13.48	13	70/80	110-125
Maesgwyn Ext	14.16	1	80	125
Maerdy	12.84	8	80	125
Ferndale	14.95	8	51	76
Mynydd Bwlfa	13.81	12	70/80	115/125
Mynydd Brombil	1.63	4	60	100
Pant-y-Wal	11.89	10	70	115
Pant-y-Wal Ext	10.90	8	80	125
Llynfi Afan Renewable Energy Park	4.37	12	78	118
Pen-y-Cymoedd	2.92	76	89.5	143.5
Ffynnon Oer	4.12	16	58	93
Fforch Nest1/2	12.41	11	70	115
Mynydd Portref	16.06	11	49/60	75/86
Mynydd Portref Extension	16.8	6	70	110
Mynydd-y-Gwair (resubmission)	20.51	16	80	127
G24 Innovations Turbine	41.59	1	95	140
Mynydd y Gwrhyd (resubmission)	19.51	2	59	100
Oakdale Business Park	3.6	2	80	130
Pen Bryn Oer	32.54	3	71.5	110

Name	Distance to nearest Y Bryn turbine (km)	No. of Turbines	Hub Height	Tip Height
West of Rhiwfelin Fach Farm	20.77	1	61.5	77
Consented				
Graig Fatha	18.58	1	75	125
Llwyncelyn	19.84	2	75	125
Llwyncelyn (resubmission)	19.84	2	80	138.5
Maesgwyn Extension (Phase 2)	13.15	4	80	125
Taff Ely (Repowering)	15.09	7	69	110
In Planning				
Foel Trawsnant	0.20	11	100	145
Upper Ogmere	6.96	7	77.5	130

Source: Soltys Brewster/Natural Power Consultants

*If any of the cells are left blank it's because we were unable to source the data.

Question 17: Do consultees agree with the methodology used to determine which wind farms are to be included within the cumulative assessment and also agree with the list provided in Table 12.8?

12.4.11. The significance of cumulative effects on landscape character will be determined by combining the sensitivity of the Landscape Character Area with the magnitude of cumulative change that would occur. Note that sensitivity in respect of cumulative effects would be the same as identified for individual effects and therefore the same criteria as identified in Table 12.2 would be applied. The criteria for informing the magnitude and the significance of cumulative effects on landscape character are demonstrated in the following tables:

Table 12.9: Magnitude of Cumulative Landscape Effects

Magnitude	Description
High	The combined effects of the proposed development and other cumulative wind farm developments would result in major loss of, or major alteration to key elements of the landscape, to the extent that there would be a fundamental and permanent, or long-term, change to its character. The change may occur over an extensive area.
High - medium	The combined effects of the proposed development and other cumulative wind farm developments would result in significant loss of, or major alteration to key elements of the landscape, to the extent that there would be a significant and permanent, or long-term, change to its character. The change may occur over a large area.
Medium	The combined effects of the proposed development and other cumulative wind farm developments would result in the loss of or alteration to key elements of the landscape, to the extent that there would be a partial long-term change to its character. The change may occur over a limited area.

Magnitude	Description
Medium - Low	The combined effects of the proposed development and other cumulative wind farm developments would result in a loss, or alteration to key elements of the landscape, to the extent that there may be some slight perception of change to its character. The change may be temporary and occur over a limited area.
Low	The combined effects of the proposed development and other cumulative wind farm developments would result in such a minor loss of or alteration to key elements of the landscape that there would be no fundamental change to its character.

Source: Soltys Brewster

Table 12.10: Significance of Cumulative Landscape Effects

Significance	Description
Major	Effects that would occur when the majority of landscape attributes are deemed to be highly sensitive and the combined cumulative effects of the proposed development and other cumulative developments would alter the landscape character to the extent that it would become defined or considerably influenced by the presence of wind farm developments, taking account of cumulative baseline conditions.
Major - Moderate	Effects that would occur when the a number of landscape attributes are deemed to be highly sensitive and the combined cumulative effects of the proposed development and other cumulative developments would partially alter the landscape character to the extent that it would become influenced by the presence of wind farm developments, taking account of cumulative baseline conditions.
Moderate	The significance of cumulative effects would decrease as the number of sensitive landscape attributes also decreases. The proposed development and other cumulative developments may still be easily noticeable , but their combined effects would not cause the landscape character to become more defined by wind farm developments than by other landscape attributes.
Moderate - Minor	Effects that would occur when the majority of landscape attributes are not deemed to be highly sensitive and where the proposed development and other cumulative development can be integrated into the existing cumulative baseline , without the loss of key underlying landscape attributes.
Minor	Effects that would occur when the landscape attributes are not deemed to be highly sensitive and where the combined effects of the proposed development and other cumulative developments would have no effect on the existing landscape attributes .

Source: Soltys Brewster

12.4.12. The significance of cumulative effects on visual amenity will be determined by combining the sensitivity of the visual receptors with the magnitude of cumulative change that would occur. Note that sensitivity in respect of visual receptors would be the same as identified for individual effects and therefore the same criteria as identified in Table 12.5 would be applied. The criteria for informing the magnitude and the significance of cumulative effects on visual amenity are demonstrated in the following tables:

Table 12.11 Magnitude of Cumulative Visual Effects

Magnitude	Description
High	Cumulative development including the proposed development would increase the scale of wind farm development in the landscape to a level which would dominate views.

Magnitude	Description
High - medium	The proposed development when viewed in combination with other cumulative developments would be an apparent feature that is likely to occupy a significant proportion of the overall view. The development and other cumulative developments may contrast with existing features of the landscape. Wind farm 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 long distance and long in duration.
Medium	Cumulative development including the proposed development would result in a noticeable increase in wind farms within the view. However, this increase would not result in the wind farms being the dominant feature of the view.
Medium - Low	Cumulative development including the proposed development would be visible but would form components of the view that might be easily missed by the casual observer. They would not contribute to the overall prominence of wind farms within the view.
Low	Cumulative development including the proposed development would be barely perceptible, or imperceptible, and would have no effect on the perception of wind farms within the view.

Source: Soltyś Brewster

Table 12.7: Significance of Cumulative Visual Effects

Significance	Description
Major	Effects that would occur when the majority of visual receptors are deemed to be highly sensitive and the combined effects of the proposed development and other cumulative developments would result in the view becoming defined , or considerably influenced by wind farm development.
Major - Moderate	The proposed development when viewed in combination with other cumulative developments would be visually prominent, which may lead to the loss of some essential landscape features which contribute to the visual character or quality of the view. Receptors are more likely to be categorised as being of medium or high sensitivity.
Moderate	The significance of effects would decrease as the number and sensitivity of visual receptors also decreases. The proposed development and other cumulative wind farms may still be a noticeable addition to views. However, their combined effects would not cause the overall visual character of the view to become defined by wind farm development rather than by other elements of the existing view.
Moderate - Minor	Effects that would occur when the majority of visual receptors are not deemed to be highly sensitive and where the combined effects of the proposed development and other cumulative wind farms would have little or no incremental effect on existing views. They are likely to constitute a barely perceptible, or imperceptible, component of the wider view, which might be missed by the casual observer. Awareness of the proposed development and other cumulative wind farms would not have a marked effect on the overall quality of the view.
Minor	Effects that would occur when the visual receptors are not deemed to be highly sensitive and where the combined effects of the proposed development and other cumulative wind farms would have no incremental effect on existing views.

Source: Soltyś Brewster

LVIA Outputs

12.4.13. The following figures will be produced to assist in assessing and illustrating any changes in the effects on landscape character and visual amenity.

- Statutory and Non-Statutory Landscape Designations.
- Access and movement, including key transport routes, cycle routes, national/scenic routes and long-distance trails.
- LANDMAP plans for each of the five Aspect Areas, (LANDMAP Guidance note 3 (2017)).
- Character Areas.
- Viewpoint Location Plan (1 to 22).
- ZTV to blade tip height to illustrate any changes in theoretical visibility within the 45 km study area, presented at A1 size format.
- ZTV to hub height to illustrate any changes in theoretical visibility within the 45 km study area, presented at A1 size format.
- Viewpoint visualisations, to be produced following published guidance, from each of the 22 viewpoints to include:
 - baseline photograph and matching wireline (including cumulative developments),
 - photomontages, (from 10no. viewpoints – locations to be agreed with statutory consultees).
- Cumulative wind farm location plan.
- Cumulative ZTV (Blade Tip only) at A1 size format. Separate plans will be prepared to show the relationship of the Proposed Y Bryn Wind Farm, in combination with operational wind farms, consented wind farms, and wind farms in planning.
- Aviation lighting ZTV and associated figures.
- Key aviation lighting night-time visualisations.
- Residential Impact Assessment (RVAA).

12.4.14. Note that the photomontages will illustrate removal of forestry associated within the wind farm (if visible) only. Forestry removal as shown on NRW's Forestry Design Plan or not directly associated with Y Bryn Wind Farm that lie outside of the site boundary will not be shown on the photomontages. However, any potential effects of this removal on landscape character and visual amenity will be described within the assessment text.

12.4.15. The LVIA will include the following sections:

- Introduction
- Methodology
- Consultation
- Baseline conditions, including landscape related planning policy.
- Assessment of Potential Effects; including direct effects and, indirect effects upon the landscape character and visual effects, for both individual and cumulative effects. This will cover the constructional, operational and decommissioning phases of the development.
- Cumulative Effects.
- Conclusion.

Question 18: Do the consultees agree with the proposed approach to assess the effects on landscape character and visual amenity?

Question 19: Do consultees see value to any particular enhancement measures?

13. Hydrology, Geology and Hydrogeology

13.1. Introduction

- 13.1.1. This section of the scoping report has been prepared by Natural Power and outlines the information which currently exists, as well as presenting the baseline conditions applicable to the hydrological, hydrogeological and geological environment in the surrounding region of the proposed Y Bryn Wind Farm.
- 13.1.2. As noted in Section 1 and 9, the intention of this scoping report is to introduce the proposed development and provide the PINS and consultees with sufficient information (where it currently exists) on the likely impacts of the proposed Y Bryn Wind Farm development on individual receptors and important features at this stage. The intended approach will allow for an EIA that focusses on only those aspects of the proposed wind farm development that are likely to have a significant effect on known hydrological, hydrogeological and groundwater receptors, as well as those receptors that are currently unknown.
- 13.1.3. A hydrological baseline desktop review was undertaken in October 2020. The information gained from the desktop review has been presented in the following sections.
- 13.1.4. Where the impacts on important hydrological, hydrogeological and geological features (whether it be direct or indirect) from the proposed Y Bryn Wind Farm are not likely to cause a significant effect, it is proposed that these receptors are 'scoped out' and thus not included within the EIA.
- 13.1.5. Table 13.8 summarises the results of the desk top review and highlights whether or not the receptor will be included within the EIA.
- 13.1.6. As part of the EIA, a Hydrological, Geological and Hydrogeological Impact Assessment will be undertaken on those receptors that have potential to experience a **significant effect** from the construction, operation and decommissioning of the proposed development.

13.2. Legislation, Guidance and Consultation

International Legislation and Policy

- 13.2.1. The assessment takes into account the requirements of the Water Framework Directive (2000/60/EC) (WFD). The WFD aims to protect and enhance the quality of surface freshwater (including lakes, rivers and streams), groundwater, groundwater dependent ecosystems, estuaries and coastal waters. The key objectives of the WFD relevant to this assessment are:
 - To prevent deterioration and enhance aquatic ecosystems; and
 - To establish a framework of protection of surface freshwater and groundwater.

National Legislation and Regulations

- 13.2.2. This assessment takes into account the following legislation and policy:
 - The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017;
 - Land Drainage Act 1994;
 - Flood and Water Management Act 2010;
 - Water Act 2014;
 - The Pollution Prevention and Control (England and Wales) Regulations 2000;
 - The Water Supply (Water Quality) Regulations 2018;
 - The Private Water Supplies (Wales) Regulations 2017;
 - The Waste (England and Wales) (Amendment) Regulations 2012;

- Part IIa of the Environment Protection Act 1990; and
- The Town and Country Planning (EIA) Regulations 2017.

Policy & Guidance

- 13.2.3. The following regional policies are also taken into account during the assessment:
 - Planning Policy Wales (Edition 10) – November 2018;
 - Technical Advice Note 8: Renewable Energy (2005);
 - Technical Advice Note 15: Development and Flood Risk (2004);
 - Neath Port Talbot County Borough Council Local Development Plan (2016);
 - Bridgend County Borough Council Local Development Plan (2013) and replacement LDP (2018-2033).
- 13.2.4. Table 13.1 lists other guidance and best practice documentation which has been considered as part of this assessment.

Table 13.1: Guidance and Best Practice

Topic	Source of Information
Natural Resource Wales (NRW)	PPG 1 Understanding your environmental responsibilities - good environmental practices
Pollution Prevention Guidelines (PPG's)*	GPP 2: Above ground oil storage tanks
	GPP 4: Treatment and disposal of wastewater where there is no connection to the public foul sewer
	GPP 5: Works and maintenance in or near water
	PPG 6: Working at construction and demolition sites
	GPP 8: Safe storage and disposal of used oil
	GPP 13: Vehicle washing and cleaning
	GPP 21: Polluting incident response planning
Construction Industry Research and Information Association (CIRIA)	CIRIA C692 Environmental Good Practice on site (third edition)
	CIRIA C697 The SuDS Manual
	CIRIA C532 Control of Water Pollution from Construction sites
	CIRIA C624 Development and Flood Risk – guidance for the construction industry
	CIRIA C648 Control of Water Pollution from Linear Construction Projects
	CIRIA C689 Culvert Design and Operation Guide
Other Guidelines	Scottish Renewables Joint Publication, (2015) Good Practice During Wind Farm Construction Version 3
	FCE, SNH, (2010), Floating Roads on Peat
	Scottish Renewables, Joint Publication (2012), Development of Peatland: Guidance on the Assessment of Peat Volumes, Reuse of Excavated Peat and the Minimisation of Waste

*A review plan for the PPGs is currently underway. The review will result in a replacement guidance series, Guidance for Pollution Prevention (GPPs). It is intended that the new series will provide environmental

Topic	Source of Information
	good practice guidance for the whole UK, and environmental regulatory guidance directly to Northern Ireland, Scotland and Wales ⁴⁶

Consultation

- 13.2.5. Throughout the EIA stage on-going consultation will be undertaken with relevant stakeholders, including NRW (statutory consultee function), to ensure that they consider that the layout and the approach to the EIA is considered acceptable.

13.3. Survey Work Undertaken

- 13.3.1. The following sub-sections summarise the desktop survey work that has been undertaken to inform the hydrological, hydrogeological and geological details which are subsequently presented in this scoping report.

Desk Based Study

- 13.3.2. A desk based study has been undertaken in order to establish the hydrology, hydrogeological and geological conditions underlying the area of the proposed development. A detailed review of documentation and data sources has been undertaken, as detailed in Table 13.2.

Table Error! No text of specified style in document..2:Baseline Information Sources

Topic	Sources of Information
Topography	1:25,000 Ordnance Survey Mapping 1:50,000 Ordnance Survey Mapping OS Landform Panorama digital terrain model (DTM) data OS Terrain 5 DTM
Designated Nature and Conservation sites	NRW Designated Sites (http://naturalresources.wales/guidance-and-advice/environmental-topics/wildlife-and-biodiversity/find-protected-areas-of-land-and-seas/designated-sites/?lang=en) [Accessed 06/10/2020]
Solid and Superficial Geology	1:50,000 Solid and Superficial Geology data provided by the British Geological Survey (BGS)
Soils and Peat	UK Soil Observatory Map Viewer (http://www.ukso.org/mapViewer.html) [Accessed 06/10/2020] Shapefiles supplied by NRW-EDT
Surface Water Hydrology	1:25,000 OS Raster Data 1:50,000 OS Raster Data OS VectorMap Local data
Flooding	NRW Long Term Flood Risk Map (https://naturalresources.wales/evidence-and-data/maps/long-term-flood-risk/?lang=en) [Accessed 07/10/2020]

⁴⁶ Net Regs (2020). *Guidance for Pollution Prevention (GPPs) - Full List*. [Online]. Available from: <http://www.netregs.org.uk/environmental-topics/pollution-prevention-guidelines-ppgs-and-replacement-series/guidance-for-pollution-prevention-gpps-full-list/> [Accessed: 08/10/2020]

Topic	Sources of Information
Water Quality	NRW Water Watch Wales Map Gallery (http://waterwatchwales.naturalresourceswales.gov.uk/en/) [accessed 07/10/2020] NRW River Basin Management Plans (https://naturalresources.wales/evidence-and-data/research-and-reports/water-reports/river-basin-management-plans-published/?lang=en) [Accessed 07/10/2020]
Water Resources	1:50,000 OS Raster Data Neath Port Talbot County Borough Council and Bridgend County Borough Council PWS Data Request
Hydrogeology	1:625,000 Hydrogeology data provided by the British Geological Survey (http://mapapps2.bgs.ac.uk/geoindex/home.html) [Accessed 07/10/2020]

13.4. Baseline Results

- 13.4.1. Through the desk study the existing site conditions have been established and are outlined below.

Topography

- 13.4.2. The landscape of the proposed development is characterised by extensive coniferous forestry plantation. The proposed development is divided into two areas which are centred around the Bryn (northern) and Penhydd (southern) forest blocks.
- 13.4.3. The general topography of the northern proposed development area slopes to the north-west and south forming a plateau which runs roughly through the centre of the area with a topographic high point of 363 m Above Ordnance Datum (AOC). The slopes steepen in the northern area of the forestry block around Cwm yr Argoed. Elevations range between ~100 m AOD and 363 m AOD.
- 13.4.4. The topography in the southern proposed development area is more complex with a number of notable hill tops and gentle slopes. There are some steep incised valleys towards the site boundary, generally sloping to the south and west. A topographic high of 349 m AOD is reached at the southern site boundary. Elevations range from ~140 m AOD to 349 m AOD.

Designated Sites

- 13.4.5. Within a 3 km radius of the proposed development site boundary there are four designated areas. Three are designated as a Site of Special Scientific Interest (SSSI) and one as a Local Nature Reserve (LNR). The Bryn Tip LNR is located between the Bryn and Penhydd forestry blocks directly south of the northern proposed development area. Bryn Tip is designated as a nature reserve to protect its historic colliery spoil status and enhance the natural habitat which is home to a number of rare and protected species including deer.
- 13.4.6. Eglwys Nunydd Reservoir SSSI is located approximately 1.8 km to the south of the proposed site boundary and is designated for its large number of wintering waterfowl and passage migrants. Margam Moors SSSI is located approximately 3 km to the south- west of the proposed site boundary and is designated for Fen and marshy grassland mosaic with standing water and associated aquatic invertebrate assemblage. Cwm du Woodlands SSSI is located approximately 2.8 km to east of the site boundary and is designated for semi natural broadleaved woodland.

13.4.7. The three sites which are designated SSSI are either not hydrologically linked to the proposed development or their designations are not due to hydrological, hydrogeological and geological features. Margam Moors SSSI and Cwm du Woodlands SSSI are situated in different hydrological catchments to the proposed development and it is unlikely that there will be any direct impacts from a hydrological perspective as a result of construction or operation. It is possible that Eglwys Nunydd Reservoir SSSI is hydrologically linked to the proposed development, however, because the designation is for wintering wildfowl and passage migrants this will be assessed in the Ecology Section of the ES. The assessment on SSSI are therefore proposed to be scoped out of the hydrology, geology and hydrogeology EIA section. Bryn Tip LNR will also be included as part of the Ecology Section of the EIA and is therefore suggested it is also scoped out given the designation is not for hydrology.

Site Hydrology

- 13.4.8. The main hydrology feature within the immediate vicinity of the proposed development is the River Avan/Afon Afan which is just north of the proposed site boundary. A number of mapped watercourses are identified within the site boundary flowing into the River Avan/Afon Afan. The Ffrwd Wylt rises in an un-forested area between the Bryn and Penhydd forest blocks and flows east south-west, roughly following the site boundary of the southern forestry block. A number of mapped watercourses flow from both forestry blocks into the Ffrwd Wylt.
- 13.4.9. Some mapped watercourses flow due east and discharge to the Llynfi River to the east of the proposed site boundary. A number of mapped watercourses are incised into short steep valleys within the forestry and flow south-west into Afon Cynffig.
- 13.4.10. The Cwm Wernderi Reservoir is a small reservoir within the Bryn forestry block. It is outside of the site boundary but within the catchment of the proposed development. This reservoir is within the catchment of the Ffrwd Wylt.
- 13.4.11. The Eglwys Nunydd Reservoir approximately 1.8 km west of the site boundary could also be hydrologically connected, however more site investigation would be undertaken to confirm this.
- 13.4.12. A review of aerial photography shows extensive forestry works within the proposed site boundary and some evidence of the associated increased functional drainage of the land through the cutting of artificial drainage ditches and furrows, which ultimately feed into the watercourses named. Appropriate consideration of these features would be outlined within the EIA, including buffer distances.
- 13.4.13. Due to the proximity of proposed infrastructure to mapped watercourses and water bodies, further assessment will be required to determine the level of impact on water quality, flooding and potential pollution.

Flood Risk

- 13.4.14. A qualitative flood risk assessment has been undertaken where the risks of flooding have considered from all potential sources which are listed below and with reference to NRW's Flood Map⁴⁷. The assessment has considered the risk to the proposed development as well as the potential to increase flooding downstream that could be caused by the proposed development.
- 13.4.15. NRW is progressing a Natural Flood Management (NFM) pilot project in the Ffrwd Wylt catchment (northern part of Bryn forest block and southern part of Penhydd forest block) to take a holistic approach to catchment management, comprising interventions in the headwaters to slow the flow of water and

⁴⁷ NRW. (2018) *Long term flood risk*. [Online]. Available from <https://naturalresources.wales/evidence-and-data/maps/long-term-flood-risk/?lang=en> [Accessed 06/10/2020].

reduce flooding. The applicant would seek to complement the objectives of the pilot project through the infrastructure design of the wind farm.

Fluvial and Pluvial Flooding

- 13.4.16. A review of NRW's Flood Map indicates that the river Cwm Wernderi, within the proposed site boundary, has a medium (between 1 in 100 year event to a 1 in 30 year event) risk of flooding. This appears to be confined to the riparian zone of the channel. Within the proposed site boundary there is mainly a low (between 1 in a 1000 year event to 1 in a 100 year event) to medium risk of flooding from surface waters, but again, this is primarily confined to the riparian zones of watercourses and scattered across the site in topographic hollows.

Flooding from Reservoir Extents

- 13.4.17. The Cwm Wernderi watercourse within the site boundary and the Cwm Dyffryn watercourse which the Cwm Wernderi feeds into, are at risk of flooding from reservoirs. This does not extend beyond the functional flood plain.

Tidal Flood Sources

- 13.4.18. The proposed site boundary is approximately 3 km away from the nearest coast. However, given the topographical position of the proposed development it will not be affected by tidal flooding which will therefore be scoped out of the assessment.

Groundwater Flood Sources

- 13.4.19. Flooding can also result from high groundwater levels if the water table rises above the surface level. Groundwater flooding happens in response to a combination of already high groundwater levels (usually during mid- or late-winter) and intense or unusually lengthy storm events. Groundwater flooding is difficult to predict as it rarely follows a consistent pattern. The response time between rainfall and groundwater flooding is also relatively long.
- 13.4.20. Groundwater flooding is often associated with the shallow unconsolidated sedimentary aquifers that over lie non-aquifers. Such aquifers are susceptible to flooding as the storage capacity within these deposits is often limited and direct rainfall recharge can be relatively high, subsequently increasing the water levels within the groundwater. Further information on the superficial geology is provided in paragraph 13.4.29. This will be discussed and assessed as part of the ES.

Flooding from Artificial Drainage

- 13.4.21. There is evidence of artificial drainage associated with forestry works within the proposed site boundary. There is the potential that this could cause some localised flooding by increasing runoff rates to the watercourses that they drain to within the surrounding area.
- 13.4.22. Due to proximity of proposed infrastructure to mapped watercourses which have been determined as being at risk from fluvial and reservoir flooding, further assessment on the potential impacts will be required. As part of the site design infrastructure will be located as far as possible but a minimum of 50 m from mapped watercourses and waterbodies whilst taking into account other constraints.

Soils

- 13.4.23. The distribution of soils across the site boundary is dependent upon land use, geology, topography and hydrological regime of the area. Information on the site soils has been provided by the UKSO⁴⁸ and is presented below in Table 13.3 and a screenshot of the soils is presented in Figure 13.1.

⁴⁸ UKSO (2018). *UK Soil Observatory map viewer*. [Online]. Available from <http://www.ukso.org/mapViewer.html> [Accessed 08/10/2020]

Table 13.3: Summary of Soil Types

Generalised Soil Type	Parent material
Very acid loamy upland soils with a wet peaty surface (light pink)	Glacial Till
Freely draining acid loamy soils over rock (salmon pink)	Mudstone and Sandstone
Slowly permeable wet very acid upland soil, with a peaty surface (light green)	Glacial Till

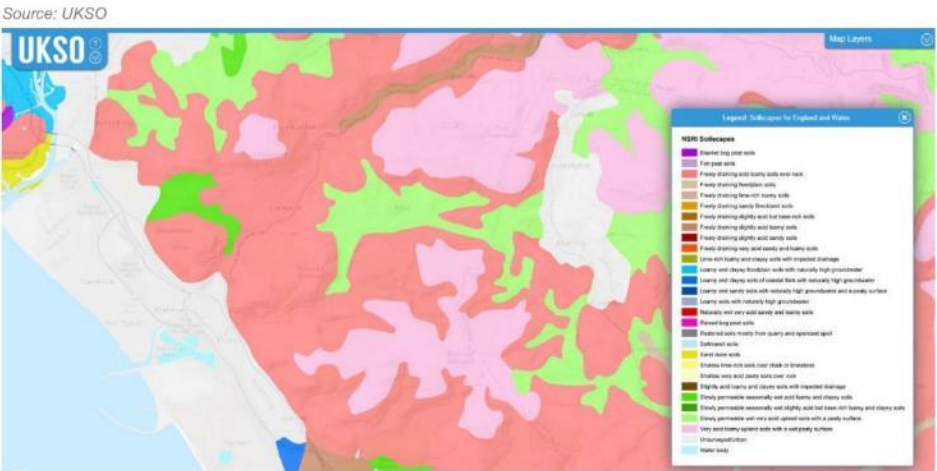


Figure 13.1: Screenshot of UKSO mapper showing soils underlying the site

- 13.4.24. The high-level information indicates that the dominate soil types are very acid/loamy soils with a wet peaty surface, freely draining acid loamy soils and slowly permeable wet very acid soils with a peaty surface. It is expected that the quality of the soils will be affected by the existing land use, including plantation forestry and artificial drainage ditches to dry the soils.
- 13.4.25. A phase 1 peat survey will be undertaken to inform potential site constraints. The phase 1 peat survey information will be used to inform the requirements for a more detailed phase 2 peat survey, together with Peat Management Plan and Peat Slide Risk Assessment.
- 13.4.26. Subject to forestry conditions and compliance with health and safety, a phase 1 peat survey shall consist of a 100 m gridded pass over all proposed infrastructure areas suggested to be underlain by peat or peaty soils. Following refinement/finalisation of the scheme layout and subject to outcomes of phase 1, detailed phase 2 probing over all proposed infrastructure areas underlain by peat or peaty soils would be proposed consisting of the following:
- 50 m gridded points for borrow pits and compounds/substations;
 - 50 m spacing along centreline, with 10 m offsets along all new track sections;
 - Determination of specific widening sections of the existing access track, with the same method applied; and
 - 10 m spacing transects north-south and east-west out to 100 m for all turbine and met mast locations.

- 13.4.27. A peat core would be taken at turbine and infrastructure locations where peat exceeds 0.5 m depth. The core would be analysed for its physical properties - degree of decomposition using the Von Post scale⁴⁹.

Geology

- 13.4.28. According to the 1:50,000 scale British Geological Society (BGS) dataset, the proposed development is underlain by the geological units presented in Table 13.4.

Table 13.4: Solid and Superficial Geology

Element	Type	Comments
Rhondda Member: Sandstone.	Sedimentary	These sedimentary rocks are fluvial in origin. They are detrital, ranging from coarse- to fine-grained and form beds and lenses of deposits reflecting the channels, floodplains and levees of a river or estuary (if in a coastal setting).
South Wales Middle Coal Measures Formation: Mudstone, Siltstone And Sandstone.	Sedimentary	These sedimentary rocks are fluvial, palustrine and shallow-marine in origin. They are detrital, forming deposits reflecting the channels, floodplains and deltas of a river in a coastal setting (with periodic inundation from the sea).
South Wales Middle Coal Measures Formation - Sandstone	Sedimentary	These sedimentary rocks are fluvial, palustrine and shallow-marine in origin. They are detrital, forming deposits reflecting the channels, floodplains and deltas of a river in a coastal setting (with periodic inundation from the sea).
Llynfi Member - Mudstone, Siltstone And Sandstone	Sedimentary	These sedimentary rocks are fluvial in origin. They are detrital, ranging from coarse- to fine-grained and form beds and lenses of deposits reflecting the channels, floodplains and levees of a river or estuary (if in a coastal setting).
Brithdir Member - Sandstone.	Sedimentary	These sedimentary rocks are fluvial in origin. They are detrital, ranging from coarse- to fine-grained and form beds and lenses of deposits reflecting the channels, floodplains and levees of a river or estuary (if in a coastal setting).
Till	Superficial deposit	These sedimentary deposits are glacial in origin. They are detrital, created by the action of ice and meltwater, they can form a wide range of deposits and geomorphologies associated with glacial and inter-glacial periods during the Quaternary.
Peat	Superficial deposit	These sedimentary deposits are lacustrine and palustrine in origin. They comprise accumulated (and detrital) organic material, forming beds and lenses within lagoons, bogs and swamps. See Figure 13.2.

⁴⁹ The **von Post** humification test (**von Post classification** system) involves squeezing the **peat** and the material that is extruded between the fingers, examining the material, and classifying the soil as belonging to one of ten (H1–H10) humification or decomposition categories.

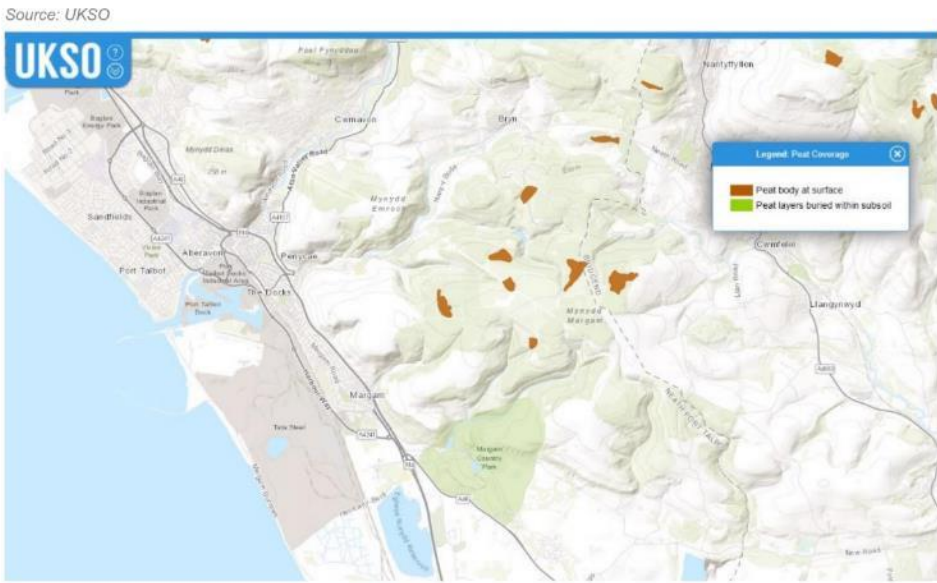


Figure 13.2: Screenshot of mapped peat deposits (UKSO)

- 13.4.29. The underlying solid geology comprises Brithdir Member - Sandstone Formation that covers the majority of the proposed site boundary, and both the South Wales Middle Coal Measures Formation and Llynfi Member Formation which underlays a section in the north. Superficial deposits of peat are well spread across the proposed site boundary but are not great in number, however till can be found on the edges of the Bryn forest block in the valley of Nant Cynon and Nant Drysiog watercourses, and the northern edge of the Penhydd Nant forest block in the valley of the Cwnfarteg watercourse.
- 13.4.30. It is noted that no specific geological feature of interest has been identified within the site boundary (excluding peat and soils which are discussed separately), as such, this can be scoped out of the assessment. Although having an understanding of the underlying bedrock and superficial geology is pivotal for the effectiveness of the construction design of the proposed development, specific mitigation to protect the geodiversity during construction, operation and decommissioning is not required. Knowledge of the local geology will be utilised in the assessment of groundwater dependent terrestrial ecosystems (GWDTEs).

Hydrogeology

- 13.4.31. Following review of the 1:625,000 scale BGS Hydrogeological Map⁵⁰ the majority of the site boundary is underlain by a moderately productive aquifer associated with the South Wales Upper Coal Measure Formation. The aquifer is a regional, cyclic multi-layered aquifer with moderate yields from sandstones and many springs, however mine water quality is poor. In the north, the site boundary is also underlain by a moderately productive aquifer but of the Pennine middle coal measures formation and South Wales Coal Measures Formation (undifferentiated) which exhibits the same characteristics as the South Wales Upper Coal Measure Formation.

⁵⁰ BGS (2018). *BGS hydrogeology 625K*. [Online]. Available from <http://www.bgs.ac.uk/products/hydrogeology/maps.html> (Last accessed: 08/10/2020)

- 13.4.32. At this stage, no assessment has been made on the groundwater dependency of the identified habitats located within the site boundary. A thorough review and inclusion of appropriate assessments will be included in the ES to determine the characteristics of the hydrogeological environment and its suitability to support GWDTEs. The ES will be prepared with cognisance of the habitats and NVC assessment completed as part of the Ecology assessment.

Water Resources

- 13.4.33. A data request was issued to the local authorities in September 2020 to determine the presence of any water abstractions for private water supply use using a 3 km buffer around the site boundary. Bridgend County Borough Council provided the coordinates for Private Water Supply (PWS) sources within 5 km of the Proposed Development. There is one PWS (ID 10) within the site boundary (emboldened in Table 13.5 below) and a further 20 PWS within 5 km of the site boundary.

Table 13.5 Private Water Sources

ID	Easting	Northing	Source Type	Activity Type
1	285116	189434	Borehole Water	Commercial
2	287800	192000	Spring Water	Shared Domestic
3	284500	188000	Spring Water	Shared Domestic
4	283789	190860	Spring Water	Shared Domestic
5	285200	189400	Borehole Water	Shared Domestic
6	284567	189251	Spring Water	Shared Domestic
7	284567	189239	Borehole Water	Domestic
8	283384	190166	Borehole Water	Domestic
9	283398	190198	Spring Water	Domestic
10	283168	190264	Spring Water	Domestic
11	284200	189000	Spring Water	Domestic
12	286600	191800	Spring Water	Domestic
13	285900	193500	Spring Water	Domestic
14	287500	191700	Spring Water	Domestic
15	284700	192500	Spring Water	Domestic
16	284700	192500	Borehole Water	Domestic
17	284600	188700	Spring Water	Domestic
18	285240	187659	Spring Water	Domestic
19	284799	189499	Spring Water / Borehole Water	Domestic
20	284600	188700	Spring Water / Borehole Water	Domestic
21	286543	188441	Spring Water /Borehole Water	Domestic

- 13.4.34. All identified PWS will be assessed for hydrological connectivity to the Proposed Development as part of the EIA.

13.4.35. At the time of writing a response has not yet been received from Neath Port Talbot County Borough Council therefore these PWS will also be assessed as part of the EIA.

Carbon Balance Assessment

13.4.36. A carbon balance assessment will be produced to give an indication of the proposed development's impact on the existing peat on site and to assess the potential effects in terms of carbon dioxide (CO₂) emissions against the total potential carbon savings attributed to the proposed development. The assessment will quantify the gains over the life of the proposed development against the release of CO₂ during construction, including loss of peat bog and construction of wind farm infrastructure. The latest version of the Scottish Government carbon calculator that is available will be used, which is currently 1.6.1.

13.5. Impact Assessment

Methodology

13.5.1. The greatest risk of affecting the hydrological, geological and hydrogeological environment will occur during the construction phase, with effects reduced during the operational and decommissioning phase. Taking this into account the EIA will address the following issues for all phases of development:

- Changes to existing drainage patterns.
- Effects on baseflow.
- Effects on run-off rates.
- Effects on erosion and sedimentation.
- Effects on groundwater levels.
- Effects on water resources.
- Effects on impediments to flow.
- Flood risk.
- Pollution risk.
- Effects on integrity of peat bodies.
- Effects on groundwater and surface water quality.

13.5.2. The EIA would involve the following

- Further detailed desk studies and further site visits to establish baseline conditions of the area and carry out detailed site investigations.
- Evaluation of the likely significant environmental effects of the Proposed Development and the impacts that these could have on the current site conditions.
- Demonstrating how the embedded good practice measures help to avoid and mitigate against any identified adverse effects resulting from the Proposed Development.
- Evaluation of the likely significant environmental effects with consideration of the potential embedded mitigation measures, taking account of the sensitivity of the baseline features, the potential magnitude of these effects and the probability of these effects occurring.
- The residual significance of the environmental effects following the consideration of additional mitigation measures, as well as further potential enhancement measures.

Effects Evaluation

13.5.3. The likely significant environmental effects will be defined by taking account of two main factors: the sensitivity of the receptor and the potential magnitude should that effect occur. The sensitivity of the

receptor i.e. its baseline quality as well as its ability to absorb the effect without perceptible change is defined in Table 13.6.

Table 13.6: Definition of sensitivity of the receptor

Sensitivity	Definition
High	National importance. Receptor with a high quality and rarity, local scale and limited potential for substitution/replacement or receptor with a medium quality and rarity, regional or national scale and limited potential for substitution / replacement.
Medium	Regional importance. Receptor with a medium quality and rarity, local scale and limited potential for substitution/replacement or receptor with a low quality and rarity, regional or national scale and limited potential for substitution / replacement.
Low	Local importance. Receptor with a low quality and rarity, local scale. Environmental equilibrium is stable and is resilient to changes that are greater than natural fluctuations, without detriment to its present character.

13.5.4. The magnitude of impact includes the timing, scale, size and duration of the likely significant environmental effects. For the EIA the assessment the magnitude of impact criteria would be defined in Table 13.7 below.

Table 13.7: Magnitude of impact

Magnitude	Criteria	Definition
High	Total loss of or major/substantial alteration to key elements/features of the baseline (pre-development) conditions such that the post development character/composition/attributes will be fundamentally changed.	Fundamental (long term or permanent) changes to geology, hydrology, water quality and hydrogeology.
Medium	Loss or alteration to one or more key elements/features of the baseline conditions such that post development character/composition/attributes of the baseline will be materially changed.	Material but non-fundamental and short to medium term changes to the geology, hydrology, water quality and hydrogeology.
Low	A minor shift away from baseline conditions. Change arising from the loss/alteration will be discernible/detectable but not material. The underlying character/composition/attributes of the baseline condition will be similar to the pre-development circumstances/situation.	Detectable but non-material and transitory changes to the geology, hydrology, water quality and hydrogeology.
Negligible	Very little change from baseline conditions. Change barely distinguishable, approximating to a 'no change' situation.	No perceptible changes to the geology, hydrology, water quality and hydrogeology.

13.5.5. The sensitivity of the receiving environment together with the magnitude of the effect (assuming the successful implementation of industry good practice and design mitigation measures) is then combined to define the significance of the effect, as per Table 5.2. Those residual adverse effects indicated as **Major and Major/Moderate** will be regarded as being **significant** effects. However, other factors may have to be considered including the duration and the reversibility of the effect. It should also be noted, that in most cases the assessment considers only the adverse effects, where positive effects are identified these will be also be discussed.

Good Practice Mitigation

- 13.5.6. The design of the Y Bryn Wind Farm development will avoid known impacts on hydrological receptors as far as possible (embedded mitigation). Mitigation will be developed in line with the Good Practice During Wind Farm Construction Guide⁵¹.
- 13.5.7. Throughout the EIA process and following survey work and feedback from the consultation process it may be that the layout presented here in the Scoping Report further develops.
- 13.5.8. Refer to Section 8 for further general information about embedded mitigation.

Mitigation by Design

- 13.5.9. A series of buffer distances will be adopted to help reduce effects of the Y Bryn Wind Farm on the hydrological environment. A 50 m buffer will be implemented for all identified mapped hydrological features. Infrastructure will be located outside this buffer except where access necessitates.
- 13.5.10. Watercourse crossings associated with any new access track will be minimised as far as practicable.
- 13.5.11. As part of the EIA site investigations will take place and if required a peat slide risk assessment (PSRA) will be produced to make sure the wind farm is designed to avoid areas of high risk. Alongside the PSRA, a peat management plan (PMP) will be also be produced if required, demonstrating how impact on peat will be minimised and means of reusing peat through reinstatement and restoration methods.
- 13.5.12. Mitigation will follow the well-established principles of industry good practice so as to prevent or minimise effects on the surface and groundwater environment. The following good practice principles will be included as part of the embedded mitigation:
- Drainage – all runoff derived from works associated with the proposed development will not be allowed to directly enter the identified natural drainage network. All runoff will be adequately treated via a suitably designed drainage scheme with appropriate sediment and pollution management measures. The proposed development is situated in an area of commercial forestry and it is imperative that the drainage infrastructure is designed to maintain the existing hydrological regime and meet the required design standards.
 - Storage – all soil/peat stockpiles as well as equipment, materials and chemicals will be stored well away from any watercourses. Chemical, fuel and oil stores will be sited on impervious bases with a secured bund.
 - Vehicles and Refuelling – standing machinery will have drip trays placed underneath to prevent oil and fuel leaks causing pollution. Where practicable, refuelling of vehicles and machinery will be carried out in designated areas, on an impermeable surface, and well away from any watercourses identified from the 1:10k OS mapping.
 - Maintenance – only emergency maintenance to construction plant will be carried out in designated areas, on an impermeable surface well away from any watercourse or drainage feature, unless vehicles have broken down necessitating maintenance at the point of breakdown, where special precautions will be taken.
 - Welfare Facilities – on-site welfare facilities will be adequately designed and maintained to ensure all sewage is disposed of appropriately. This may take the form of a soakaway or tankering with off-site disposal depending on the suitability of the site for a soakaway and only with prior agreement with NRW/Local Planning Authority.

⁵¹ SNH and Scottish Renewables Joint Publication, (2019) Good Practice During Wind Farm Construction Version 4;

- Cement and Concrete – fresh concrete and cement are very alkaline and corrosive and can be lethal to aquatic life. The use of wet concrete in and around watercourses will be preferentially avoided however if necessary it will be carefully controlled.
 - Monitoring Plan – all activities undertaken as part of the proposed development will be monitored throughout the construction phase. Such monitoring will be to ensure environmental compliance.
 - Contingency Plans – plans will ensure that emergency equipment is available on site i.e. spill kits and absorbent materials, advice on action to be taken and who should be informed in the event of a pollution incident.
 - Training – All relevant staff personnel will be trained in both normal operating and emergency procedures, and will be made aware of any highly sensitive areas on site.
- 13.5.13. Further details on specific mitigation requirements will be provided within the ES chapter, technical appendices and a site specific outline Construction Environmental Management Plan (CEMP). It should be acknowledged that some mitigation measures included in the chapter or CEMP would be outline in certain elements of detail, due to the requirement of detailed engineering design which will not be available at the stage of the application, but nonetheless, will be guided by good practice and legislation.
- 13.5.14. Based on the findings of the baseline study and whether the significance of any impact on receptors can be quantified Table 13.8 identifies what is proposed to be scoped in and out of the assessment.

Table 13.8: Proposed Scoping Topics

Baseline	Scope In or out	Reason
Designated Sites	Scope Out	The designated sites (SSSI/LNR) are either located so it is unlikely that there will be any direct impacts from a hydrological perspective as a result of construction or operation or their designation is not related to hydrology and will therefore be assessed as part of the Ecology Section of the EIA.
Site Hydrology	Scope In	There are a number of watercourses and water features hydrologically connected to the proposed development including the Cwnwmerderi Reservoir and potentially the Eglwys Nunydd Reservoir An appropriate level of assessment will need to be considered to understand the potential impacts of the development on water quality, flood risk and potential pollution.
Flood Risk	Scope In	Whilst a desk based assessment has been provided above, further assessment will be required due to the mapped water features in the proximity to proposed infrastructure.
Peat and Soils	Scope In	The initial desktop study identifies areas of peat soils which is to be supported by a phase 1 peat survey. Further assessment may be required to inform a carbon balance assessment, peat management plan and peat slide risk assessment, if required. Information on peat and soils will also be utilised for production of a GWDTE assessment.
Geology	Scope Out	No specific mitigations to protect geodiversity are required. Review of the local geology information will be considered for the GWDTE assessment.
Hydrogeology	Scope In	Assessment will be required to confirm the presence of GWTDE on site based habitat, soils and hydrogeological information for the moderately productive aquifer.
Water Resource	Scope In	PWS are identified within the surrounding area and further assessment will be required to confirm supply details and mitigation requirements

Baseline	Scope in or out	Reason
Carbon Balance	Scope In	Initial desk top study and site visits indicate the presence of peat on site, and although careful siting of infrastructure will minimise the impact on peat, the use of the NatureScot carbon calculator tool will assess the carbon impact of the proposed development.

Question 20: Are consultees in agreement with the methodologies proposed and the topics to be scoped out?

Question 21: Do consultees see value to any particular mitigation and/or enhancement measures for any local or regional receptors, whether referred to above or otherwise?

14. Cultural Heritage

14.1. Introduction

- 14.1.1. This section presents the proposed scope of work for the Cultural Heritage Assessment for Y Bryn Wind Farm and has been prepared by Headland Archaeology (UK) Ltd. The purpose of the assessment is to identify the potential effects of the proposed development on the historic environment and cultural significance of the area in which the development is located. The heritage impact assessment will follow policy and best practice guidance in order to establish a robust and transparent analysis of the issues. The approach adopted will follow a standard staged process consisting of baseline survey to identify known and potential historic assets, design iteration to minimise likely impacts on the historic environment, comparative analysis to determine which historic assets might be affected by the proposed development, field survey and analysis to establish the heritage significance of important affected assets, characterising the nature and magnitude of impacts, design of mitigation measures, and an assessment of the residual effect on the historic environment.
- 14.1.2. It is important to note that, although any effects on the significance of historic assets due to change in their setting are likely to be visual in nature, the assessment of these visual effects is distinct from the assessment of visual change in the LVIA. The assessment of effects on setting may be informed by visualisations prepared as part of the LVIA but the conclusions reached regarding visual change in the setting of a heritage asset are distinct.

14.2. Environmental Baseline and Potential Sources of Impact

Baseline Conditions

- 14.2.1. The baseline used for this scoping section has been compiled using existing data on the historic environment available online from Royal Commission on Ancient and Historic Monuments Wales (RCAHMW) via the Coflein website⁵², and data obtained from the Gwynedd Archaeological Trust (GAT) Historic Environment Record (HER), and designations data available as GIS datasets from the Lle Geo-Portal for Wales⁵³ with the exception of records for Historic Parks and Gardens which were supplied directly by Cadw in a dataset dated July 2017. This dataset was due to be transferred to a Statutory Register of Historic Parks and Gardens in Wales in late 2020.

⁵² Available online from: <https://coflein.gov.uk/> (last accessed 12.11.2020)

⁵³ Available online from: <http://lle.gov.wales/home> (last accessed 12.11.2020)

- 14.2.2. The proposed wind farm site is within the Registered Landscape of Special Historic Interest known as Margam Mountain. There are six Scheduled Monuments within the wind farm site boundary (Figure 14.1) – one post-medieval industrial site (Caer Mynydd Ventilation Furnace and Mine), two prehistoric religious, ritual and funerary sites, and three prehistoric defensive enclosures, in addition the prehistoric enclosure known as “Roman Camp” (GM058) and Y Bwlwarcaw hillfort (GM059) border the wind farm site. There are also 89 non-designated historic assets recorded by the HER within the site boundary (Figure 14.1). The HER also includes six duplications of designated assets (Scheduled Monuments) within the site boundary. A study of the Coflein website has identified at least 21 undesignated heritage assets recorded within the site boundary. The majority of these non-designated assets are post-medieval features identified from historic mapping or as upstanding features, but they also include two Bronze Age barrows, a Bronze Age cairn, an Iron Age enclosure and five medieval sites which survive as earthworks. A similar mix of monument types is recorded within 1km of the site boundary (Figure 14.3).
- 14.2.3. There are a further 50 Scheduled Monuments and another Landscape of Special Historic Interest within 5 km of the site boundary. There are also eight Grade I Listed Buildings, 25 Grade II* Listed Buildings, 168 Grade II Listed Buildings, three Conservation Areas and two Registered Parks and Gardens within 5 km of the site boundary (Figure 14.4). Between 5 and 10 km from the site boundary there are 52 Scheduled Monuments, and four Grade I and 30 Grade II* Listed Buildings (Figure 14.5).

Potential Sources of Impact

- 14.2.4. Effects on the historic environment can arise through direct physical impacts, impacts on setting or indirect impacts:
- Direct physical impacts describe those development activities that directly cause damage to the fabric of a heritage asset. Typically, these activities are related to construction works and will only occur within the site of the asset.
 - An impact on the setting of a heritage asset occurs when the presence of a development changes the surroundings of a heritage asset in such a way that it affects (positively or negatively) the heritage significance of that asset. Visual impacts are most commonly encountered but other environmental factors such as noise, light or air quality can be relevant in some cases. Impacts may be encountered at all stages in the life cycle of a development from construction to decommissioning but they are only likely to lead to significant effects during the prolonged period which is the operational life of the development.
 - Indirect impacts describe secondary processes, triggered by the development, that lead to the degradation or preservation of heritage assets. For example, changes to hydrology may affect archaeological preservation; or changes to the setting of a building may affect the viability of its current use and thus lead to dereliction.
- 14.2.5. Decommissioning should not result in further damage to historic assets as the ground disturbance would already have occurred during the construction phase, and therefore is scoped out of the assessment.
- 14.2.6. Cultural heritage constraint areas will, where necessary, be defined to include an appropriate buffer around known historic assets. Constraint areas can be treated as a ‘trigger’ for the identification of potential direct effects: they represent areas within which works may lead to direct effects of more than negligible significance on known historic assets.
- 14.2.7. Potential effects on unknown historic assets will be discussed in terms of the risk that a significant effect could occur. The level of risk depends on the level of archaeological potential combined with the nature and scale of disturbance associated with construction activities and may vary between high and negligible for different elements or activities associated with a development, or for the development as a whole.

- 14.2.8. Potential effects on the settings of historic assets will be identified from an initial desk-based appraisal of data from Cadw, RCHAMW and the HER and consideration of current maps and aerial images available. Where this initial appraisal identifies the potential for a significant effect, the asset will be visited to define baseline conditions and identify key viewpoints. Visualisations will be prepared (by the LVIA consultants) to illustrate changes to key views, where potentially significant effects are identified.
- 14.2.9. Where potentially significant effects are identified, mitigation measures will be proposed. The preferred mitigation option is always to avoid or reduce effects through design, or through precautionary measures such as fencing off heritage assets during construction works. Effects which cannot be eliminated in these ways would lead to residual effects.
- 14.2.10. Adverse effects resulting from physical harm to historic assets may be mitigated by an appropriate level of survey, excavation, recording, analysis and publication of the results, in accordance with a written scheme of investigation agreed with Gwent Glamorgan Archaeological Trust (GGAT). Archaeological investigation can have a beneficial effect of increasing knowledge and understanding of an asset, thereby enhancing its archaeological and historical interest and offsetting adverse effects. Adverse effects resulting from visual change within the setting of historic assets can generally only be mitigated through changes to the design and layout of the proposed development, but can be off-set through more general enhancement measures (though this will not reduce the overall level of impact).

14.3. Methodology

- 14.3.1. The assessment will be carried out with reference to the following legislation, policy and guidance:
- The Historic Environment (Wales) Act 2016 as the primary statutory tool for protecting historic assets and sustainable management of the historic environment in Wales⁵⁴
 - Planning Policy Wales Edition 10, December 2018 (PPW)⁵⁵,
 - Technical Advice Note 24: The Historic Environment (May 2017)⁵⁶,
 - Cadw guidance documents: Heritage Impact Assessment in Wales (May 2017)⁵⁷ and the Setting of Historic Assets in Wales (2017)⁵⁸,
 - Cadw's Conservation Principles (March 2011)⁵⁹,
 - Natural Resources Wales (NRW) Guide to using the Register of Landscapes of Historic Interest⁶⁰

⁵⁴ Available online from: <https://www.legislation.gov.uk/anaw/2016/4/contents> (last accessed 12.11.2020)

⁵⁵ Available online from: <https://gov.wales/planning-policy-wales> (last accessed 12.11.2020)

⁵⁶ Available online from: <https://gov.wales/technical-advice-note-tan-24-historic-environment> (last accessed 12.11.2020)

⁵⁷ Available online from: <https://cadw.gov.wales/sites/default/files/2019-05/20170531Heritage%20Impact%20Assessment%20in%20Wales%2026917%20EN.pdf> (last accessed 12.11.2020)

⁵⁸ Available online from: <https://cadw.gov.wales/sites/default/files/2019-05/Setting%20of%20Historic%20Assets%20in%20Wales%20EN.pdf> (last accessed 12.11.2020)

⁵⁹ Available online from: https://cadw.gov.wales/sites/default/files/2019-05/Conservation_Principles%20for%20the%20sustainable%20managment%20of%20the%20historic%20environment%20of%20Wales.pdf (last accessed 12.11.2020)

⁶⁰ Available online from: https://cadw.gov.wales/sites/default/files/2019-05/LandscapesRegisterGoodPractice_EN_0.pdf (last accessed 12.11.2020)

- Standard and Guidance for Historic Environment Desk-Based Assessment (Chartered Institute for Archaeologists (CIfA 2020)⁶¹,
- Standard and guidance for commissioning work or providing consultancy advice on archaeology and the historic environment (CIfA 2020)⁶²,
- Gwent Glamorgan Archaeological Trust (GGAT) standards and guidance for archaeological work⁶³.

14.3.2. The consultees below will be approached for information to inform the EIA. These consultees may also be contacted by PINS regarding the scope of the EIA:

- Cadw,
- GGAT,
- Neath Port Talbot County Borough Council's Conservation Officer,
- Bridgend County Borough Council's Conservation Officer; and
- Local archaeological interest groups (as appropriate).

Baseline Desk Study

14.3.3. It is proposed that the cultural heritage assessment will employ two overlapping study areas. The Inner Study Area (ISA) will comprise the proposed site boundary and a 2 km buffer from the outer edge of the site boundary. The ISA will allow the development of the local historic environment to be understood in detail, to enable an assessment of the significance of known assets, and to identify the potential for currently unknown assets to occur, within the boundary of the proposed development. The Outer Study Area (OSA) will extend to at least 20 km from the site boundary, which is taken as the maximum extent of potentially significant effects on the settings of heritage assets. Within the OSA, assets will be included in the assessment based on the level of importance assigned to the asset (defined in the EIA Methodology), to ensure that all significant effects are recognised:

- Up to 2 km from site: minimum Grade II Listed Buildings, and any undesignated asset of local importance which has a wider landscape setting that contributes substantially to its cultural significance,
- Up to 5 km from site: minimum Grade II Listed Buildings, Conservation Areas, Historic Landscapes, Historic Parks and Gardens and undesignated assets of recognised regional importance,
- Up to 10 km from site: World Heritage Sites, Grade I and II* Listed Buildings, Scheduled Monuments and undesignated assets of national importance,
- Up to at least 20 km from site: any asset which is considered exceptionally important, and where long-distance views from or towards the asset are thought to be particularly sensitive, in the opinion of the assessor or consultees. Beyond 10 km, the baseline will be screened (and agreed with consultees) in order to identify any assets of particular sensitivity or importance.

14.3.4. The distribution of known archaeology in the surrounding area indicates that previously unidentified archaeological remains are most likely to be found on gentle slopes, sheltered fertile land and/or close to

⁶¹ Available online from: https://www.archaeologists.net/sites/default/files/CIfAS%26GDBA_4.pdf (last accessed 12.11.2020)

⁶² Available online from: https://www.archaeologists.net/sites/default/files/CIfAS%26GCommissioning_2.pdf (last accessed 12.11.2020))

⁶³ Available online from: www.ggat.org.uk (last accessed 12.11.2020)

the principal watercourses. At present, the entire ISA is considered to be of Low to Medium archaeological potential, although this may change during the assessment process.

- 14.3.5. The baseline of the assessment will be informed by a full desk-based assessment. The following sources will be consulted in preparing this assessment:
- Listed building data from Cadw;
 - Descriptions of designated historic assets and assets recorded in the Glamorgan Gwent Archaeological Trust Historic Environment Record (GGATHER) and the National Monuments Record Wales (NMRW), viewed on the Historic Wales website (<http://historicwales.gov.uk>);
 - Archaeological records held by GGAT HER;
 - Conservation area details from Neath Port Talbot County Borough Council and Bridgend County Borough Council;
 - Natural Resources Wales (NRW) Lidar data;
 - LANDMAP datasets;
 - Maps and plans held in the Glamorgan Gwent Archives (subject to any access restrictions posed by Covid-19);
 - Relevant internet sources including National Library of Wales,
 - Aerial photos held by the Central Register for Aerial Photography Wales (CRAPW) and the RCAHMMW;
 - Readily available published sources and unpublished archaeological reports.
- 14.3.6. A walkover survey will be undertaken to confirm the presence and condition of known features within the ISA once the layout has progressed and likely infrastructure locations have been identified.
- 14.3.7. A stage 1 setting assessment following Cadw guidance will be carried out for all historic assets within the ISA, and on Designated Historic Assets (DHAs) within the OSA. This will identify those assets for which the proposed wind farm may result in potentially harmful changes within their setting and will inform the scope of the detailed assessment of setting which will be included within the EIA.
- 14.3.8. Intangible cultural heritage for the combined study areas would also be considered at this stage, to include for example potential artistic or literary associations, sacred space, or local traditions and customs.

Baseline Field Study and Virtual Modelling

- 14.3.9. A site inspection will be carried out of those areas of the wind farm that are not under forestry, targeting the proposed turbine locations and internal access and cabling routes with a 100 m buffer to allow for micrositeing to establish the condition of historic assets and identify the potential for the existence of additional assets not currently identified. It will also identify the contemporary existing environment (including historic and modern developments, and land-use including operational wind farms and single turbines, commercial forestry, as well as other infrastructure and major developments such as the motorway, steelworks and high-voltage overhead powerlines) to help understand the setting of historic assets and the degree of change that the proposed development might introduce.
- 14.3.10. To assist with the impact assessment a staged approach will be undertaken. Field inspections will be made after a filtering exercise to identify those historic assets that would not experience visual change, and that can therefore be scoped out. This would be achieved by comparison of mapped historic assets against the Zone of Theoretical Visibility (ZTV) data and aerial imagery. For those assets which show a potential change to their setting by the development being visible, further analysis would be undertaken to assess the level of impact. The ZTV mapping uses a bare earth model and even when it suggests

potential visibility of the proposed development from historic assets, intervening vegetation and structures might screen views, which will be confirmed through field inspections.

- 14.3.11. 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.

Assessment of Heritage Significance

- 14.3.12. Analysis of the historic assets and historic mapping will allow synthesis and interpretation of the historic development of the site and enable the heritage significance to be established in accordance with Cadw's Heritage Impact Assessment in Wales (section 4.2) and Conservation Principles for the sustainable management of the historic environment in Wales. This analysis will also establish what comprises the setting for the historic assets, and what elements of that setting contribute to how the asset is experienced, understood and appreciated. Assessment of the heritage significance (sensitivity) of the asset would use the criteria in the following table (the Registered Landscape of Special Historic Interest (HLW) is not included as this has a specific assessment methodology and scoring mechanism that needs to be applied (Assessment of the Significance of Development on Historic Landscape (ASIDOHL2)), so is itemised separately below).

Table 14.1: Levels of heritage significance

Importance of the asset	Criteria
Very high	World Heritage Sites and other assets of equal international importance
High	Grade I and II* Registered Parks and Gardens, Scheduled Monuments, Protected Wreck Sites, Registered Battlefields, Grade I and II* Listed Buildings, and undesignated historic assets of equal importance
Medium	Conservation Areas, Grade II Registered Parks and Gardens, Grade II Listed Buildings, historic assets on local lists and undesignated assets of equal importance
Low	Undesignated historic assets of lesser importance
Negligible	Negligible or no heritage significance
Unknown	Further information is required to assess the potential of these sites

Source: Headland Archaeology

Initial Input to Design Iteration and Mitigation

- 14.3.13. Analysis of Geographic Information System (GIS) layered data about the historic environment (DHAs, non-designated historic assets in GAT and RCHAMW datasets) will be used to identify historic assets that may be affected by the proposed development. This information will be provided to the design team to assist with avoiding or minimising both direct and indirect effects on historic assets. Where potential adverse impacts on cultural heritage are identified, measures to prevent, reduce and/or where possible offset these impacts will be proposed.

Assessment of Potential Impacts

- 14.3.14. The proposed development would result in a change to the existing baseline, and change might be considered as impacts according to the degree of change in relation to heritage significance. In accordance with EIA regulations, the assessment would identify impacts and effects as direct or indirect, adverse or beneficial, and short-term, long-term or permanent. Direct impacts are those which physically

alter an asset and therefore its heritage significance; indirect impacts are those which affect the heritage significance of an asset by causing change within its setting. Application of Cadw's Managing: Setting of Historic Assets in Wales will require a four stage process in assessment of impacts:

- Stage 1: Identify the Historic Assets
- Stage 2: Define and Analyse the Setting
- Stage 3: Evaluate the Potential Impact of Change or Development
- Stage 4: Consider Options to Mitigate the Impact of a Proposed Change or Development

14.3.15. Magnitude of impact will be assessed with reference to the criteria set out in Table 14.2.

Table 14.2: Magnitude of impact

Magnitude of Impact	Guideline Criteria
High beneficial	Elements of the asset's physical fabric which would otherwise be lost, severely compromising its heritage significance, are preserved in situ; or Elements of the asset's setting, which were previously lost or unintelligible, are restored, greatly enhancing its heritage significance.
Medium beneficial	Elements of the asset's physical fabric which would otherwise be lost, leading to an appreciable but partial loss of heritage significance, are preserved in situ; or Elements of the asset's setting are considerably improved, appreciably enhancing its heritage significance; or Research and recording leads to a considerable enhancement to the archaeological or historical interest of the asset.
Low beneficial	Elements of the asset's physical fabric which would otherwise be lost, leading to a slight loss of heritage significance, are preserved in situ; or Elements of the asset's setting are improved, slightly enhancing its heritage significance; or Research and recording leads to a slight enhancement to the archaeological or historical interest of the asset.
Negligible	The asset's fabric and/or setting is changed in ways which do not beneficially or adversely affect its heritage significance.
Low adverse	Elements of the asset's fabric and/or setting which are of very limited relevance to its significance are lost or changed, resulting in a very slight loss of heritage significance; or Elements of the asset's fabric and/or setting which contribute to its heritage significance are minimally affected, resulting in a very slight loss of heritage significance.
Medium adverse	Elements of the asset's fabric and/or setting which contribute to its significance are affected, but to a limited extent, resulting in an appreciable but partial loss of the asset's heritage significance.
High adverse	Key elements of the asset's fabric and/or setting are lost or fundamentally altered, such that the asset's heritage significance is lost or severely compromised.

Source: Headland Archaeology

Assessment of Potential Effects

- 14.3.16. Following a design freeze the EIA will assess the potential direct effects for heritage assets from construction activities. Within the Outer Study Area assessment would be focussed on DHAs of the highest heritage significance (Table 14.1) that, following the filtering process, are considered to have potential for more than minimal visual change.
- 14.3.17. The assessment of effects will combine analysis of the data gathered during the DBA and site visit, photographs and wireframe visualisations of the topography and proposed development (produced by the LVIA consultants). Consideration will be given to assessing effects resulting from night time illumination following a review of the aviation lighting assessment and current baseline.
- 14.3.18. These assessments will be carried out using professional judgement, taking into account designations and heritage significance as assessed against national standards. Significance of effect will be based on a combination of heritage significance (in other disciplines sometimes referred to as sensitivity of the receptor) and magnitude of impact. The significance of effect matrix is presented in Table 14.3 and relates the heritage significance to the magnitude of impact (incorporating contribution from setting where relevant) to establish the likely significance of effect.
- 14.3.19. Effects of Major or Moderate significance are considered to be "significant effects"; those of Minor or Negligible significance are considered not to be significant, but will be described in the assessment. Where Table 14.3 provides two possible options for the significance of effect this will be a matter of professional judgement, taking into account the relative heritage significance of the asset, the magnitude of impact and the reversibility or otherwise of the impact.

Table 14.3: Significance of Effect

Magnitude of Impact	Heritage Significance				
	Very High	High	Medium	Low	
High beneficial	Major	Major	Major or Moderate	Moderate or Minor	Enhancement
Medium beneficial	Major	Major or Moderate	Moderate or minor	Minor	
Low beneficial	Major or moderate	Moderate or minor	Minor	Negligible	
Neutral/None	Neutral/nil	Neutral/nil	Neutral/nil	Neutral/nil	Neutral/nil
Low adverse	Major or moderate	Moderate or minor	Minor	Negligible	Harm
Medium adverse	Major	Major or moderate	Moderate or minor	Minor	
High adverse	Major	Major	Major or Moderate	Moderate or Minor	

Source: Headland Archaeology

ASIDOHL 2

- 14.3.20. The introduction of the wind farm within the Registered Landscape of Special Historic Interest (HLW) would have direct and indirect impacts on the historic landscape. Development within an HLW is not restricted, however the classification presents a further aspect of interest that would need to be assessed. A full Assessment of the Significance of the Development on the Historic Landscape (ASIDOHL2) would be required to complement any EIA and related planning submission, and ultimately the benefit that might

derive from the proposed development would be an essential element in determining whether the development would receive permission.

- 14.3.21. An ASIDOHL2 assessment will be completed following the design freeze. The process set out in Natural Resources Wales (NRW)'s "Guide to Good Practice on Using the Register of Landscapes of Historic Interest in the Planning and Development Process" (2007⁶⁴) will be followed.

Cumulative Effects

- 14.3.22. Cumulative effects on the significance of historic assets may occur where the wind farm results in an effect on the significance of a historic asset and other developments also have an effect on the same asset.
- 14.3.23. It is proposed that:
- turbines below 20 m in height be excluded from the assessment of cumulative effects;
 - single turbines between 20 m and 50 m in height within 5 km of Y Bryn Wind Farm are included;
 - single turbines over 50 m in height and all wind farms within 20 km be considered for cumulative effects; and
 - wind farms or single turbines beyond 20 km be excluded.
- 14.3.24. This is in order to focus the assessment on potentially significant cumulative interactions. It is not considered that domestic scale turbines (less than 50 m height to tip) beyond 5 km from the proposed development will have the potential to result in significant cumulative interactions.

14.4. Scope

- 14.4.1. It is not proposed that cultural heritage issues in general would be scoped out, but where for example the "bare earth" ZTV indicates no visibility of the development from a historic asset or from areas where the asset's significance can be appreciated, this would allow the asset to be scoped out early in the assessment process. All such instances where a historic asset is scoped out of further assessment will be clearly explained within the ES.
- 14.4.2. As noted above, decommissioning should not result in further damage as the ground disturbance would already have occurred during the construction phase, and therefore is scoped out of the assessment.
- 14.4.3. The EIA may include a high level overview of the proposed grid connection. At this stage, the proposed grid connection route and method of connection is unknown. However, it is proposed that operational phase effects on historic assets will be scoped out for the grid connection route if the proposal taken forward is for underground cable.

Question 22: Do consultees agree with the approach and scope of the Heritage assessment?

Question 23: Do consultees see value to any particular mitigation and/or enhancement measures for any local or regional heritage features, whether referred to above or otherwise?

⁶⁴Available online from: https://cadw.gov.wales/sites/default/files/2019-05/LandscapesRegisterGoodPractice_EN_0.pdf (last accessed 12.11.2020)

15. Traffic and Transport

15.1. Introduction

- 15.1.1. The objective of the Traffic and Transport Assessment is to assess the impact of the development of Y Bryn Wind Farm on the public road network, through an assessment of impact on existing traffic levels by means of a Traffic Impact Assessment (TIA). The assessment will be undertaken by Natural Power Consultants and Pell Frischmann.
- 15.1.2. At this stage, turbine component deliveries are anticipated to come from Swansea docks and along the M4 towards the site, however a number of options are currently being investigated for final site access.

15.2. Methodology and Scope

EIA - Traffic Impact Assessment Scope

- 15.2.1. An assessment of the traffic impact will be undertaken for the proposed development using the relevant project specific information. The methodology for the assessment would comply with all latest guidance, as relevant, including the Guidelines for the Environmental Assessment of Road Traffic (IEMA 1993) and Department for Transport (DfT) Guidance on Transport Assessment.
- 15.2.2. The methodology used for the assessment will be as follows:
- The geographic extent of the study will be confirmed in consultation with the relevant roads and highways authorities and will generally consist of the local road network where sensitive receptors are evident.
 - Baseline traffic data will be used to measure the impact on existing traffic levels, considering the increase in heavy goods vehicles (HGV's) and light goods vehicles (LGV's) during construction and operation for the proposed development which will be derived from detailed project information and professional judgement. Acquisition of traffic count data will be done either by use of the Department for Transport Traffic Count Database, consultation with the local roads authority or commissioning of traffic counts, depending on the level of existing information available.
 - The assessment of traffic against baseline data will determine the likely impact of project traffic against the criteria set out in Institute of Environmental Assessment (IEA) Guidance Notes No.1 and Department for Transport (DfT) guidance, as relevant. The guidance suggests that two rules can be used as a screening process to delimit the scale and extent of the assessment:
 - Rule 1 – Include highway links where traffic flows would increase by more than 30% (or the number of HGVs would increase by more than 30%)
 - Rule 2 – Include any other specifically sensitive areas where traffic flows would increase by 10% or more. (IEA Guidelines Paragraph 3.20 defines sensitive area as including "accident blackspots, conservation areas, hospitals, links with pedestrian flows etc.")

Where the predicted increase in traffic flow is lower than these thresholds, the significance of the effects can be stated to be low or insignificant, and further detailed assessments are not warranted. Where the predicted increase in traffic flow results in a high significance then further mitigation is required in order to minimise the potential impact.

It should be noted that these guidelines are intended for the environmental impact assessment of long-term impacts of road traffic associated with major new developments such as industrial estates and supermarkets. In terms of a wind farm development, this would be equivalent to the operational phase rather than the construction phase. The volume of traffic generated during the operational phase of a wind farm is considered negligible as during normal operation the wind farm would generally be unattended but with regular site visits to carry out routine inspections and preventative

maintenance. However, in the absence of other guidance, the IEA guidelines are used to assess the temporary transport flow during construction.

If any traffic impact criteria is exceeded, the assessment will recommend suitable mitigation measures. The assessment would consider:

- Delay effects on other road users (by consideration of percentage changes in traffic composition and volume),
 - Road Infrastructure (dilapidation)
 - Safety effects on other road users and adjacent properties, and
 - Safety effects on pedestrians and cyclists (e.g. on routes passing through towns).
- The study would consider effects during construction, operation and decommissioning.

AIL Route Survey Report

- 15.2.3. An assessment of potential delivery routes for Abnormal Indivisible Loads (AILs) will be carried out, including the production of swept path drawings for key points of interest, on OS base mapping or topographical survey data as deemed appropriate. The swept path assessments will identify areas of over-sail and over-run, street furniture modifications and indicative mitigation works, for both turbine blade and tower section components.
- 15.2.4. A full Electronic Service Delivery for Abnormal Loads (ESDAL) consultation with the trunk and local roads officers relating to structure issues with the proposed access routes would also be undertaken to identify any structural issues that may arise. Consideration will also be given to any site access junctions to ensure adequate design including visibility splays.
- 15.2.5. A Road User Safety Audit will be undertaken, if necessary.

Preliminary Traffic Management Plan

- 15.2.6. As part of the Traffic and Transport assessment, and in line with any pre-application requirements, a Preliminary Construction Traffic Management Plan will be produced for transport associated with site traffic (HGV's, LGV's etc), as well as a separate Preliminary Abnormal Indivisible Load (AIL) Traffic Management Plan for transport associated with wind turbine component deliveries. Both documents will be included as part of the planning submission. The Traffic Management Plans will generally outline the detail of the works and the associated traffic. It will include aspects such as the standard industry mitigation measures considered for impacts associated with the works, and typical traffic management measures employed for control of traffic on the public road to ensure there are no safety issues or impediments on the public highway.

EIA - Traffic and Transport Chapter

- 15.2.7. A Traffic and Transport EIA chapter will be produced as part of the EIA and include the following information:
- Traffic Impact Assessment;
 - AIL Route Survey Report(appended);
 - Preliminary AIL Traffic Management Plan (appended);
 - Preliminary Construction Traffic Management Plan (appended).

16. Noise

16.1. Introduction

- 16.1.1. This section of the scoping report summarises the proposed scope for the noise assessment for Y Bryn Wind Farm, undertaken by specialist noise consultants Hayes McKenzie Partnership Ltd.
- 16.1.2. Noise from an operating wind farm generally exhibits itself in two forms: aerodynamic and mechanical. The aerodynamic noise is broadband in nature and originates from the incoming air interacting with the moving blades. Given the rotational nature of the source, there can be a certain rhythmical nature, or modulation, to the broadband noise under certain circumstances. Whether the wind farm noise is audible, or distinguishable, to a nearby resident depends upon many factors, including: the receptor distance, the wind speed, the wind direction, and the nature of local background noise sources (e.g. noise from nearby trees blowing in the wind, noise from a nearby stream, or noise from local traffic flows) that may or may not help to mask the wind turbine noise. It is possible that mechanical noise from internal machinery can also be audible, depending upon the design of said machinery. Mechanical noise if present is generally tonal in nature, where discrete frequencies may be identified, but this depends upon the machine design in the first instance, and upon the nature of any background noise that may provide masking in particular frequency ranges.
- 16.1.3. Noise related to the construction phase of a wind farm may exhibit itself in many forms, depending upon the nature of the particular construction activity and plant. Typically there would be various stages (that may overlap) to the construction phase, e.g. works on borrow pits, construction and renovation of access tracks, hard standing area construction, turbine foundation excavation and concrete pouring, etc. Each of these operations may involve different machinery and so cause different levels of noise, but is generally, relatively speaking, short-term in nature, and likely to be limited to daytime working hours. Additional noise may also be generated from construction related traffic, for instance if there is a requirement for delivery of road stone or concrete.
- 16.1.4. It is proposed to assess operational noise from the proposed development using ETSU-R-97, and noise from the construction phase using BS 5228:2019.

16.2. Methodology

Operational Noise - General Approach

- 16.2.1. Operational noise from the proposed development will be assessed according to the noise criteria suggested by ETSU-R-97⁶⁵. The use of ETSU-R-97 to assess the potential noise impact of wind energy developments is recommended by TAN 8^{66, 67}, which is referred to by Planning Policy Wales⁶⁸ in regards

65 ETSU-R-97. *The Assessment and Rating of Noise from Wind Farms*. ETSU for the Department of Trade and Industry (1996).

66 Technical Advice Note (TAN) 8: *Planning for Renewable Energy*, Welsh Assembly Government (July 2005).

67 TAN 8 states at Paragraph 2.16 of Annex C: “The report ‘The Assessment and Rating of Noise from Wind Farms’ (ETSU-R-97) describes a framework for the measurement of wind farm noise and gives indicative noise levels calculated to offer a reasonable degree of protection to wind farm neighbours, without placing unreasonable restrictions on wind farm development or adding unduly to the costs and administrative burdens on wind farm developers of planning authorities. The report presents the findings of a cross-interest Noise Working Group and makes a series of recommendations that can be regarded as relevant guidance on good practice”.

68 *Planning Policy Wales*. Edition 10, December 2018. Welsh Government (2018).

large scale wind energy development. The methods outlined in the Institute of Acoustics Good Practice Guide⁶⁹ (GPG) will also be followed, as this gives further good practice guidance to the application of ETSU-R-97.

- 16.2.2. Y Bryn Wind Farm currently is proposed to have turbines with a tip height of up to 250 m. In terms of predicting potential noise from the development, source noise levels will be based upon a range of candidate turbine models that are currently available in the market of maximum tip height considered. A combined sound power level curve that encompasses the maximum noise levels of the various candidate turbine models will be modelled.

Cumulative Assessment and Daytime Noise Criterion

- 16.2.3. It is required for cumulative noise levels, from all wind farm developments combined, to meet the ETSU-R-97 noise criteria. The cumulative noise assessment will consider all other existing, proposed, or consented wind farm developments that are close enough to be relevant to the noise sensitive receptors neighbouring this proposal. When modelling the other wind farm developments, consideration will be given to the 'controlling property' and 'significant presented headroom' approaches outlined in the GPG. If it is possible and realistic, it will be assumed that the other wind farm developments are at their respective noise limits.
- 16.2.4. Table 16.1 below summarises other wind farm developments in the immediate area, detailing their approximate distance and generating capacity.

Table 16.1: Other wind farm developments

Wind Farm	Distance to nearest Y Bryn turbine (km)	County*	Status	Generating Capacity (MW)
Foel Trawsnant	0.2	NPT	Proposed ⁷⁰	33 MW
Mynydd Brombil	1.6	NPT	Operating	8 MW
Pen y Cymoedd	2.9	RCT/NPT	Operating	228 MW
Ffynnon Oer	4.1	NPT	Operating	32 MW
Llynfi Afan	4.4	NPT/BCC	Operating	24 MW
Melin Court	6.5	NPT	Approved	18 MW
Upper Ogmere	7.0	BCC	Proposed	25 MW
Newton Down	8.5	BCC	Operational	5 MW
Pant y Wal	11.9	BCC	Operational	25 MW
Pant y Wal Extension	10.9	BCC	Operational	20 MW
Pant y Wal Extension (Phase 2)	11.9	BCC	Proposed	5 MW
Fforch Nest 1/2	12.4	RCT/BCC	Operational	17.5/10 MW

69 A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise. Institute of Acoustics (2013).

70 Consent has been granted to a 13 turbine scheme at Foel Trawsnant, subject to a Section 106 agreement. A revised 11 turbine scheme (with greater tip height) has subsequently been proposed, for which it is understood the local authority have resolved to grant permission, subject to a Section 106 agreement.

Wind Farm	Distance to nearest Y Bryn turbine (km)	County*	Status	Generating Capacity (MW)
Maerdy	12.8	RCT	Operational	24 MW
Maesgwyn	13.5	NPT	Operational	26 MW
Maesgwyn Extension	13.2	NPT	Operational	10 MW

*Where: NPT: Neath Port Talbot County Borough Council, BCC: Bridgend County Borough Council, RCT: Rhondda Cynon Taf County Borough Council.

- 16.2.5. It is understood that there are no single wind turbine developments within 4 km of the site, that are either existing, or proposed/consented within the planning system, that would need consideration within the cumulative noise assessment.
- 16.2.6. It is proposed to include the following wind farms in the cumulative noise assessment:
- Foel Trawsnant;
 - Mynydd Brombil;
 - Pen y Cymoedd;
 - Ffynnon Oer;
 - Llynfi Afan;

Question 24: Do consultees agree with the proposed approach to cumulative noise and the list of other wind developments that are planned to be included in the cumulative noise assessment?

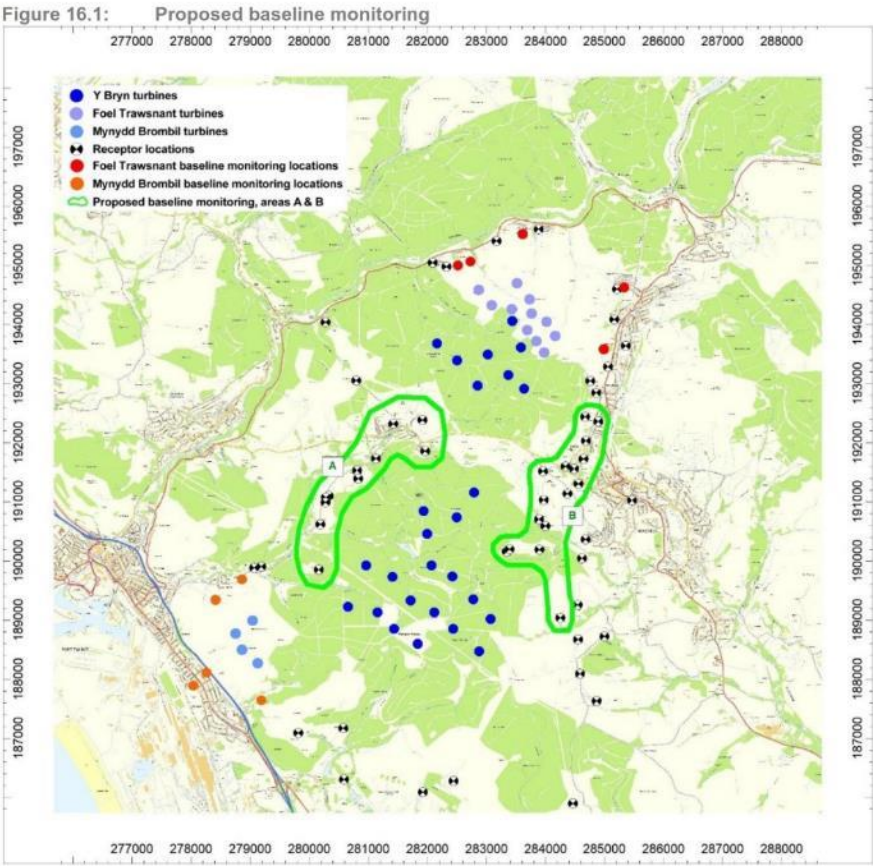
- 16.2.7. ETSU-R-97 suggests that daytime noise limits within the range of 35 – 40 dB LA90 offer a reasonable degree of protection to wind farm neighbours without placing unreasonable restrictions on wind farm development. The actual value chosen for the daytime limit should depend upon a number of factors, namely:
- The number of dwellings in the neighbourhood of the wind farm;
 - The effect of noise limits on the number of kilowatt/hour (kWh) generated; and
 - The duration and level of exposure.
- 16.2.8. Due consideration should be given to all three mentioned factors. Nevertheless, if just the second aspect is considered, the potential wind energy generating capacity of the Y Bryn development is estimated to be up to 171.6 MW. ETSU-R-97 suggests that the larger the development, the stronger the planning merit for a higher noise limit, e.g. "a single wind turbine causing noise levels of 40 dB at several nearby residences would have less planning merit than thirty wind turbines causing the same amount of noise at several nearby residences" (noting that in 1997 the largest machines considered by the Noise Working Group were only 450 kW). That is, the greater the generating capacity, the greater the positive aspects of the development to justify a higher noise limit, in a planning balance sense. For large significant wind farm developments (i.e. >50 MW), an overall noise condition daytime limit of 40 dB is usually imposed, for example as at Pen y Cymoedd, Clocaenog and Brechfa Forest West. Given the proposed Y Bryn development is estimated to be up to 171.6 MW and the additional planning merit inferred from the weight of more recent climate change and renewable energy related law and policy, including the Net Zero target, Hayes McKenzie consider a daytime noise limit at the upper value of 40 dB LA90 (or background + 5 dB) to be appropriate for non-financially involved properties. Any financially involved properties would be apt to receive a higher 45 dB LA90 limit.
- 16.2.9. Potential wind farm noise levels during night-time periods will be assessed against the ETSU-R-97 night-time criterion of 43 dB LA90 (or background + 5 dB). For dwellings where residents have a financial

involvement with the development, potential wind farm noise levels will be assessed against the ETSU-R-97 suggested criterion of 45 dB L_{A90} (or background + 5 dB).

Question 25: Do consultees agree it is appropriate to assess noise from the development, individually and cumulatively, against a daytime limit of 40 dB L_{A90} / Background + 5 dB and 45 dB L_{A90} for financially involved properties?

Baseline Monitoring Locations

- 16.2.10. Following the ETSU-R-97 approach, baseline background noise levels will be monitored at several potentially sensitive noise receptors neighbouring the proposed development.
- 16.2.11. Figure 16.1 details the areas of proposed baseline noise monitoring. Also highlighted on the figure are the background noise monitoring locations to the north, which were previously used for the Foel Trawsnant application. For the assessment of receptors to the north and north-east, it is intended to refer to these background noise measurements collected for Foel Trawsnant.
- 16.2.12. In a similar fashion, the background noise monitoring locations used for the Mynydd Brombil application are also highlighted. It is intended to use these background noise levels for the assessment of receptors to the south-west of the development.
- 16.2.13. It is intended, if possible, to undertake new background noise monitoring at several locations within areas A and B as highlighted on Figure 16.1. These are areas where preliminary noise predictions suggest cumulative wind farm noise levels may be approaching the ETSU-R-97 daytime limit range of 35-40 dB L_{A90}, and where background noise monitoring has not previously been undertaken.



Source: Hayes McKenzie

- 16.2.14. The methodology and final locations of background noise monitoring will be discussed and agreed with the local environmental health officers of NPT and BCC.

Question 26: Do consultees agree with the areas proposed for background noise monitoring?

Construction Noise

- 16.2.15. Noise associated with the construction and decommissioning stages of the proposed development will be undertaken according to the methods outlined by BS 5228⁷¹. This will be based upon noise levels of typical or intended construction plant, that would be considered likely for the anticipated various construction phases of the development. It is intended to assess noise from construction related traffic on nearby access routes according to the method outlined in Calculation of Road Traffic Noise⁷².

71 BS 5228-1:2009+A1:2014: Code of practice for noise and vibration control on construction and open sites, Part 1: Noise. (December 2008).

72 Department of Transport: Calculation of Road Traffic Noise. (1988).

Question 27 Do consultees agree with the proposed approach to assessing construction related noise from the proposed development?

Scope

- 16.2.16. The scope of the noise assessment will include an assessment of:
- Operational noise from the proposed development, including cumulative noise impacts from neighbouring wind farm developments;
 - Construction related noise from the construction and decommissioning phases of the proposed development, including noise from associated construction traffic.

17. Forestry

17.1. Introduction

- 17.1.1. This section has been prepared by ARC Woodlands Ltd and sets out the approach which would be used to integrate the proposed Y Bryn Wind Farm into the existing woodland structure.
- 17.1.2. The proposed development is within the afforested areas that lie between Port Talbot and Maesteg. These areas of forest are managed by NRW on behalf of the Welsh Ministers and the site boundary lies within the two NRW Forest Resource Plan areas of Margam and Afan⁷³. The forest areas can be characterised as upland dominated by conifer tree species, the most common of which is Sitka spruce (*Picea sitchensis*) (Figure 17.1). Other areas of broadleaved woodland exist within the site boundary as either plantation, Semi-natural or Ancient semi-natural type woodland. In addition, there are areas of permanent open ground around water courses and other features and open ground created through the felling programme of NRW.
- 17.1.3. The current Bryn site boundary includes only the freehold land belonging to NRW. In addition to the freehold land, there are areas within the existing NRW Forestry Resource Plans which are leased to Welsh Government and managed by NRW alongside the freehold land. As a result, the study area for the forestry assessment for Y Bryn will be extended to include these leasehold areas as shown in Figure 17.2.
- 17.1.4. The planted forests were established from the 1920's onwards⁷⁴ and many parts have been harvested and restocked. This has given rise to a range of ages of trees with open areas, young trees and mature trees all present. The forests are now in a production phase and felling and replanting is ongoing.
- 17.1.5. The forest area is actively managed on either a clear felling or a continuous cover system, with some areas being subject to minimum intervention practices. The management objectives of NRW include restructuring the forests to break up even aged crops, diversifying species, restoring open habitat and ancient woodland sites and providing recreation and community benefits including footpaths, cycle paths.
- 17.1.6. In the UK there is a strong presumption against permanent deforestation⁷⁵, unless it addresses other environmental concerns. The integration of the proposed development into the Forest Design Plan will be a key part of the development process. A wind farm felling plan would be prepared setting out the forestry felling and management requirements, including replanting associated with the construction and operation of the proposed development.

⁷³ <https://naturalresources.wales/about-us/what-we-do/welsh-government-woodland-estate/forest-resource-plans> [Accessed:22/09/2020]

⁷⁴ UK. Forestry Commission (1961) *Glamorgan Forests, Forestry Commission Guide*. London: Her Majesty's Stationery Office

⁷⁵ Available online from: <http://gov.wales/woodlands-wales-strategy> (last accessed 12.11.20)

17.2. Consultation

- 17.2.1. The main forestry consultee is NRW who manage and control the forest land within the site boundary. They are also the body that regulates tree felling and planting in Wales in both the Welsh Government woodland and private woodlands.
- 17.2.2. To integrate the tree felling needed by the proposed wind farm, the developer will consult with NRW throughout the development of the proposal so that the felling can meet the requirements of the Welsh Government's Woodland for Wales strategy⁷⁶, individual NRW Forest Resource Plans and NRW's long term objectives.
- 17.2.3. There may be comments raised by other consultees, including Neath Port Talbot and Bridgend County Borough Councils, regarding forestry and these will be detailed in the ES.

17.3. Legislation and Guidance

- 17.3.1. The forestry proposal will be prepared in accordance with the current industry best practice and guidance.
- 17.3.2. The United Kingdom Forestry Standard (Forestry Commission 2017)⁷⁷ is the standard used by all UK governments as a reference for sustainable forest management. The standard is supported by seven guidelines which can be used to demonstrate the appropriate management of forests and woodland in the UK to international and European criteria. National forestry policy in Wales is set out by the Welsh Government's Woodlands for Wales (Welsh Government, 2018) strategy. The strategy is supported by the Woodlands for Wales: action plan (Welsh Government, 2018⁷⁸) and the 7 main themed supporting documents-
- Biodiversity
 - Economic development and enterprise benefits
 - Education, learning and skills benefits
 - Extent nature and character
 - Health and well being
 - Landscape heritage and culture
 - Water and soils
 - Tree health strategy⁷⁹
- 17.3.3. NRW managed woodlands are certified through both the Forest Stewardship Council (FSC)⁸⁰ and the Programme for the Endorsement of Forest Certification (PEFC)⁸¹ sustainable forest management schemes. Any forest operations required by the development will adhere to the commitments made through these schemes to the UK Woodland Assurance Standard 4.0 (2018)⁸².
- Forestry Commission (2017). The UK Forestry Standard: The Government's Approach to Sustainable Forestry, Forestry Commission, Edinburgh.

⁷⁶ Available online from: <http://gov.wales/woodlands-wales-strategy> (last accessed 12.11.20)

⁷⁷ Available online from: <http://www.gov.uk/government/publications/the-uk-forestry-standard> (last accessed 12.11.20)

⁷⁸ Available online from: <https://gov.wales/woodlands-wales-action-plan> (last accessed 12.11.20)

⁷⁹ Available online from: <http://gov.wales/forestry> [Accessed: 10/09/2020 (last accessed 12.11.20)

⁸⁰ Available online from: <https://fsc-uk.org> (last accessed 12.11.20)

⁸¹ Available online from: <https://www.pefc.co.uk> (last accessed 12.11.20)

⁸² Available online from: <http://ukwas.org.uk> (last accessed 12.11.20)

- UKWAS (2012). The UK Woodland Assurance Standard Third Edition, UKWAS, Edinburgh.
- Woodlands for Wales – The Strategy for Woodlands and Trees. Welsh Government (2018). Welsh Woodland Strategy

17.3.4. In addition, the proposals will be developed in line with industry best practice and will refer to other guidance produced by NRW, along with relevant material from Forest Research, Forestry Scotland and Forestry England.

Question 28: Are consultees in agreement that this provides sufficient guidance for the forestry elements of this wind farm proposal?

17.4. Methodology

- 17.4.1. The forestry baseline will be prepared from site visits, aerial photography and the GIS datasets held by NRW at the time of the ES preparation. The GIS datasets used by NRW to produce the Forest Resource Plans are live datasets and up to date versions will be used up to design freeze stage. The baseline produced for the ES will include current species, age and the existing felling and restocking plans. The baseline used for this scoping section was sourced as a GIS datasets from the Lle Geo-Portal for Wales⁸³.
- 17.4.2. The ES will reflect on how the forests can rapidly change either through regular forest management activity dictated by landowner activities and market forces or through natural events like storm damage, pests and disease outbreaks. Forestry is therefore not considered likely to result in a significant effect. The ES chapter will describe the changes needed to incorporate the wind farm proposal into the forest areas rather than ascertaining levels of EIA significance. This will include changes to forest cover where felling is needed to incorporate roads or other infrastructure including turbine locations, and will describe the felling method (which is dependent on age of crop) and product (e.g. timber, brash etc.). The Forestry Chapter of the ES will also identify where replanting is possible once the development is completed. The effects of the forest felling and restocking will be assessed in other chapters of the ES including Ecology, Landscape, Hydrology, and Traffic and Transport.
- 17.4.3. The main source of potential change within the forest will be from the preparation of the site prior to the construction of turbines and infrastructure. This will be in the form of tree felling/clearance to create the space required for the development. Tree felling and clearance will be needed for turbine foundations and crane hardstandings, the upgrading and construction of new access tracks/roads, excavation of borrow pits, cable routes, drainage ditches, batters and the construction of control buildings/substation, met masts, compounds and laydown areas etc.
- 17.4.4. Further impact in the operational phase may arise from maintenance works to tree cover around infrastructure. Examples may include removing or cutting trees to maintain tree heights. During decommissioning it may be necessary to remove trees, which have regrown since construction, in order to access the infrastructure.

17.5. Cumulative Assessment

- 17.5.1. The changes to the forest resulting from the development are regarded as specific to the site boundary and it is proposed that there are no cumulative forestry issues to be addressed.

17.6. Mitigation

- 17.6.1. Mitigation of potential impacts will be embedded, where possible, in the design of the proposed wind farm; for example, by using existing forest infrastructure and avoiding sensitive areas such as Plantations on

⁸³ <http://lle.gov.wales/home> [Accessed:03/05/2020]

Ancient Woodland Sites (PAWS) within the study area. A keyholing approach will be used around the individual wind farm elements which will seek to limit the amount of felling required for each wind farm component. Assessment of the crops surrounding the component by age, existing felling data and wind firmness will indicate whether keyholing will be used or whether felling out to larger areas will be needed.

- 17.6.2. Some of the area felled will be available post construction for replanting which may be with alternative species or the areas may be retained for other purposes that benefit the overall aims of the Forest Resource Plan, for example an alternative open habitat or a change of woodland type. The Forest Resource Plans may need to be redesigned by NRW to incorporate these changes.
- 17.6.3. The "Woodlands for Wales" document presents the role that the Welsh Government expects new and existing woodlands to provide. The strategy highlights the "strong presumption" against permanent removal of woodlands except for the restoration of priority open habitats. The strategy goes on to explain that where forest or woodland area is lost to development it is assumed that the loss is offset by new compensatory planting.

Question 29: Are consultees in agreement with the proposed methodology and approach for forestry?

18. Socio-Economics

18.1. Introduction

- 18.1.1. The demonstration of socio-economic and community impacts has become a more prominent issue for the onshore wind sector in recent years. We therefore consider it an essential that this ES includes a socio-economic assessment to determine the benefits for the Welsh economy and benefits for local communities.
- 18.1.2. In terms of tourism effects, the review of literature evidence suggests that overall the research tends to support the premise that wind farm development has not resulted in a serious negative economic impact on tourism and could even have wider positive impacts. The most relevant and recent research on the economic impact of wind farms on tourism was published by the Welsh Government in February 2014⁸⁴. The research outlines a number of key findings which suggests that there is little evidence to suggest wind farms have had/or as having, a detrimental impacts on tourism across Wales. Furthermore, a more recent national tracker survey⁸⁵ outlined that support for renewable energy has been consistently high during the tracker with 79% expressing support for the use of renewables, whilst opposition to renewables was very low at 4%, with only 1% strongly opposed. It is intended therefore to **scope out** assessment of **tourism** from the EIA.

18.2. Methodology

- 18.2.1. We propose that the socio-economic assessment would be based upon 3 economic boundaries (local, regional and national economy) and will include the following:

⁸⁴ Welsh Government (2014) *Study into the Potential Economic Impact of Wind Farms and Associated Grid Infrastructure on the Welsh Tourism Sector*, Available online from: https://gov.wales/sites/default/files/publications/2019-06/potential-economic-impact-of-wind-farms-on-welsh-tourism_0.pdf (last accessed 12.11.20)

⁸⁵ Energy and Climate Change Public Attitude Tracker, Wave 24, January 2018: Available online from https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/678077/BEIS_Public_Attitudes_Tracker_-_Wave_24_Summary_Report.pdf (Last accessed 12.11.20)

- assess the existing economic environment (baseline) using official data on population, industrial structure, unemployment and economic activity levels, income and earnings;
- assess the potential economic effects during the development and construction phase of the proposed development including direct employment, supplier effects and income effects;
- assess the potential economic effects during the operation of the wind farm including direct employment, supplier effects and income effects;
- assess the economic affects arising from infrastructure improvements and potential community benefits and shared ownership; and
- consider and report on mitigation and management measures which could be employed to minimise any negative impacts and maximise potential positive impacts.

18.2.2. Given the evidence from numerous large scale wind farm applications in the UK that there is little likelihood of significant effects in EIA terms, the socio-economic chapter will not aim to derive EIA significance for effects.

Question 30: Are consultees in agreement with the proposed methodology for socio-economic and that tourism is scoped out?

19. Health and Public Safety

19.1. Shadow Flicker

- 19.1.1. Department of Energy and Climate Change (DECC) studies⁸⁶ have shown that shadow flicker occurs in the UK within ten rotor diameters of the turbine and within 130 degrees either side of north relative to the turbines. Beyond these limits it is considered that potential impacts associated with shadow flicker will not be significant.
- 19.1.2. Should the final turbine layout mean that there are no residential properties identified within potential shadow flicker zones of proposed turbines, we propose to scope out the need for a shadow flicker assessment from the ES. Otherwise, shadow flicker assessment will be undertaken to analyse the potential impact and assess its significance. This would consist of determining the maximum number of shadow flicker hours per year at any receptor within the vicinity of the wind farm that theoretically has the potential to experience some form of shadow flicker effects, using software such as WindFarmer (which would show 'worst case scenario', i.e. with no account taken of actual window locations, local average climatic conditions, intervening screening features (buildings, trees etc.)). Depending on the outcomes of this initial 'worst case' assessment further 'real-world' conditions would be reviewed further.
- 19.1.3. There is limited guidance on a defined number of hours of shadow flicker that is considered acceptable and considered insignificant. Predac, which are a European Union sponsored organisation that promotes best practice in energy use and supply, recommends that shadow flicker does not exceed 30 hours per year or 30 minutes per day (Predac, 2003)⁸⁷. Less than 30 hours per year of theoretical shadow flicker is the most commonly quoted figure within the industry as an acceptable limit in the UK. Mitigation is however possible through use of light sensors and individual turbine control during potential flicker producing times and conditions.

⁸⁶ An update of the UK Shadow Flicker Evidence Base as reported for DECC by Parsons Brinckerhoff, March 2011: Available online from Update of UK Shadow Flicker evidence base - GOV.UK (www.gov.uk) (Last accessed 25.11.20)

⁸⁷ Predac (2003) *Spatial Planning of Wind Turbines Report*.

19.2. Ice Throw

- 19.2.1. Blade icing is a rare occurrence that will only happen when the blades of the turbine are stationary and under near freezing temperatures and relatively high humidity, with either freezing rain or sleet. If these certain climatic conditions cause icing to occur, once operation recommences, the operational motion of the turbine blades and the forces of gravity can cause the ice to break off and fall vertically to the ground.
- 19.2.2. The risk of ice throw⁸⁸ is dependent on the local climate and weather conditions in which the wind turbines are situated. Increases in temperature, wind speed and solar radiation can cause the ice to loosen and fall. This makes the area under the turbine the area of the greatest risk. Dependent on the conditions, there is the potential for the blades to propel the ice up to several hundred meters when they commence operation. This can cause damage to people, structures and vehicles.
- 19.2.3. Siting the turbines away from occupied buildings, roads and public areas can mitigate the risk, as is the case at the proposed Y Bryn Wind Farm development. There are also nowadays specific turbine sensors that can identify the likeliness of the climatic conditions that cause icing, so if ice accumulation is expected or occurs the turbines can be shut down. This works when icing on the blades results in reduced performance, unusual loads, and/or vibrations. These are then detected by a control system and trigger an automatic shutdown of the turbine. Project operators use these detection systems to halt operation of certain turbines during icing events to prevent ice throws and equipment damage and, in these cases, the turbine remains off-line until an operator visually inspects and manually restarts the turbine when the blades are clear of ice.
- 19.2.4. The overall view is that modern turbines which are fitted with climatic detection systems like the ones being considered for Y Bryn Wind Farm, together with good practice site management procedures including the use of visual warnings signs and restricted access to turbines where ice is present on blades, will mitigate and manage this potential hazard.
- 19.2.5. TAN 8 notes that the '*build up of ice on turbine blades is unlikely to present problems*' and has not been reported as a significant issue at operational sites in Wales. Ice throw will **not** be assessed in the ES.

19.3. Lightning

- 19.3.1. The danger to human or animal life from lightning strike via a turbine is rare since lightning is directed down the turbine to the earth. Maintenance of the turbines would not be undertaken during high lightning risk weather conditions. Lightning will **not** be assessed in the ES.

19.4. Health & Safety

- 19.4.1. The assessment of the safety aspects of the construction, operation and decommissioning of the wind farm will consider the health and safety of construction workers and risks to safety of members of the general public. NPT and Bridgend Councils will be consulted with regard to the location of any hazardous sites within the vicinity of the proposed development.

⁸⁸ Evaluating risk caused by ice throw from wind turbines (2017). Available from <https://www.lr.org/en-gb/insights/articles/evaluating-risk-caused-by-ice-throw-from-wind-turbines.aspx> [Accessed 03.12.2020]

Question 31: Do you agree that ice throw and lighting is scoped out of the ES and potentially shadow flicker if no properties lie within 10 rotor diameter of turbines?

20. Aviation and Existing Infrastructure

20.1. Introduction

- 20.1.1. This section assesses the potential impact of the proposed Y Bryn Wind Farm development on aviation and existing infrastructure and then sets out the proposed methods for assessing aviation and existing infrastructure.
- 20.1.2. In terms of aviation, consideration has been given to the potential impact on civil and military aviation interests. The relevant aviation stakeholders have been identified.
- 20.1.3. The assessment to date has been undertaken by means of desktop study methods, including the review of the relevant aviation policy and legislation documents, identification of statutory aviation bodies, as well as identifying any potential mitigation measures that may need to be employed.
- 20.1.4. The assessment on existing infrastructure will be carried out by Natural Power. This section summarises the existing public right of way (PRoW) network and any other public trails in the vicinity of the proposed development. In addition, TV and radio reception, and telecommunications is discussed in this section, along with any existing water, gas and power infrastructure.

20.2. Aviation

Introduction

- 20.2.1. Wind turbines have the potential to cause degradation to air traffic control, air defence and meteorological radars and aeronautical radio navigation equipment. They can also pose a hazard to low flying aircraft and affect the flight procedures for aircraft in the vicinity of airports.
- 20.2.2. This section of the Scoping Report identifies aviation receptors that have the potential to be affected by the proposed development. It also assesses whether any of these receptors have the potential to be significantly affected by the proposed development and therefore require full EIA assessment.

References and Standard Guidance

- 20.2.3. A full explanation of the impact of wind turbines on aviation is contained within Civil Aviation Publication 764 (CAA Policy and Guidelines on Wind Turbines)⁸⁹.The following guidance and industry standards on the potential effects of wind turbines on aviation will be used in undertaking the aviation assessment:
 - Civil Aviation Publication (CAP) 168 Licensing of Aerodromes.
 - CAP 493 Manual of Air Traffic Services Part 1.
 - CAP 738 Safeguarding of Aerodromes.
 - CAP 774 UK Flight Information Services.
 - CAP 793 Safe Operating Practices at Unlicensed Aerodromes.
 - CAA Policy Statement: Lighting of Onshore Wind Turbine Generators in the UK with a maximum blade tip height at or in excess of 150m Above Ground Level.
 - ICAO Annex 14 Volume 1 (Eighth Edition): Aerodromes – Aerodrome Design and Operations

⁸⁹ <http://publicapps.caa.co.uk/modalapplication.aspx?appid=11> [Accessed 12/11/2020]

- Military Aviation Authority (MAA) Air Traffic Management (3000 series) Regulatory Articles .
- UK Military Aeronautical Information Publication (AIP).
- UK Aeronautical Information Publication.
- Civil Aviation Authority (CAA) 1:250,000 and 1:500,000 Visual Flight Rules (VFR) Charts.
- DTI/MoD/CAA/BWEA Wind Energy and Aviation Interests Interim Guidelines.
- Ministry of Defence (MoD) Low Flying Charts.

Methodology

- 20.2.4. Given that there is no published legislation or guidance to define how the significance of impacts on aviation receptors should be determined, the criteria to be used in the EIA have been devised using professional judgement and developed in consultation with relevant aviation stakeholders.
- 20.2.5. A search of Ministry of Defence (MoD), NATS and in-house Aviatika databases was carried out to identify:
 - all air defence and en-route air traffic control radars within 250 km of the proposed development;
 - all airport and airfield radars within 125 km of the proposed development;
 - all Meteorological Office radars within 30 km of the proposed development;
 - all licensed, certificated and Government aerodromes within 25 km of the proposed development; and
 - all unlicensed aerodromes and landing sites within 15 km of the proposed development.
- 20.2.6. In addition the features of the military low flying system in the area were determined from Low Flying Charts and the UK Military Aeronautical Information Publication.

Scope

Potentially affected receptors

- 20.2.7. The proposed Y Bryn development has potential to affect the following aviation assets and features;
 - NATS Clee Hill radar
 - NATS Bovingdon radar
 - NATS Pease Pottage radar
 - NATS Burrington radar
 - RAF Portreath air defence radar
 - Cardiff Airport radar
 - Bristol Airport radar
 - QinetiQ Aberporth range radar
 - RN Hartland Point radar
 - Exeter Airport radar
 - RN Yeovilton airfield radar
 - Yeovil Airfield radar
 - Gloucestershire Airport radar.
- 20.2.8. Effects on the radars at Cardiff Airport and Hartland Point will be subject to assessment, including consultation with NATS and the Ministry of Defence, therefore scoped in to the assessment.

Aviation Impacts Scoped Out

- 20.2.9. The radars at Clee Hill, Bovington, Pease Pottage, Bristol Airport, Burrington, Portreath, Aberporth, Exeter, Yeovilton, Yeovil and Gloucestershire have all been found to have no line of sight to the proposed wind turbines due to intervening terrain. Impacts on those facilities can therefore be scoped out of the assessment.
- 20.2.10. There are no Meteorological Office radars within 30 km of the site. The site is located within a part of the UK Military Low Flying System known as the Glamorgan Transit Area, which is classified by the MoD as an "area with no military low flying concerns". There are no licensed, certificated or Government aerodromes within 25 km of the site; nor any unlicensed aerodromes or landing sites within 15 km of the site. Effects on those facilities can also, therefore, be scoped out of the assessment.

Mitigation

- 20.2.11. For any radars found to be adversely affected by the development, an assessment will be conducted of the potential methods for mitigating against those adverse effects.
- 20.2.12. Turbines 150 m or more in height are required by the Air Navigation Order to be fitted with lighting. The EIA will explore the potential for reducing the number of lit turbines, and the frequency with which they are switched on, in order to maintain air safety while minimising the night time visual impacts of the turbines. The proposed lighting scheme will be submitted to the CAA for approval.

Question 32: Are consultees in agreement with the proposed methodology and approach for aviation?

20.3. Other Existing Infrastructure

- 20.3.1. The EIA will consider the potential impact on other existing infrastructure including:
 - Water, gas and power;
 - Existing paths including Public Rights of Way (PRoW);
 - Microwave fixed links; and
 - Telecoms.
- 20.3.2. No gas or water infrastructure have been identified within the site boundary. There are electricity power lines just inside the Penhydd forestry block and one power line that runs through the bottom half of the Bryn block.
- 20.3.3. Consultation with Ofcom and a search for microwave fixed-links is ongoing. A number of links have been identified in the surrounding area. Mitigation is generally available, in particular through the utilisation of re-routing via Openreach fibre optic networks (for mobile phone network operators), or otherwise via the use of relay dishes (whether on-or off-site) for utility operators who require a higher level of security and autonomy. Where re-routing is not possible, appropriate buffers will be incorporated in the design of the wind farm
- 20.3.4. The Bryn block hosts a number of public rights of way (PRoW) featured on the Definitive Maps, including the St Illtyd's and Ogwr Ridgeway Walks running through to the east. These are widely recognised as promoted routes. Consultation will be undertaken with the countryside services at both local planning authorities to agree appropriate forms of mitigation as a result of construction and operational effects of the wind farm on PRoW. Any direct impacts on PRoW will be temporary during construction period, similar to during existing forestry practice when felling is in place. Therefore, we do not intend to assess the significance effects on PRoW, although amenity will be assessed in the LVIA. The north-west of Penhydd block benefits from a number of world class mountain bike trails, being accessed typically from the visitor centre and tearooms at Cynonville. While there are links to population and existing recreation centres at

Maesteg and Margam Castle there are no similarly challenging trails providing a magnet for community interest within the Bryn block.

- 20.3.5. Detailed discussion is required with NRW to ascertain their views on the proposed infrastructure layout with regards to PRoW (which includes public footpaths and bridleways) and recreational routes located within their forest. A proposed Access Management Area (AMA) during construction will be prepared to indicate the restrictions for users and any proposed mitigation (through means of alternative routes and enhancement opportunities etc.).
- 20.3.6. Terrestrial television reception in the UK is widely available either through the well-established network of standard broadcast services and/or through digital satellite receivers. No interference is possible to the reception of analogue television services, as these were switched off during the Digital Television Switchover that took place throughout the region during 2009. Whereas an analogue signal can be of reduced quality (i.e. grainy or ghosted) due to interference, provided the receiver can identify the components of the signal, digital signals can overcome a certain amount of signal degradation and are effective at eliminating ghosting due to an internal data correction process. Interference signals are provided by reflections of the carrier signal by wind turbines. To achieve good quality reception, an aerial must receive a strong carrier signal but weak interference signals.
- 20.3.7. A baseline survey would be undertaken prior to construction of the wind farm and the Applicant would seek to agree a planning condition setting out the procedure for a claim for domestic television picture loss or interference and the remedial action to be taken if needed. Mitigation against impacts to television reception may include in some case upgrading to a modern professionally installed antenna system, or the provision of digital satellite television receiving equipment, the operation of which cannot be impacted in any way by the wind farm. It is suggested that TV and radio reception will not be significantly impacted and should be scoped out of the EIA.

Question 33: Do consultees agree with the proposal to scope in aviation, Public Rights of Way and scope out impacts on impact on TV and microwave fixed links, gas, water and power lines?

21. Residual Effects, Mitigation and Enhancement

- 21.1.1. This section of the ES will summarise the residual effects associated with the construction, operation and decommissioning of the proposed development. It will identify all mitigation, including the mitigation by design that will be undertaken to reduce any such effects, should the development be consented. We will also give consideration here to any synergistic effects anticipated. In addition, any significant positive effects arising from enhancement measures – whether directly mitigating impacts arising from the wind farm development, or otherwise incorporated into the scheme – will be identified.

22. ES Accompanying documentation

22.1. Non-Technical Summary (NTS)

- 22.1.1. The NTS details the main components of the proposed development and summarises the main findings of the environmental studies carried out to build and operate the proposed development. It is designed to be an easily readable document that will communicate the main elements of the EIA to any interested party without the need for the reader to have specialist background knowledge. It will also contain maps that show the extent and geographical location of the development. This document will be bilingual.

22.2. Design & Access Statement (DAS)

22.2.1. The DAS seeks to highlight the design principles and concepts behind the proposed development. It will detail how the applicant has applied these principles to the proposed development in tandem with input from consultation activities and will review how successful the proposed development has been in realising the design strategy.

22.3. Planning Statement

22.3.1. The Planning Statement will provide a commentary of the EIA findings and assess the proposed development accounting for residual effects (both positive and negative) against national policy and legislation, the Development Plan and other material planning considerations relevant to the proposed development.

22.4. Pre-Application Consultation (PAC) Report

- 22.4.1. Under article 11 of the DNS (Procedure) (Wales) Order 2016, a DNS application must be accompanied by a pre-application consultation (PAC) report which provides:
- An account of the statutory consultation, publicity, deadlines set, and activities required under section 61Z of the Town and Country Planning Act 1990, including:
 - Copies of all notices and publications used during the consultation;
 - Declarations that the relevant notices and publication requirements comply with the Act and Order;
 - The addresses of those given notice of the proposed application;
 - a summary of all issues raised by any person consulted under section 61Z(3) of the Act and articles 8 and 9(2), including confirmation of whether the issues raised have been addressed and, if so, how; and
 - the particulars of all responses received from persons consulted under section 61Z(3) or (4) of the Act, including copies of responses from specialist consultees; and the account taken of these.

Question 34: Do the consultees have any comments regarding the proposed documentation that will accompany the application?

23. Responding to the Scoping Report

- 23.1.1. The scoping report has identified the baseline resource at the site for different topics and presented where any effects to these may be experienced from the development (either indirectly or directly).
- 23.1.2. The responses provided by consultees will ensure that they too are in agreement, with the baseline and likely impact assessment so that the ES is focussed. Where features or receptors are deemed to have a possible significant effect the methodologies to assess the impact have been provided for comment. Responses on these would help ensure that the detailed methodology, survey and assessment are carried out with consideration to all statutory consultees and key stakeholders. This approach is in line with good practice in the planning system and an emphasis being communicated at a national level to focus the content of the EIA and ES on key elements identified at the scoping stage.



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A3.2 SCOPING DIRECTION



DNS: EIA Scoping Direction
3264571: Y Bryn Windfarm



Contents

1.	Introduction	2
2.	Site Description	2
3.	Proposed Development	2
4.	Consultation	3
5.	Environmental Impact Assessment Approach	3
5.1	Baseline	4
5.2	Reasonable Alternatives	4
5.3	Currency of Environmental Information	4
5.4	Cumulative Effects.....	5
5.5	Mitigation	5
5.6	Population and Human Health	5
5.7	Transboundary Effects.....	6
6.	Environmental Impact Assessment Aspects.....	6
6.1	Aspects Scoped In	6
	Ecology	6
	Ornithology.....	6
	Landscape and Visual Impact	6
	Hydrology, geology and hydrogeology	6
	Air Quality (pending additional information)	6
	Cultural Heritage	6
	Traffic and Transport.....	6
	Noise	6
	Forestry	6
	Socio-economics.....	6
	Health and public safety	6
	Aviation and Existing Infrastructure.....	6
7.	Table 1: The Planning Inspectorate’s Comments.....	7
8.	Other Matters	18
8.1	Habitats Regulation Assessment	18
8.2	SuDS Consent.....	18
8.3	The National Development Framework (Future Wales: the national plan 2040), Planning Policy Wales (PPW) 11, and the revocation of TAN 8	18

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2 DNS: EIA Scoping Direction

3264571: Y Bryn Windfarm

This Scoping Direction is provided on the basis of the information submitted to the Planning Inspectorate on 11 January 2021, in addition to consultation responses received. The advice does not prejudice any recommendation made by an Inspector or any decision made by the Welsh Ministers in relation to the development, and does not preclude the Inspector from subsequently requiring further information to be submitted with the submitted DNS application under Regulation 24 of [The Town and Country Planning \(Environmental Impact Assessment\) \(Wales\) Regulations 2017](#) (as amended) ("The 2017 Regulations").

1. Introduction

The Planning Inspectorate ("the Inspectorate") received a request under [Regulation 33](#) of the 2017 Regulations for a Scoping Direction in relation to a proposed development for a proposed wind farm development incorporating battery energy storage by Y Bryn Wind Farm Limited.

The request was accompanied by a Scoping Report (SR) [["2021-01-11 - Scoping Report"](#)] that outlines the proposed scope of the Environmental Statement (ES) for the proposed development.

This Direction has taken into account the requirements of the 2017 Regulations as well as current best practice towards preparation of an ES. In accordance with the 2017 Regulations the Inspectorate has consulted on the SR and the responses received from the consultation bodies have been taken into account in adopting this Direction.

The Inspectorate is authorised to issue this Scoping Direction on behalf of the Welsh Ministers.

2. Site Description

The site is comprised of two blocks (the Bryn block to the south of the B4282 in the Margam Forest area and the Penhydd block to the north in the Michaelston Forest area) in the vicinity of Bryn and Maesteg. Further detail is available in Section 3 of the SR.

3. Proposed Development

The proposal is for a windfarm and battery storage, and the SR (Section 3) indicates that it is currently envisaged to comprise the following elements, although these may change in the final design:

- 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;

3 DNS: EIA Scoping Direction

3264571: Y Bryn Windfarm

- construction compound(s);
- battery storage;
- one or more permanent anemometry masts (at up to the hub height of the turbines); and
- borrow pits.

The scope of the EIA should include all elements of the development which are included in the final design, both permanent and temporary, and this Scoping Direction is written on that basis.

In line with the requirements of [Regulation 17](#) and [Schedule 4](#) to the 2017 Regulations, any reasonable alternatives considered should be presented in the ES. The reasons behind the selection of the chosen option should also be provided in the ES, including where environmental effects have informed the choices made.

4. Consultation

In line with [Regulation 33\(7\)](#) of the 2017 Regulations, formal consultation was undertaken with the following bodies:

- Neath Port Talbot County Borough Council (NPTCBC) – Relevant Local Planning Authority
- Bridgend County Borough Council (BCBC) – Relevant Local Planning Authority
- Natural Resources Wales (NRW)
- Cadw
- Dŵr Cymru
- Welsh Government: Planning Directorate
- Health & Safety Executive (HSE)

The Planning Inspectorate was contacted by Swansea Council (SC) and Vale of Glamorgan Council, who wished to submit comments regarding landscape and visual impacts. The Inspectorate accepted the comments.

Responses received are included in **Appendix 1**.

5. Environmental Impact Assessment Approach

The Applicants should satisfy themselves that the ES includes all the information outlined in [Schedule 4](#) of the 2017 Regulations. In addition, the Applicant should ensure that the Non-Technical Summary includes a summary of all the information included in Schedule 4. Consider a structure that allows the author of the ES and the appointed Inspector and Decision Maker to readily satisfy themselves that the ES contains all the information specified [Regulation 17](#) and Schedule 4 of the 2017 Regulations. Cross refer to the requirements in the relevant sections of the ES and include a summary after the Contents page that lays out all the requirements from the Regulations and what sections of the ES they are fulfilled by.

As the assessments are made, consideration should be given to whether standalone topic chapters would be necessary for topics that are currently proposed to be considered as

4 DNS: EIA Scoping Direction

3264571: Y Bryn Windfarm

part of other chapters, particularly if it is apparent that there are significant effects and a large amount of information for a particular topic.

There may also be topic areas scoped out of the ES where the developer may wish to include application documents that sit outside of the ES and provide information that will support their consultation(s) and the decision-making process. The developer is encouraged to liaise with key consultees regarding non-ES application documents which are not a legislative requirement of the DNS regime. If agreement cannot be reached over non-ES application documentation, then the developer may wish to explore whether the Inspectorate can help provide clarity via its statutory preapplication advice service.

The ES should focus on describing and quantifying significant environmental effects. Policy considerations / arguments relating to those impacts should be addressed in other documentation supporting the application (e.g. a Planning Statement), which cross references the ES where necessary.

5.1 Baseline

[Schedule 4](#) of the 2017 Regulations states that the 'baseline scenario' is "A description of the relevant aspects of the **current** state of the environment" (emphasis added). The baseline of the ES should reflect actual current conditions at that time.

5.2 Reasonable Alternatives

In line with the requirements of [Regulation 17](#) and [Schedule 4](#) to the 2017 Regulations, any reasonable alternatives studied by the Applicant should be presented in the ES. The reasons behind the selection of the chosen option should also be provided in the ES, including where environmental effects have informed the choices made.

It is worth bearing in mind that under the [Conservation of Habitats and Species Regulations 2017](#) ("the Habitats Regulations") unless it can be clearly shown to the Welsh Ministers that the project would have no adverse effect on the integrity of any designated sites, it would have to be shown that there is no feasible alternative solution (see advice note from [IEMA](#)). Further advice regarding the Habitats Regulations is provided in the final chapter of this Screening Direction.

5.3 Currency of Environmental Information

For all environmental aspects, the applicant should ensure that any survey data is as up to date as possible and clearly set out in the ES the timing and nature of the data on which the assessment has been based. Any study area applied to the assessments should be clearly defined. The impacts of construction, operation and decommissioning activities should be considered as part of the assessment where these could give rise to significant environmental effects. Consideration should be given to relevant legislation, planning policies, and applicable best practice guidance documents throughout the ES.

The ES should include a chapter setting out the overarching methodology for the assessment, which clearly distinguishes effects that are 'significant' from 'non-significant' effects. Any departure from that methodology should be described in individual aspect

5 DNS: EIA Scoping Direction

3264571: Y Bryn Windfarm

assessment chapters. Where professional judgement has been applied this should be clearly stated.

The ES topic chapters should report on any data limitations, key assumptions and difficulties encountered in establishing the baseline environment and undertaking the assessment of environmental effects.

5.4 Cumulative Effects

Based on the information set out in the scoping request, the approach to the assessment of cumulative impact is considered largely appropriate. Effects deemed individually not significant from the assessment, could cumulatively be significant, so inclusion criteria based on the most likely significant effects from this type of development may prove helpful when identifying what other developments should be accounted for. The criteria may vary from topic to topic. The Planning Inspectorate agrees that each aspect should consider cumulative effects as relevant.

Best practice is to include proportionate information relating to projects that are not yet consented, dependent on the level of certainty of them coming forward.

All of the other developments considered should be documented and the reasons for inclusion or exclusion should be clearly stated. Professional judgement should be used to avoid excluding other development that is close to threshold limits but has characteristics likely to give rise to a significant effect; or could give rise to a cumulative effect by virtue of its proximity to the proposed development. Similarly, professional judgement should be applied to other development that exceeds thresholds but may not give rise to discernible effects. The process of refinement should be undertaken in consultation with NPTCBC, BCBC and other consultees, where appropriate. Additional projects to be included in the cumulative impact assessment are included in Appendix 1 of this Direction, where relevant.

The scope of the cumulative assessment should be fully explained and justified in the ES.

Although intended for larger schemes, the Planning Inspectorate's guidance for Nationally Significant Infrastructure Projects – [Advice Note 17: Cumulative Effects Assessment](#) sets out a staged process for assessing cumulative impacts that may be of relevance to the Applicant.

5.5 Mitigation

Any mitigation relied upon for the purposes of the assessment should be explained in detail within the ES. The likely efficacy of the mitigation proposed should be explained with reference to residual effects. The ES should provide reference to how the delivery of measures proposed to prevent/ minimise adverse effects is secured (through legal requirements or other suitably robust methods) and whether relevant consultees agree on the adequacy of the measures proposed.

5.6 Population and Human Health

The Applicant should ensure that the ES addresses any significant effects on population and human health, in light of the EIA Regulations 2017. This could be addressed under the separate topic chapters or within its own specific chapter.

5.7 Transboundary Effects

Schedule 4 Part 5 of the EIA Regulations requires a description of the likely significant transboundary effects to be provided in an ES. The ES should address this matter as appropriate.

6. Environmental Impact Assessment Aspects

This section contains the Inspectorate’s specific comments on the scope and level of detail of information to be provided in the Applicant’s ES. Environmental topics or features are not scoped out unless specifically addressed and justified by the Applicant, and confirmed as being scoped out by the Inspectorate. In accordance with Regulation 17(4)(c) the ES should be based on this Scoping Direction in so far as the Proposed Development remains materially the same as the Proposed Development described in the Applicant’s Scoping Report.

The Inspectorate has set out in this Direction where it has/ has not agreed to scope out matters on the basis of the information available at this time. The Inspectorate is content that the receipt of a Scoping Direction should not prevent the Applicant from subsequently agreeing with the relevant consultees to scope such matters out of the ES, where further evidence has been provided to justify this approach. However, in order to demonstrate that the matters have been appropriately addressed, the ES should explain the reasoning for scoping them out and justify the approach taken.

6.1 Aspects Scoped In

Subject to the comments provided at Table 1, the following aspects are scoped into the ES:

- Ecology
- Ornithology
- Landscape and Visual Impact
- Hydrology, geology and hydrogeology
- Air Quality (pending additional information)
- Cultural Heritage
- Traffic and Transport
- Noise
- Forestry
- Socio-economics
- Health and public safety
- Aviation and Existing Infrastructure

The ES should also include the following, where relevant: waste and major accidents.

7. Table 1: The Planning Inspectorate’s Comments

ID	Reference in Scoping Report	Issue	Comment
Description of the Development			
ID.1	3.1.2	Description of the development	The SR contains few details regarding the description of the development. The Planning Inspectorate notes that borrow pits are listed at paragraph 3.1.2 but they are not described in the documentation submitted. It is also noted that an indicative rotor diameter is provided. The ES should include a detailed description of the development. Worst case (i.e. for example maximum rotor diameter) should be identified and used consistently throughout the assessment. Each chapter should clearly state the worst case scenario used in the assessment. Borrow pits (if present) will have to be clearly identified, including expected borrowed material, as well as restoration proposal and final land contours, to be shown with appropriate cross-sections plans. Relevant aspects of the ES should consider whether construction material is won on site or imported, as appropriate, including the production of waste.
ID.2	3.1.2	Construction	The SR does not contain any detail on construction. The ES will have to include a full section on construction methods and management. This should form the base of the assessment for each relevant aspect.
ID.3	3.1.2	Micrositing	The SR does not include any information on micrositing. The Applicant is reminded that the ES should include enough information to ensure that the decision maker is satisfied that the proposed development will not generate significant effects greater than the ones assessed in the ES. Although a level of tolerance is accepted, the ES should be prepared using clearly identified worst case scenarios, as appropriate.
ID.4	3.3	Grid connection	Paragraph 3.3.1 states that "grid connection works may fall outside the scope of the EIA" The proposed development connection to the National Grid must be considered as part of the EIA, where appropriate, and should be included in the assessment of the relevant aspects. The level of the

ID	Reference in Scoping Report	Issue	Comment
			assessment will depend on whether the connection will be part of the development or whether consent will be sought separately.
Consultations			
ID.5	Q1	Approach to consultation	The Applicant is reminded that the SR approach to consultation with meetings and public exhibitions within local community venues may not be possible in the foreseeable future. Thus, a more diversified approach may be necessary. The Applicant will have to satisfy themselves that the level of community consultation is adequate. Should face to face events not be possible, the Applicant should propose alternative methods to engage with the local public.
Approach to EIA			
ID.6	5.4.4	Definition of Significant effect	The Applicant is reminded that recognised standard guidance has been produced by relevant professional and public bodies to define significant effects when conducting technical assessments. Paragraph 5.4.4 states that 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. The Planning Inspectorate is unsure of the meaning of this statement. Each aspect (discipline) considered should present a clearly defined methodology following the appropriate most up to date guidance and consultations. Significant effects should be identified using the appropriate methodology. The Inspectorate does not consider that significant effects identified within the assessment of one aspect would cause any detriment to other aspects.
ID.7	Table 5.2	Significant effects	As per comment above, technical guidelines are available and should be followed when conducting the assessment. To limit the assessment to identified major and major / moderate significant impacts is not acceptable as general practice. Each technical assessment should define what is

9 DNS: EIA Scoping Direction

3264571: Y Bryn Windfarm

ID	Reference in Scoping Report	Issue	Comment
			considered significant, which may not be limited to a major impact. See also BCBC comment on this approach at Appendix 1.
ID.8	Q2	Approach to EIA	The Applicant states that the intention is to focus on significant effects and scope out likely not significant effects. This statement is confusing as the EIA process is designed to identify significant effects. The assessment methodology should define the thresholds used in the definition of what is significant and what is not. Mitigation measures should be proposed to reduce the significance of such effects. The Planning Inspectorate therefore cannot comment on Q2 and draws the Applicants' attention to the comments above in relation to the general approach to the EIA and NPTCBC at Appendix 1.
Applicant's proposed Aspects proposed to be scoped out			
ID.9			No aspect is proposed to be scoped out. However, the Planning Inspectorate notes that some aspects required to be addressed, under the terms of the EIA Regulations (Wales) 2017, are not mentioned in the SR. These are discussed below.
ID.10	Air Quality		It is assumed that the Applicant wishes to scope out this aspect from the EIA on the basis that during operations the wind farm will not generate emissions, and that standard construction methods for dust suppression will be sufficient to ensure no significant impacts on air quality. However, the Inspectorate notes that the information provided to date does not consider whether there are nature conservation designated sites along the proposed construction traffic route which could be affected by the emissions generated by construction traffic, in particular HGVs. Additional information is required regarding construction traffic emissions and location of any ecological sensitive receptors before this aspect could be scoped out.
ID.11	Climate Change		The SR does not address the impact of the project on climate and the vulnerability of the project to climate change, contrary to the requirements of the EIA Regulations (Wales) 2017. It is however noted that peat may be present on site and that the Applicant intends to include a Carbon Balance Assessment. It is also noted that the assessment will address climate change in the assessment of the Flood Risk. Therefore, the ES will not require a dedicated chapter to climate change. However, it is recommended that climate change is addressed, where relevant, within other chapters including ecology and ornithology.

9

10 DNS: EIA Scoping Direction

3264571: Y Bryn Windfarm

ID	Reference in Scoping Report	Issue	Comment
ID.12	Waste		The SR does not address the impact of generation and deposition of waste, contrary to the requirements of the EIA Regulations (Wales) 2017. However, the Inspectorate notes that the construction and decommissioning of the proposed development has the potential to generate waste which will require disposal in light of the proposal to win construction material on site using borrow pits. Therefore, the ES should consider the generation and disposal of waste within an appropriate section.
ID.13	Major Accidents and Disasters.		It is noted that battery storage is proposed. At this stage it is not clear which type of batteries are proposed. The Inspectorate notes that there is a potential fire risk associated with certain types of batteries such as lithium-ion and that safety measures are required in the design to minimise the risk of fire. The Inspectorate considers this to be part of the EIA process in line with Schedule 4 of the EIA Regulations (Wales) 2017. Additionally, the site is located within an area at risk of unmapped historic coal mining (see comment below) which could lead to major accidents, considering the scale of the development. The ES should ensure that risks of accidents are accounted for and mitigated in line with Schedule 4.
Ecology			
ID.14	10.2.1	Guidance	The Bat Conservation Trust. (2012). Bat surveys: good practice guidelines. Second edition. Bat Conservation Trust, London is not the most up to date guidance. The third edition should be used in the assessment.
ID.15	10.4.4	Non-statutory Designated Sites	NPTCBC (Appendix 1) noted that some of the non-statutory designated sites are not listed in the SR. The ES should include all relevant designated sites.
ID.16	10.4.10	Habitats	The Applicant's attention is drawn to NRW's comment regarding inaccuracies in the woodland description. The Applicant is recommended to contact the Forestry Land Management Team.
ID.17	10.5.3	Data search and consultations	Paragraph 10.5.3 of the SR states that the additional data search and consultations are not necessary to determine the ecological survey programme planned for 2021 as a precautionary approach will be followed. The Applicant's attention is drawn to NRW and NPTCBC comments in relation to the proposed survey effort. Generally speaking, both consultees highlight some deficiencies in the survey effort, in particular in relation to the suboptimal timing of the Phase 1 habitat survey already conducted,

10

11 DNS: EIA Scoping Direction

3264571: Y Bryn Windfarm

ID	Reference in Scoping Report	Issue	Comment
			which could have led to misinterpretation of the importance of the existing habitats. As both NPTCBC and NRW Operational Land Management Team have a deep knowledge of the area, it is recommended that a more robust approach to survey is agreed with the relevant consultees. In particular, NPTCBC highlighted that Table 10.4 is missing some features listed in Section 7 of the of the Environment Wales Act which are known to be present on site.
ID.18	10.5.4	Designated sites to be scoped out	At this stage not enough information has been provided to scope out any of the statutory designated sites within 10 km. It is noted that Eglwys Nunydd Site of Special Scientific Interest (SSSI) has been omitted. Additionally, it is not clear why Bryn Tip LNR is scoped out but Bryn Tip SINC is scoped in, when the designation refers to the same site and features.
ID.19	10.5.10	NVC survey	Paragraph 10.5.10 states that the NVC survey will target those areas of potential conservation value highlighted in Table 10.4 that lie within 250m of proposed infrastructure. It is not clear which infrastructures the paragraph refers to; the Planning Inspectorate assumes it refers to any part of the site which will be subject to construction activities. The Applicant's attention is drawn to NPTCBC comments regarding missing areas of conservation value within Table 10.4.
ID.20	10.5.12	Bat surveys	See NRW and NPTCBC comments at Appendix 1.
ID.21	10.5.16	Great Crested Newts (GCN) survey	The Applicant is reminded that the Habitat Suitability Index (HSI) is not a mean to establish GCN presence / absence. All pond and standing water bodies within 500 m of proposed permanent infrastructures and 250 m of temporary construction areas should be surveyed. The Applicant is also reminded that if a population assessment is required, the surveys should be conducted during the optimal time.
ID.22	10.5.19	Fish survey	The Planning Inspectorate agrees that a survey recording fish species within the site boundary will not be necessary.

11

12 DNS: EIA Scoping Direction

3264571: Y Bryn Windfarm

ID	Reference in Scoping Report	Issue	Comment
ID.23	10.6.1	Embedded mitigation	The SR states that bogs have been avoided for turbine placements. The Ecology section does not include any information on peat, which supports Groundwater Dependent Terrestrial Ecosystems (GWDTEs). All areas of deep peat (> 50 cm) should be avoided for any infrastructure or construction areas placement, including borrow pits.
ID.24	10.7.5	Invertebrates	It is proposed to scope out invertebrates from the ecological assessment. However, NPTCBC states that there are numerous records of notable invertebrates species such as Small Pearl Bordered Fritillary and Small Heath. Therefore, appropriate surveys should be undertaken targeting invertebrates (and these species in particular) at the appropriate time of the year. The relevant local planning authorities should agree the survey methodology prior to survey commencement and results should be discussed with them.
ID.25	10.7.6	Communication of results	Biodiversity and conservation officers at BCBC and NPTCBC should also be included in the regular communication.
ID.26	Q5	Statutory and non - statutory designated sites	See comment above
ID.27	Q6	Methodology	See comments above
ID.28	Q7	Mitigation	It is not possible to comment on the level of mitigation without the results of the survey to be undertaken in 2021. It is noted that no specific enhancement measures are proposed, and this should be addressed in the ES.
Ornithology			
ID.29	11.3.22	Surveys limitation	The Planning Inspectorate agrees with NRW that, due to the limitation of the first year breeding bird survey, the second year survey should be spread evenly throughout the breeding season in order to capture seasonal variations.

12

13 DNS: EIA Scoping Direction

3264571: Y Bryn Windfarm

ID	Reference in Scoping Report	Issue	Comment
ID.30	11.3.22	Vantage Points (VP)	A large part of the site is not covered by VP and the SR does not include the rationale for this choice. The ES should explain why a large part of the site was not surveyed.
ID.31	11.3.25	Collision Risk Modelling (CRM)	See NRW comment regarding applying a correction factor to the CRM to compensate for the limitations of the first year surveys.
ID.32	11.3.29	Breeding birds surveys	See NPTCBC comments on passerines at Appendix 1.
ID.33	11.5.10	Golden Plover	See NPTCBC comment at Appendix 1. It is not agreed to scope out golden plover from the EIA.
ID.34	11.5.37	Secondary Raptor Species	See NPTCBC comment at Appendix 1. It is not agreed to scope out secondary raptor species from the EIA.
ID.35	11.5.44	Passerines	Based on the information provided in the SR, it is not possible to scope out potential displacement of passerines assessment from the EIA, as the limited breeding bird survey conducted at year 1 is not robust enough to exclude significant effects.
ID.36		Cumulative impacts	The SR does not contain any information in relation to cumulative impact assessment. The ES should address this.
ID.37	Q8	VP coverage	See comment above. With the limited information provided at this stage regarding the final location of the turbines, it is not clear why large areas of the site were not covered by VPs.
ID.38	Q9	Second year surveys	See comments above.
ID.39	Q10	Features scoped out	See comments above.
ID.40	Q11	Features considered	The Planning Inspectorate has no comment on the features considered.
ID.41	Q12	Habitat Regulation Assessment	The Planning Inspectorate agrees that the identified Natura 2000 site is correct.
ID.42	Q13	Mitigation	Without the results of the surveys, it is not possible to comment on the adequacy of the mitigation measures.
Landscape and Visual Impact Assessment			

13

14 DNS: EIA Scoping Direction

3264571: Y Bryn Windfarm

ID	Reference in Scoping Report	Issue	Comment
ID.43	Q14	Maximum hub height	The overall scale of the proposed turbines should be assessed as worst case scenario, including the height and swept area of the blades and scale of hub/column.
ID.44	Q15	Study area	Based on the information provided in the SR, it is agreed that the proposed study area is adequate.
ID.45	12.3	Scope of the Assessment	The Planning Inspectorate notes that seascape is not considered in the SR. However, due to the scale and nature of the proposed development and size of the proposed turbines, seascape assessment should be included in the assessment.
ID.46	Table 12.1	View Points	NRW, NPTCBC, BCBC, Swansea and Vale of Glamorgan Councils have requested additional viewpoints. These should be included in the ES.
ID.47	12.3.12	Residential Visual Amenity Assessment (RVAA)	See BCBC comment at Appendix 1 regarding the RVAA study area. Due to the scale of the proposed development, the study area should be expanded.
ID.48	Q16	View Points and RVAA	See comments above.
ID.49	Table 12.8 & Q17	Cumulative impacts	See consultees comments at Appendix 1 regarding additional wind turbines and wind farm projects to be included.
ID.50	Q18	Approach to the assessment	Due to the request to include additional viewpoints in the assessment, the Applicant should consider adding additional photomontages. This should be discussed and agreed with the relevant consultation bodies.
ID.51	Q19	Enhancement measures	The Planning Inspectorate has no comments at this stage on enhancement measures.
Hydrology, geology and hydrogeology			
ID.52	13.2.1	Water Framework Directive (WFD)	The ES should include enough information to conclude that the proposed development does not prevent achieving WFD objectives.
ID.53	13.3	Survey work	A survey should be undertaken on site to map all the water features present.

14

15 DNS: EIA Scoping Direction

3264571: Y Bryn Windfarm

ID	Reference in Scoping Report	Issue	Comment
ID.54	13.4.7	Statutory and non-statutory designated sites	Although it is agreed that Margam Moors SSSI and Cwm du Woodlands SSSI are not hydrologically linked to the proposed development, Eglwys Nunydd Reservoir SSSI and Bryn Tip LNR cannot be scoped out for the reason that their designations is not for hydrology. Designated features may be susceptible to hydrological changes and thus potential impacts to the two designated sites need to be considered in the ES.
ID.55	13.4.10	Site Hydrology	See NRW comment at Appendix 1 in relation to a reservoir located within the site boundary.
ID.56	13.4.14	Flood Risk	See NRW comment at Appendix 1 in relation to Flood Risk.
ID.57	13.4.25	Peat survey	See NRW comment at Appendix 1 in relation to peat survey.
ID.58	13.4.28	Historic mining works	Due to the presence of Coal Measures within the site boundaries, the Applicant is advice that there is a risk of unmapped historic coal mining. A Risk assessment should be provided as part of the ES and the Applicant is recommended to contact the Coal Authority.
ID.59	Q20	Methodology	See comments above
ID.60	Q21	Enhancement measures	The Planning Inspectorate has no comments at this stage on enhancement measures.
Cultural Heritage			
ID.61	14.2.1	Data sources	The Applicant should note that the relevant consultation body is the Glamorgan Gwent Archaeological Trust (GGAT).
ID.62	14.3.20	ASIDOHL2	See BCBC comments on the ASIDOHL2 methodology at Appendix 1.
ID.63	Q22	Approach to the assessment	The Planning Inspectorate recommend that GGAT is engaged in consultation to agree the proposed methodology and the cumulative impact study area
ID.64	Q23	Mitigation	It is not possible to comment on mitigation/enhancement measures until the assessment has been conducted.
Traffic and Transport			

15

16 DNS: EIA Scoping Direction

3264571: Y Bryn Windfarm

ID	Reference in Scoping Report	Issue	Comment
ID.65	15.2	Methodology	See BCBC comment at Appendix 1
Noise			
ID.66	16.2 & Q27	Methodology	The Planning Inspectorate notes that the SR mentions that construction noise will be assessed using BS5228:2019. The ES should include a full assessment of construction activities and traffic, if relevant, and the methodology and criteria used in the assessment. Additionally, the ES should identify potential impacts generated by construction noise on sensitive receptors, including ecological protected species. The noise assessment of the construction phase should include mitigation measures, for example construction timing, to avoid significant disturbance during breeding bird season, if appropriate.
ID.67	16.2 & Q24 – Q25 – Q26	Methodology	The Planning Inspectorate draws the Applicant's attention to the detailed response from the BCBC Health Officer in relation to the use of ETSU-R-97 limits and the potential impact of the proposed development alone and in combination. The Planning Inspectorate agrees with BCBC's comments and notes that NPTCBC is also in agreement.
ID.68	16.2.16	Scope of the assessment	The Planning Inspectorate notes that the SR does not mention the potential impact of the operation phase of the proposal on ecological protected species. The noise assessment should include mitigation measures to avoid significant effects on ecological sensitive receptors, where appropriate.
Forestry			
ID.69	17.1 Q18 & Q19	Approach to the assessment	The Planning Inspectorate has no comment on forestry and draws the Applicant's attention to the comments included in Appendix 1.
Socio – Economic			
ID.70	18.2 - Q30	Methodology	The Planning Inspectorate has no comment on the socio-economic impact and draws the Applicant's attention to the comments included in Appendix 1.
Heath and Public Safety			

16

ID	Reference in Scoping Report	Issue	Comment
ID.71	19.1 & Q1	Shadow Flicker	The Planning Inspectorate disagrees that shadow flicker could be scoped out at this stage. The scale of the proposed development is such that the general rule of 10 rotor diameter distance from sensitive properties may not be enough to ensure that a significant effect will not be generated. More evidence is required to establish the impact of the proposal alone and in combination on sensitive properties. See also comments at Appendix 1.
ID.72	19.2	Ice Throw	The Planning Inspectorate agrees that ice throw can be scoped out of the EIA.
ID.73	19.3	Lighting	The Planning Inspectorate agrees that lighting can be scoped out of the EIA.
Aviation & Other Existing Infrastructures			
ID.74	Q32- Q33	Methodology	The Planning Inspectorate has no comment on aviation and draws the Applicant's attention to the comments included in Appendix 1.

8. Other Matters

This section does not constitute part of the Scoping Direction, but addresses other issues related to the proposal.

8.1 Habitats Regulation Assessment

The Conservation of Habitats and Species Regulations 2017 require competent authorities, before granting consent for a plan or project, to carry out an appropriate assessment (AA) in circumstances where the plan or project is likely to have a significant effect on a European site (either alone or in combination with other plans or projects). The competent authority in respect of a DNS application is the relevant Welsh Minister who makes the final decision. It is the Applicant's responsibility to provide sufficient information to the competent authority to enable them to carry out an AA or determine whether an AA is required.

When considering whether or not significant effects are likely, applicants should ensure that their rationale is consistent with the CJEU finding that mitigation measures (referred to in the judgment as measures which are intended to avoid or reduce effects) should be assessed within the framework of an AA and that it is not permissible to take account of measures intended to avoid or reduce the harmful effects of the plan or project on a European site when determining whether an AA is required ('screening'). The screening stage must be undertaken on a precautionary basis without regard to any proposed integrated or additional avoidance or reduction measures. Where the likelihood of significant effects cannot be excluded, on the basis of objective information the competent authority must proceed to carry out an AA to establish whether the plan or project will affect the integrity of the European site, which can include at that stage consideration of the effectiveness of the proposed avoidance or reduction measures.

Where it is effective to cross refer to sections of the ES in the HRA, a clear and consistent approach should be adopted.

The Planning Inspectorate's guidance for Nationally Significant Infrastructure Projects – Advice Note 10: Habitat Regulations Assessment relevant to Nationally Significant Infrastructure Projects may prove useful when considering what information to provide to allow the Welsh Ministers to undertake AA.

8.2 SuDS Consent

Whilst a separate legislative requirement from planning permission, the Applicant's attention is drawn to the statutory SuDS regime that came into force in Wales in January 2019. The requirement to obtain SuDS consent prior to construction may require iterative design changes that influence the scheme that is to be assessed within the ES and taken through to application. As such, it is recommended that the applicant contact the local SuDS Approval Body early on.

8.3 The National Development Framework (Future Wales: the national plan 2040), Planning Policy Wales (PPW) 11, and the revocation of TAN 8

On 24 February 2020, the Welsh Government published the National Development Framework (NDF). The NDF has development plan status, forming the highest tier of the development plan hierarchy in Wales. Planning Policy Wales has been updated to edition 11. TAN 8 was revoked on the same date.

3.2.1 SCOPING DIRECTION – APPENDIX 1



Neath Port Talbot
Castell-nedd Port Talbot
County Borough Council - Cyngor Bwrdeistref Sirol

Date Dyddiad 17/02/2021
Direct line Rhif ffôn [REDACTED]
Email Ebost [REDACTED]

Contact Cyswllt Nicola Lake
Your ref Eich cyf 3264571
Our ref Ein cyf P2021/0057

FAO Giulia Bazzoni
Planning & Environment Officer
The Planning & Environment Team
The Planning inspectorate

BY EMAIL ONLY
dns.wales@planninginspectorate.gov.uk

Dear Madam,

Project Name: Y Bryn Wind Farm
Site Address: Land at Bryn and Penhydd forest, located between Port Talbot and Maesteg
Proposed Development: Wind farm of up to 26 turbines (6.6 MW per turbine) with a maximum height of 250m in height and 170m in rotor diameter, transformer housing, battery storage, permanent anemometry masts, access tracks, crane pads and borrow pits.

I write in regards to your letter dated 15th January 2021, which seeks advice on the scope of the EIA for the above mentioned proposed windfarm development. Consideration has been given to the information provided in the EIA Scoping Report and the questions raised therein, together with the relevant regulations and information that the Authority holds. Our advice is set out below in response to the respective chapters, the questions raised by the applicant and with reference to Schedule 4 of the EIA Regulations 2017:

Chapter 1: Introduction

No observations to make.

Chapter 2: The applicant

No observations to make.

Chapter 3: The proposed development

No observations to make, beyond that full details of all aspects of the proposed development should be submitted with any application submitted including full plans and elevations of all structures and building proposed, as well as the identified supporting information.

Environment
Ceri Morris of Planning and Public Protection
The Quays, Brunel Way, Baglan Energy Park, Neath SA11 2GG
[REDACTED]

Yr Amgylchedd
Ceri Morris Pennaeth Cynllunio a Gwarchod y Cyhoedd
Y Ceiau, Ffordd Brunel, Parc Ynni Baglan, Castell-nedd SA11 2GG
[REDACTED]

We welcome correspondence in Welsh and will deal with Welsh and English correspondence to the same standards and timescales.
Croesewir gohebiaeth yn y Gymraeg a byddwn yn ymdrin â gohebiaeth Gymraeg a Saesneg i'r un safonau ac amserlenni.

www.npt.gov.uk

Similarly, details of a fund or the funding of the decommission strategy should be included, providing information on how such a fund would be provided, secured and ensuring that it is available should it be required prior the end of the project's predicted life expectancy of year 50.

Chapter 4: Consultation

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

The information provided has little reference to supplementary measures that may be undertaken if the Covid related restrictions on public interaction are still in place when the consultation exercises are undertaken. It is therefore strongly suggested that consideration is given to contingencies that may be necessary to ensure that all sections of the extensive surrounding communities are reached by the required consultation on the project. This is considered of particular importance given the predicted initial life time of the project of 50 years, during which the development would be located within these communities and impacting upon their day to day lives, as well as during construction and decommissioning.

Chapter 5 Approach to the Environmental Impact Assessment (EIA)

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.

While in general we have no objection to the principles expressed in relation to the Mitigation, and monitoring, particularly given that this development would be the first on shore windfarm with turbines of this height. However in light of the untested nature of not only on shore turbines of this height, but the proposed number over a wide area and in close proximity to well established settlement areas, it is suggested that such a clear division of significant and non-significant effects may not be possible. For this reason it is suggested that the developers give serious consideration to the application of a more adaptive approach to monitoring and mitigation for the project, as well as the more traditional clear cut significant and non-significant effect approach as identified within the Scoping Report. Such an adaptive approach would allow areas/issues where the full potential effect of 250m high turbines located within development valley areas could be monitored and where necessary additional mitigation implemented to offset unpredicted impacts of the development, over the predicted 50 year life time of the project.

Further comments in relation to this question are contained within the White Consulting Document attached as appendix 1.

Chapter 7: Environmental Statement

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

Table 7.7.1 does not appear to identify where the assessment of Reasonable Alternatives would be considered in accordance with Regulation 17(3)(d).

It is also a little unclear where the Cumulative Impacts would be assessed within the ES. The developer within para. 5.5 states that Cumulative Impacts will be assessed within the ES and states that each discipline notes the scope of cumulative assessment within the submitted Scoping Report. However, it is suggested that the ES should also bring together any and all identified Cumulative Impacts together within one section of the ES where the sum of these impacts are brought together for assessment and considered as one, rather than left adrift within each chapter of the ES.

Chapter 8: Embedded mitigations and further layout mitigations

No direct observations to make other than any comments identified elsewhere within this response.

Chapter 9: Purpose of this scoping report

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

Under para. 9.1.2 the developer identifies that consideration will be given to “Experiences from existing windfarms”, while it is accepted that some consideration should be given to such sources of information, it should also be noted that such developments have turbines with a maximum height of under 150m. It is therefore suggested that such information should be used in a cautionary way to avoid the assumptions that what may result from a development with masts of 150m in height will similarly result from a development of masts of 250m in height. Similarly information in relation to off shore developments where turbines of such heights are more usual should similarly be caveated with a degree of caution given their remote nature, lack of topography, different ecology and different weather patterns. There is concern that the use of such information to eliminate potential impacts is somewhat flawed and perhaps a little short sighted.

Similarly under para. 9.1.3 the developers talk about using this ‘larger’ scoping report to result in a more ‘Streamlined’ ES than previous ES submissions. This approach may be welcomed in relation to a development scheme for 26 proposed masts with maximum heights of 150m, but it is difficult to see how such an approach could be taken on a development which appears to be the first of its type. Surely in relation to such a project the scope should be broader than what would be expected on a development that has been tried and tested numerous times before. The Authority finds such an approach extremely concerning in relation to a development that will be the first of its type in such a location. It is also noted that the submitted Scoping Report does not appear to include any significant information beyond that which would normally be expected in relation to Regulation 13 and Schedule 4 of the EIA Regulations 2017. There is little technical information that would support the potential ruling out of possible ‘non-significant’ impacts, beyond those that would obviously not apply.

Chapter 10: Ecology

Question 5: Do consultees agree with the approach used for scoping in/out statutory and non-statutory designated sites? Not entirely, please see comments below.

Question 6: Do consultees consider the proposed baseline survey methodologies appropriate? Not entirely, please see comments below.

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?

The mitigation needed will be dependent upon the outcome of the surveys and assessment of impacts and similarly enhancement measures will be informed by the final survey results. However, the following provides some initial ideas: measures to protect and translocate important plants and bryophytes along the access track, such as clubmosses; restoration of any deep peat soils to bog habitat; restoration of heath habitats that may support reptiles and invertebrates; specific monitoring and measures for bats and birds.

- The scoping report refers a number of times to a PEA undertaken in 2018; this has not been provided.
- The list of SINC in the area is incomplete, woodland and watercourse SINC in appear to be missing. This should be updated accordingly and should be included in the assessment.
- It is noted that the habitat survey was undertaken quite late in the season and early flowering species such as woodland ground flora may have been missed. As further surveys are being undertaken in 2021 it is recommended that the opportunity to add to the existing data recorded be undertaken.
- In relation to records and data in the area, particularly in relation to key species it is also recommended that NPTC and the Local Nature Partnership be contacted for further information.
- It is confusing why Bryn Tip LNR has been scoped out of the EIA assessment but Bryn Tip SINC is scoped in – this is the same site and is immediately adjacent to the site boundary as such both designations should be considered in the assessment.
- It is noted that 10.5.10 mentions surveys within 250m of infrastructure, it is not clear what is considered infrastructure in this context. We would wish to ensure appropriate surveys were included for all works associated with the development including turbines and associated hardstandings, built development, access track widening, grid connection and site compound etc.
- In the reference to the NVC survey proposed it is noted that this is to be limited to habitats considered of high conservation value. This may result in some rare or S7 species being missed. There are various plants and bryophytes (such as clubmosses) found within forestry areas that are associated with track edges and are not necessarily restricted to traditional S7 habitats for example. Surveys for such species should be undertaken along all track edges likely to be impacted by widening and other infrastructure works. Further discussion and liaison with local experts in the Local Nature Partnership would be helpful to inform such surveys.
- In line with the NatureScot guidance we would expect walked transect/vantage point surveys to be undertaken for bats in addition to those methods set out. These should particularly be undertaken in areas where roosts are discovered and areas of high activity

discovered during the other surveys. This is imperative to identify any important flightlines and to establish an understanding of bat behaviour at such locations. We would also expect transect surveys to be undertaken to particularly consider impacts upon the bats populations of Margam Park, especially in relation to turbines and other infrastructure (T22, T26 and T25) close to the valleys connecting to the Park (Cwm Phillip, Cwm Beddau, Cwm Maelwg and Cwm Caetreham). An understanding of important flightlines from the Park's roosts would be expected to be a key consideration of the EIA. As Margam Park supports numerous bat roosts of numerous species (14 confirmed species, possible the most diverse site in South Wales if not all of Wales) it is important to fully understand any potential impacts that the development will have on Park populations.

- 10.5.16- in relation to Great Crested Newts we would recommend that other methods are used to survey GCN as well as eDNA. False positives and negatives have been encountered in the county (including in Port Talbot) and therefore we have concerns about the reliance of this single method. As the number of ponds are limited it is suggested that additional standard methods are also applied to accompany the eDNA results.

- 10.6.1 suggests that all SINC's have been avoided, however the SINC list is incomplete. This should be revisited. In addition, all sites that meet SINC criteria are considered a SINC and therefore should also be included in this avoidance mitigation, it is not clear whether this is the case.

- Reptiles are protected species as such will be expected to be included in the EIA. They should not be scoped out of the assessment, although by assuming presence it is agreed that they can be scoped out of the survey work.

- Similarly, invertebrates should also not be scoped out of the assessment, there are numerous records for S7 species within the site boundary including Small Pearl Bordered Fritillary and Small Heath. As such invertebrate surveys should be undertaken and they should be considered as part of the assessment. Details of methods for such surveys should be agreed with NPTC prior to any surveys taking place.

- In relation to assessment of habitats this should include the identification of the presence of S7 Environment (Wales) Act (S42 NERC Act 2006)/ LBAP habitats and species, sites that meet SINC criteria, in addition to protected species. A balance of S7/LBAP/SINC habitat loss/gain to the scheme should be included.

- An assessment of the impacts upon areas identified as sites of importance for nature conservation (SINC) and all areas that would meet the criteria of a SINC. NB details of identified SINC's are available from SEWBRc and the criteria are available from the Wales Biodiversity Partnership website.

- An assessment of ecosystem resilience (Section 2 Environment (Wales) Act 2016) should be included in the EIA; this shall particularly consider:
 - (a) diversity between and within ecosystems;
 - (b) the connections between and within ecosystems;
 - (c) the scale of ecosystems;
 - (d) the condition of ecosystems (including their structure and functioning);
 - (e) the adaptability of ecosystems.

- Mitigation/compensation will be expected to be provided for all impacts and enhancement will also be required to comply with the Environment Wales Act 2016 biodiversity duty, however please note that in Wales the principle of 'net benefit' should be applied rather than 'net gain'.

- No detail is provided on how cumulative effects will be assessed. Considering the number of adjacent windfarms in similar upland locations, cumulative effects could be significant. Further clarification if therefore needed.

Ornithology.

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

Yes, all turbine areas appear to be covered.

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)? No, the breeding bird survey should be repeated and territory mapping included. See below comments.

Question 10 Do consultees agree with those ornithological features that have been highlighted for assessment within EIA and those that have been 'scoped out'? No, see comments below.

Question 11: Are there any other key ornithological features that consultees believe should be considered that have not been discussed above? We are unaware of any further features.

Question 12: Do consultees consider any Natura 2000 not discussed above as requiring consideration as part of screening for AA? No

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? Mitigation needed will be dependent upon the outcome of the surveys and assessment of impacts and similarly enhancement measures will be informed by the final survey results. However, the following provides some initial ideas: bird habitat losses will need to be offset potentially by created new habitat within the site, nightjar appear to be a key feature so permanent habitat creation for this species would be beneficial; monitoring of bird strikes would also be recommended.

- In relation to bird records and data in the area, particularly in relation to key species it is also recommended that local bird groups Gower Ornithological Society and Glamorgan Bird Club be contacted for further information.

- It is noted that the VP survey non-breeding season does not meet the guidance in relation to minimum hours. It is therefore absolutely essential that the second year survey does cover the required survey hours.

- The approach to breeding birds, particularly passerines, is not considered adequate. It is noted that the breeding bird survey was started late in the season (May) and will therefore have potentially missed early nester such as Crossbills. This is not considered adequate and should be repeated in 2021. No territory mapping for passerines has been undertaken, which will also make any assessment of wild bird habitat loss/impact difficult. The assessment of impacts upon wild bird habitat is a requirement of the Conservation of Habitats and Species Regulations 2017 (as amended). Without appropriate survey to inform this assessment a precautionary approach would need to be applied. This would likely result in the requirement of significant mitigation. It is therefore recommended that a repeat and adequate breeding bird survey is undertaken, particularly of areas where infrastructure will impact bird habitat. This should include territory mapping. Non-breeding season surveys are also recommended to be undertaken to inform this requirement.

- Very little detail is provided in relation to the methodologies employed for the breeding raptor survey, especially for Honey Buzzard. Standard methods for Honey Buzzard normally require significant vantage point watches but only 'short VP watches' are mentioned. Further detail on methods employed should be provided to allow comment on suitability.

- 11.5.11 - it should be noted that additional Golden Plover habitat is incorporated into the habitat management plan for Brombil Wind farm, immediately adjacent. This may increase numbers over time, this should be considered as part of the EIA.

- 11.5.17 in relation to Black-headed Gull, a little more detail on the length of time of the flights within PCH would be helpful to inform our comments on whether this species should be scoped in or out.

- 11.5.39 Kestrel should not be scoped out. If there is a risk of collision for this species this could be significant at a population level. With severe local declines in population levels of this species we would recommend that impacts upon this species are fully assessed.

- 11.5.4 Passerines, disturbance/displacement, should not be scoped out. As S7 species assessment of impacts is required under our LDP policies and the Environment Wales Act 2016. It is also necessary to assess wild bird habitat impacts under the Conservation of Habitats and Species Regulations. An assessment of impacts upon bird habitat should be included in the EIA; this should ideally be based on up to date survey information (including breeding, foraging and wintering requirements).

- No detail is provided on how cumulative effects will be assessed. Considering the number of adjacent windfarms in similar upland locations, cumulative effects could be significant. Further clarification if therefore needed.

General Comment on Ecological and Ornithological Surveys:

- Most ecological surveys are considered out of date once they are older than about 18 months. It is therefore recommended that the applicant ensure that surveys are repeated/checked for applicability when necessary to ensure all surveys are in date on submission.
- Concern that cumulative effects are not discussed. Further clarification if therefore needed.

Hydrology, Geology and Hydrogeology.

Question 20: Are consultees in agreement with the methodologies proposed and the topics to be scoped out? Largely yes but please see below comments relating to the assessments on peat.

Question 21: Do consultees see value to any particular mitigation and/or enhancement measures for any local or regional receptors, whether referred to above or otherwise? Restoration of all deep peat resources on site to functioning peat bog habitat is recommended to be undertaken.

- In relation to peat soils it is recommended that the Unified Peat Map of Wales also be interrogated and used to inform the assessment.

- Assessment of the hydrological connectivity and function of peat soils, especially deep peat resources should also be undertaken.

- All deep peat resources should be avoided as part of the design and siting of infrastructure. Infrastructure should also avoid impacts upon hydrological connectivity of peat bodies.

- In relation to mitigation it is recommended that reliance on Scottish guidance should be avoided. Experience at Pen y Cymoedd has proven that South Wales peat bodies are not comparable with the deeper peat resources found in Scotland. Floating roads for example have been shown to not work in the South Wales context and particularly where peat is in a degraded state due to afforestation.

- It is recommended that a deep peat resources are restored to functioning bog habitats throughout the site.

- No detail is provided on how cumulative effects will be assessed. Considering the number of adjacent windfarms in similar upland locations, cumulative effects could be significant. Further clarification if therefore needed.

Forestry.

Question 28: Are consultees in agreement that this provides sufficient guidance for the forestry elements of this wind farm proposal? Largely, but see below comments.

Question 29: Are consultees in agreement with the proposed methodology and approach for forestry? Largely, but see below comments.

- Consideration of current standards and research relating to afforestation on deep peat should also be considered in the assessments along with the aspirations of the Welsh Peatland Action Programme. Current research on felling best practice should also be considered where it relates to trees on deep peat, ensuring that the soils are conserved by felling methods with the aim to facilitate restoration.

- The ecology chapter should also inform the felling proposals, ensuring biodiversity is appropriately protected and mitigated during such works. It is noted that the forestry chapter suggests that the ecology chapters will assess the effects of the forest felling and restocking, this is welcomed, however this doesn't appear to be reflected in the Ecology chapter.

The Authority must seek to maintain and enhance biodiversity in the exercise of functions in relation to Wales, and in so doing promote the resilience of ecosystems, so far as consistent with the proper exercise of those functions, under the Environment (Wales) Act 2016. It is therefore essential that the above recommendations for the conservation of biodiversity be followed to ensure that the Planning Authority complies with this statutory requirement along with the adopted guidance in the Biodiversity supplementary planning guidance and TAN 5 (2009).

Chapter 12 Landscape and Visual Impact Assessment (LVIA)

The comments in relation to this section are contained within a separate report (Appendix 1) produced by the Council's appointed LVIA Consultant Simon White of White Consultants and contains information in relation to the following questions.

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

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

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?

Question 17: Do consultees agree with the methodology used to determine which wind farms are to be included within the cumulative assessment and also agree with the list provided in Table 12.8?

To clarify in relation to the response within the Simon White Report to this question, the P2014/0825 – Foel Trawsant application for the Installation of 11 wind turbines with a maximum tip height of 145m to generate up to 33 MW, together with ancillary development including substation and control building, on site underground electrical cables, stone site access tracks, temporary construction compounds, turbine foundations and temporary crane pads was determined by the Planning Committee on the 24 September 2019 to grant conditional planning permission subject to the signing of S106 agreement. However to date the S106 Agreement has not been completed and as such the decision has not been issued. However in November 2020 the applicants stated that they were still seeking the signatures of people who had an interest in the land in order to complete the agreement.

The report also refers to an existing wind turbine located within the Margam coast plane. The planning permission for the wind turbines is P2013/0300.

Question 18: Do the consultees agree with the proposed approach to assess the effects on landscape character and visual amenity?

Question 19: Do consultees see value to any particular enhancement measures?

In addition to those comments within the White Consulting Report (Appendix 1), it is noted that within the UK there are only two buildings with a height in excess of 250m – The Shard (310m) and The Helter-Skelter, Twentytwo, The Pinnacle (278m). There are a further 7 buildings within the Greater London and Tower Hamlets areas that have heights ranging from 236m to 205m. While it is acknowledged that the current proposal is for wind turbines and not buildings, it is seeking consideration for the erection of 26 turbines that would each have a height of 250m located within a semi-rural area surrounded by small scale settlements, historic features, registered historic landscapes and Historic Parks and Gardens. The scale of the proposed development would mean that it is difficult to see how it would not wholly and completely dominate the surrounding environment, to what could only be considered an unacceptable degree and to the detriment of the amenity of that environment, communities and the residents who live there. For these reasons any assessment of the visual impacts associated with the proposed development must be extensive and comprehensive, rather than the streamlined approach suggested by the applicants.

Chapter 13: Hydrology, Geology and Hydrogeology

Question 20: Are consultees in agreement with the methodologies proposed and the topics to be scoped out?

Please see the comments stated within the Ecological Section in response to the Biodiversity comments in relation to these questions.

Question 21: Do consultees see value to any particular mitigation and/or enhancement measures for any local or regional receptors, whether referred to above or otherwise?

Please see the comments stated within the Ecological Section in response to the Biodiversity comments in relation to these questions.

The Drainage Authority's comments in relation to the submitted Scoping Report are that while the content of item 13 of the scoping report are noted and the references made to the various documents, attention is also drawn to the requirements for reference to Welsh Governments Statutory Standards for Sustainable Drainage Systems 2018, as well as the requirement for a separate SAB application. Advice on the appropriate submission of such an application and the Council's pre-application advice services are available on the Council's website at <https://www.npt.gov.uk/17534>.

Chapter 14: Cultural Heritage

Please see attached as Appendix 1 the comments from the Council's appointed LVIA Consultant Simon White from White Consultants in relation to Culture Heritage, where he addresses questions 22 and 23.

Question 22: Do consultees agree with the approach and scope of the Heritage assessment?

Question 23: Do consultees see value to any particular mitigation and/or enhancement measures for any local or regional heritage features, whether referred to above or otherwise?

In addition to those comments contained with the White Consulting Report, it is noted that Talbot Memorial Park, Talbot Road, Port Talbot – a Grade II registered Historic Park and Garden appears to be missing from all the Designated Historical Assets Plans.

The Glamorgan Gwent Archaeological Trust (GGAT) are the Authority's consultants in relation to Archaeological and Heritage Impact Assessments. Their comments are set out below:

They have assessed the documents on the NPT website, and also on the DNS website, but have been unable to see a copy of the Cultural Heritage Assessment on either, only the figures. The scoping report states it is by Headland Archaeology, but they have been unable to view any correspondence relating to this site.

To meet the current professional standards, there should have been a methodology agreed between GGAT as the Council's advisors and Headland Archaeology prior to the assessment being undertaken (CIfA Standard and Guidance for desk based assessment, paragraph 3.2.1)

They are unable to comment further without access to this document as well as a copy of the methodology.

Chapter 15: Traffic and Transport

It is advised that NPTCBC policy for wind farms recommends that planning permission is not determined until such time as a Transport Management Plan (TMP) for the access route to the site has been agreed with the Highway Authority. It is recommended that applicants liaise with the relevant highway officers who will consult with the police to identify whether a TMP is required for a particular development, and to determine the required scope of the TMP. As a result of this, the Highway Authority needs to ensure that the transport route and methodology for accessing the site has been fully and properly considered. This is the rationale behind the need for a TMP to support all wind farm development planning applications.

A TMP should be based on documented trial runs that mimic the movement of the longest, widest and highest anticipated loads as agreed with the Highway Authority. The extent of the load envelope in terms of width and height should be clearly visible using a collapsible template at a minimum of three locations along an extendible trailer bed. The trial run(s) must be escorted by the police, witnessed by the relevant officers of the Highway Authority and recorded with full video coverage. Unless a pre-meeting has taken place with all relevant bodies, and agreed in writing that a trial run is not required.

Before a trial run can be scheduled, a brief Trial Traffic Management Plan (TTMP) is required to enable the police to agree the details and to decide how it will be managed. The main purpose of a TTMP is to identify constraints where the trial vehicle is unlikely to pass without alterations to the highway infrastructure, a reduction in length and/or modification of the load envelope, and locations where oncoming traffic could be held and following traffic released to avoid queues. The

Highway Authority must approve the TTMP in consultation with the police before the trial run can take place.

In addition, the applicant must apply for Temporary Traffic Regulation Orders (TTROs) for each section of the route where the police may need to stop or hold traffic to allow the trial run vehicle to pass. This may involve applying to multiple highway authorities for TTROs, as some routes might go beyond the boundary of the Authority and the process can take several months.

The TMP should contain the information set out below and be read as a standalone document. This may mean that aspects of the TMP may be repeated from other documents associated with a planning submission, such as the Environmental Statement.

The scope of the TMP should include the following:

1. Introduction - background; number of turbines; scope of TMP

2. Context - relevant policy framework; legislative context for abnormal load movements; relevant studies relating to TMP proposals; other proposed wind farm developments that may be using a similar access route

3. Description of Route - detailed description of the access route from the port of entry to the site, identifying road types and characteristics; anticipated background traffic flows on the network, including other proposed developments such as other wind farms; plans showing the extent of the route; consideration of alternative modes of transport

4. Convoy Size - number and sizes/details of loads; possible convoy composition including private and police escort (to be agreed with the police)

5. Traffic Management - methodology for moving convoys whilst minimising delay to other traffic; outline design and location of holding areas, including passing places and overnight/longer term layover areas; plans showing points where the police may need to hold other traffic to enable the convoys to pass, such as at junctions or bends; contingency plans in the event of incidents or emergencies

6. Delivery Times - estimated journey durations based on assumed convoy speeds, including timings for traffic sensitive locations, delays to negotiate constraints and assumed arrival/departure times at residential communities; forecast queues of other traffic in both directions along the route, based on background traffic flow data; consideration of turbine deliveries to other wind farms proposing to use similar routes

7. Highway Works - location, nature and details of all potential horizontal and vertical constraints such as junctions, bends and steep gradients; swept path analysis of horizontal constraints, based on topographical survey data at bridges and critical constraints; outline design of proposed permanent improvement works to address the constraints, such as bend widening, junction modification or changes to vertical alignment, ideally to enable movement of the convoys without the use of manual rear wheel steer; plans showing all improvement works in relation to the highway boundary; cross sections and long sections of any works beyond the highway boundary

8. Structures - carriageway width at all highway structures; headroom at all over bridges, supplemented by vertical swept path analysis and topographical survey where required; indication of assumed axle/vehicle loading; proposals for assessing the impact on highway structures, non-highway structures and buildings, and any embankment slopes possibly affected by loads; identification of listed structures

9. Trial Runs - documented trial run information, mimicking the movement of the longest and widest anticipated loads, witnessed/observed by the relevant highway authorities and police and recorded with full video coverage. Unless a pre-meeting has taken place with all relevant bodies, and agreed in writing that a trial run is not required.

10. Public Awareness - proposals for consultation with and notification to the travelling public and local communities

11. Environmental Impact - all physical works and operation along the extent of the transport route to be considered as part of the environmental assessment of the development even if temporary.

12. General Construction Traffic - details of all non-abnormal loads forecast to travel to and from the site; route choice for different types of load throughout the construction programme; anticipated times of movement through traffic sensitive and/or residential areas; cumulative impact associated with other proposed developments such as wind farms using the same access route

13. Consultees for TMP - list to include all affected highway authorities and police forces.

Base mapping for swept path analysis and outline designs to be based on topographical survey where possible, but 1:2500 scale Ordnance Survey (OS) mapping would be acceptable provided all critical dimensions are confirmed by site measurement and shown on plans.

The Highway Authority's reasonable costs in assessing the TMP and the impact on the highway network shall be met by the developer

Chapter 16: Noise

The following comments have been provided by the Authority's Environmental Health Section.

Question 24: Do consultees agree with the proposed approach to cumulative noise and the list of other wind developments that are planned to be included in the cumulative noise assessment?

They have seen the response provided by the Bridgend CBC - Environmental Health Officer and are in agreement with these comments.

Question 25: Do consultees agree it is appropriate to assess noise from the development, individually and cumulatively, against a daytime limit of 40 dB LA90 / Background + 5 dB and 45 dB LA90 for financially involved properties?

They have again viewed the Bridgend CBC - Environmental Health Officer's response and are in agreement with these comments. They would also like to add that this application infills an area surrounded by operational or consented smaller windfarms. For those windfarms located within the NPT boundary, the noise limits have predominantly followed the lower fixed daytime noise limit of 35dB LA90, 10mins or background + 5dB, whichever is greater. The night time limits at these receptors shall be 43dB LA90, 10mins or background + 5dB, whichever is greater. We would agree with Bridgend CBC that simply being bigger than 50MW is not sufficient grounds to overcome the balanced criteria for departing from the lower fixed daytime limit, especially as the number of turbines in proximity to village locations are increasing.

Question 26: Do consultees agree with the areas proposed for background noise monitoring?

They are again in agreement with the response from the Bridgend CBC - Environmental Health Officer. They would also like to add that the Foel Trawsant data has been recently reviewed in connection with the revised scheme and is acceptable. The background data for Mynydd Brombil however is quite old (Measurements undertaken between 12th Dec 2011 and 3rd Jan 2012), and there is therefore an argument for an additional background monitoring area to the south of the proposed development to ensure that background measurement data for receptors in this area is relevant to the current soundscape and not that which existed almost a decade ago.

We would want to agree any new monitoring locations within the background monitoring areas prior to those works taking place and suggest that officers from both Local Authorities should be given the opportunity to be present at the actual siting of the sound level meters to ensure that the locations are truly representative of the receptor locations and they are not affected by extraneous noise sources.

Question 27 Do consultees agree with the proposed approach to assessing construction related noise from the proposed development?

They continue to agree with the response provided by the Bridgend CBC - Environmental Health Officer.

Chapter 17: Forestry

Comments in relation to Questions 28 and 29 in regard to Biodiversity are set out within the Chapter 10 – Ecology response above. While issues of Forestry Management are also addressed within the Simon White Consultancy Report (Appendix 1).

Question 28: Are consultees in agreement that this provides sufficient guidance for the forestry elements of this wind farm proposal?

Question 29: Are consultees in agreement with the proposed methodology and approach for forestry?

Chapter 18: Socio-Economics

Question 30: Are consultees in agreement with the proposed methodology for socio-economic and that tourism is scoped out?

There is concern in relation to the rather general and sweeping statements made within para 18.1.2 in relation to all tourism in the whole of Wales. The Authority is concerned about the impact of the proposed development upon the existing and future growth of tourism within the coastal plane and valley areas. There are limited employment opportunities within the valley areas, but one area of growth has been the development of small scale tourism facilities. Many of these are located within the communities that surround the proposed development areas. Such as a variety of overnight accommodation as well as companies which support the growing walking and particularly cycle related activities. In recent years there have also been tentative moves to large scale tourism projects such as the Afan Adventure Park and the Rheola House Projects, as well as the Council's own initiatives based around Margam Country Park, Afan Forest Park and Glyncoirwg Mountain Bile Centre, and the Aberavon Seafront. While the Authority does not disagree with the statement that people are generally in support of Green Energy, this does not necessarily confirm that people would be happy to holiday or carry out tourism activities in close proximity to such green energy facilities. It is difficult to see how the proposed development would have a beneficial impact upon this industry and it is essential that any and all potential negative impacts upon the socio-economic environment including tourism must be fully and comprehensively assessed, monitored and where possible systematically mitigated.

Chapter 19: Health and Public Safety

Question 31: Do you agree that ice throw and lighting is scoped out of the ES and potentially shadow flicker if no properties lie within 10 rotor diameter of turbines?

It is understood that the development areas are crossed extensively by Public Rights of Way, cycle paths and tracks. As such, it is considered that at this stage it cannot be agreed that the above issues can be scoped out of the ES. Particularly given the tourism uses of these tracks and in particular their use of the cycle network within these areas.

A potential impact upon human health during the construction phase of development associated with the historic coal mining within the development areas has also been identified. It is noted that the application site falls within areas where there is Historic coal mining with various spoil tips within or adjacent to the boundary. Any permanent structures could be affected by ground gas from old mine workings and spoil tips and be a human health risk to site workers. It is therefore recommend that a Preliminary Risk Assessment and desk study is carried out to assess these risks. These potential impacts must be fully assessed and addressed within any ES submitted in support of the development proposal.

It is also understood that the proposed development would intend bringing the turbines to site using the M4 motorway. The area adjacent to the motorway as shown on the attached plan (Appendix 2) shows the extent of the Air Quality Management Area (AQMA). The Council's progress in attempting to bring about improvements in the air quality within this area are detailed within the 2019 Air Quality Progress Report (September 2019) which is available on the Council's website at <https://www.npt.gov.uk/1566>. As such consideration should be given to the increase in traffic congestion on the M4 during the AIL deliveries to the development sites during the construction process and the resultant impact upon air quality.

Chapter 20: Aviation and Existing Infrastructure

Question 32: Are consultees in agreement with the proposed methodology and approach for aviation?

There is a very small airfield located at Old Park Farm Airfield at E281022 N184510.

Question 33: Do consultees agree with the proposal to scope in aviation, Public Rights of Way and scope out impacts on impact on TV and microwave fixed links, gas, water and power lines?

In relation to Public Rights of Way, the authority generally require wind turbines to be a minimum tip height (250m in this case) plus 30m away from a Bridleway or Byway to avoid users in case of collapse – although with only one of each present on these sites this should be very achievable on this development. If this is not possible the developer should enter discussions with the Authority's Rights of Way Officers. Details of the network of Rights of Ways located around the development areas are shown on two plans attached as appendix 3.

TAN 8 currently states the following in terms of wind turbines and their proximity to footpaths, bridleways and byways:

"2.25 It is advisable to set back all wind turbines a minimum distance, equivalent to the height of the blade tip, from the edge of any public highway (road or other public right of way) or railway line."

2.26 There is no evidence that motor vehicle accidents have been caused as a result of drivers being distracted by the movement of wind turbine blades. Wind turbines should not be treated any differently from other distractions faced by a driver."

2.27 The British Horse Society, following internal consultations, has suggested a 200m exclusion zone either side of public bridle ways in order to avoid wind turbines frightening horses. This is not a statutory requirement and the circumstances pertaining at any particular site should be taken into account."

It is also noted that that **Open Access** forests probably have an 'Equestrian permit scheme' in operation (that is managed by NRW) which may need further consideration.

In determined applications for wind farms in the past the Authority would normally consult the Ministry of Defence; The Civil Aviation Authority; The BBC Research Department; Ofcom and Swansea Airport. Without further information and responses from external consultees we would be unable to comment in relation to the impact upon TV and microwave fixed links, gas, water and power lines. However the statutory and other bodies responsible for these issues should be able to provide further information.

Other Comments Not Addressed Above.

It is understood that the guidance with TAN 8 is now dated and was probably produced based on wind turbine schemes with significantly lower heights and turbine numbers that currently proposed as part of this development.

It is understood that Welsh Government will be publishing the new Future Wales – The National Plan 2040 on the 24th February 2021 and that the latest version of Planning Policy Wales (Edition 11) will also be released at the same time. It is expected that these new policy documents will result in the revocation of the current TAN8 document.

Within para. 3.3 The applicants state that the grid connection works fall outside the scope of the EIA. It is considered that if the proposed development is able to make connection through the existing grid connection network then the above statement is considered acceptable, however if this is not the case and that additional infrastructure would be required to make a grid connection, then these works should at least be detailed within any application, to allow the full assessment of all development necessary as part of the proposed development scheme.

Yours sincerely

Nicola Lake.
Team Leader – Development Management (East Team).
Neath Port Talbot Council

Y BRYN WIND FARM

**RESPONSE TO
SCOPING REPORT IN RELATION TO LANDSCAPE AND
VISUAL AND CULTURAL HERITAGE MATTERS**

Final Report

for
Neath Port Talbot County Borough Council
Bridgend County Borough Council

February 2021


Web: www.whiteconsultants.co.uk



CONTENTS

1. Introduction..... 2

2. Policy context 2

3. General Matters 5

LANDSCAPE AND VISUAL IMPACT ASSESSMENT (LVIA) MATTERS..... 5

4. Key LVIA issues 5

5. Responses to landscape and visual questions 6

CULTURAL HERITAGE MATTERS..... 14

6. Cultural heritage issues 14

7. Responses to cultural heritage questions..... 14

- Appendix A: TAN 8 SSA F refinement study extract
- Appendix B: IEMA significance diagram
- Appendix C: Lethans wind farm A3 single frame visualisation sample

1. Introduction

- 1.1. White Consultants were commissioned by Neath Port Talbot and Bridgend County Boroughs (NPTCBC and BCBC) in January 2021 to review and advise on a scoping response to proposals for Y Bryn wind farm in relation primarily to landscape and visual impact assessment (LVIA) but also to cultural heritage matters. Govannon have been employed to take a brief overview of the latter.
- 1.2. The proposal is a Development of National Significance (DNS). The developers are Coriolis Energy and ESB. The LVIA related information has been prepared by Soltys Brewster Consulting Ltd and the cultural heritage information has been prepared by Headland Archaeology (UK) Ltd.
- 1.3. The purpose of this report is to provide background information and support for the boroughs' scoping responses to PINS.
- 1.4. A desk study has been carried out supplemented by a visit to the study area to scope viewpoints in early February.
- 1.5. Currently, the proposed wind farm consists of 26 turbines up to 250m to blade tip proposed in two clusters in forest plantation with associated access, battery storage and other infrastructure. It is noted that mapped information on the development other than wind turbines has not been provided. The southern cluster of turbines is located on Mynydd Margam and Mynydd Bach and the northern cluster lies east of Mynydd Penhydd. The South Wales coalfield plateau scarp lies on the edge of the coastal plain just to the south, the Afan valley lies to the north and west, the Llynfi valley lies to the east and the site is split by Cwm Farteg.
- 1.6. The information reviewed provided by the developer and available from the PINS website has included:
- Scoping report by Natural Power (7 January 2021)
 - Figure 3.1 Regional context
 - Figure 3.2 Constraints to site design
 - Figure 12.1 Zone of Theoretical Visibility (ZTV)
 - Figures 14.1- 14.5 Designated and non-designated historic assets
- 1.7. In addition, GIS locations of the wind turbines have been obtained from the developer along with a table of viewpoint OS reference locations.
- 1.8. The report is structured to consider the policy context, identifying the key issues, responses to the LVIA and cultural heritage questions in the scoping report and then consideration of other considerations not included in the questions.

2. Policy context

- 2.1. The scoping report sets out the legal and policy context very briefly in section 6, page 8. The list of documents set out are relevant and should be taken into consideration in the assessment. Planning Policy Wales 10 (PPW 10) is a key consideration. This currently refers to TAN 8: Planning for Renewable Energy. It also refers to the historic environment, LANDMAP and associated landscape character assessments including the registered historic landscapes in Wales to

inform local policies and decision-making. Its current and updated version (after publication Future Wales 2040/National Plan) should be taken fully into account.

- 2.2. TAN 8 has been the context for consideration of onshore wind energy development in Wales since 2005. It defines a series of strategic search areas (SSAs). The proposed site lies within Area F Coed Morgannwg. An Annex D refinement study for the area was carried out by Arup in 2006, assisted by White Consultants. Using multi-criteria analysis and review this identified two areas in which the proposed development lies as being potentially suitable for turbines up to a maximum of 100m high to blade tip (see **Appendix A**). Areas for higher turbines were identified to the north including the area in which Pen y Cymoedd wind farm now stands (around 145m high turbines). This is an indication that this location and landscape may not be appropriate for very large turbines.
- 2.3. The Future Wales 2040/National Plan is scheduled for publishing on 24 February 2021. This will replace TAN 8 as the national spatial strategy for wind farm development within the context of PPW 10. The current draft defines strategically pre-assessed areas although it is not known if these will be retained in the final published version. The northern cluster of the proposed development lies within pre-assessed area 9 for wind energy and the southern cluster lies outside. Draft Policy 17 currently states that in pre-assessed areas the Welsh Government has already modelled the likely impact on the landscape and found them to be capable of accommodating development in an acceptable way and there is a presumption in favour of large-scale development, subject to draft Policy 18.
- 2.4. Policy 18 currently states that a DNS will be permitted outside pre-assessed areas for wind development providing the proposal:
 - Does not have an unacceptable adverse impact on the surrounding landscape (particularly on the setting of National Parks and Areas of Outstanding Natural Beauty).
 - The proposal is designed to minimise its visual impact on nearby communities and individual dwellings and a cumulative impact of the proposal with other existing or proposed development is acceptable.
 - There are no unacceptable adverse impacts on statutorily protected built heritage assets.
- 2.5. The above policies are an indication that at a strategic level the southern cluster may have an unacceptable impact and raises concerns.
Priority Areas for Solar and Wind Energy
- 2.6. The underpinning research relating to the National Plan wind farm pre-assessed areas was summarised in a report by Arup for Welsh Government ‘Priority Areas for Solar and Wind Energy’ (July 2019). This indicated that the analysis was carried out on a two-stage basis. The first stage involved initial definition of constraints and opportunities, the development of a digital tool, the identification of options and initial ‘priority areas’ followed by analysis of policy options. The second stage further analysed the broad priority areas identified considering high-level landscape and visual matters, centres of population and the historic environment along with vehicular access and ecosystem services. The summary indicates that partners and experts have been involved in the process. It should be noted that NPTCBC, BCBC and White Consultants have not been involved.
- 2.7. The report findings suggest that the areas are those of the ‘greatest opportunity’ in Wales (4) but make clear that the analysis and assessment were

carried out at a level appropriate to national decision making policy formulation and the map outputs are designed to be viewed at no more detailed level than 1:250,000 and are not designed to present site level accuracy. The summary recommendations indicate that local level constraints have not been taken into account and that robust policy on design guidance should be developed to accompany the priority areas within the NDF. This is not available even in draft form and is a gap in the current draft policy context. It is further recognised in the report recommendations that the priority areas still have constraints so appropriate evidence is required to inform decision-making at planning application stage. There is an apparent disconnect between these recommendations and study findings and Policy 17 as currently drafted which suggests that the study modelled the likely impact on the landscape and found them to be capable of accommodating development in an acceptable way. There are no comparative diagrams so it is our view that the study may not have fully engaged with this issue (see **Diagram A** in Section 4).

- 2.8. The Stage 2 report landscape and visual method involved:
 - Consideration of the visual setting that nationally designated landscapes
 - Using LANDMAP to consider the potential sensitivity of landscapes
 - Review of sensitivity and capacity studies already undertaken
- 2.9. Intervisibility of turbines of 150m and up to 250m to blade tip was considered. The criteria for level of effects was derived from NRW’s ‘Stage 1 ready reckoner report’ for offshore development (prepared by White Consultants) as medium magnitude of effect at 15km and 24km for 250m high turbines. (This level of effect would be highly likely to be significant on high sensitivity receptors.) The findings indicated that refining the priority areas to the extent that no turbines would be visible from national designations would reduce the areas to the level where they would be unlikely to deliver renewable energy targets. Therefore, priority areas should be refined to avoid the areas of greatest levels of intervisibility and design guidance developed to minimise visual effects. In terms of NPT and Bridgend, the key factor to note is that the effect on people i.e. existing communities has not been considered at a strategic level- it is assumed that ‘sensitive design’ can usually avoid significant impacts (4.2.3).
- 2.10. LANDMAP was considered in terms of relationship of priority areas with outstanding or high evaluations for different aspects. Picking out visual and sensory, the priority areas are stated as generally excluding land identified as outstanding or high value. However, in terms of Historic Landscape, the areas have at least 50% coverage of high or outstanding. The summary implication is that LANDMAP should be used as a secondary referencing refinement and used as an additional evidence layer rather than defining areas.
- 2.11. Existing landscape sensitivity and capacity assessments were also reviewed. Their limited coverage and slightly varying approaches meant that they were not used to refine the priority areas.
- 2.12. In relation to the historic environment, on Cadw advice, buffers of 3km were set around assets of great cultural significance (including historic parks and gardens such as Margam). For planning applications, a buffer of 5km was recommended by Cadw. Registered Historic Landscapes were also considered and Mynydd Margam was located in the then priority area 14. This was removed as part of the refinement process.
- 2.13. In addition, centres of population have been moved to fall just outside the priority areas.

Local policies

- 2.14. Policies on wind energy, landscape and heritage need to be taken into account and any conflict identified. There are a number of Special Landscape Areas in the study area, all of which should be considered. The closest in NPT are Margam and Foel Trawsnant, and in Bridgend, Foel y Dyffryn. However, views from these areas such as Kenfig Burrows should also be considered.

3. General Matters

Question 2: Do consultees have any comments in relation to the approach to the environmental impact assessment (EIA).

- 3.1. Question 2 asks if consultees have any comments in relation to the intention to focus on significant effects and therefore propose to scope out likely non-significant effects. We have concerns about Table 5.2 on Significance of Effects which suggests that only residual adverse effects of major and major/moderate are regarded as being significant. In our view a series of moderate effects can be significant if related eg on a particular landscape receptor or a long distance trail or scenic route. Ignoring these effects is not in line with good practice as shown in GLVIA 3. Nevertheless, we appreciate that the most significant effects should be given most consideration and appropriate prominence within the EIA so as not to be lost amongst all the other effects.
- 3.2. The 50 years operational period (3.5.1, 5.2.1) is long and should be justified in terms of the effective operational life of the proposed turbines.
- 3.3. The information within the scoping report is not detailed enough to agree on the features and topics that are likely to experience a significant effect (5.1.6). For instance, the Zone of Theoretical Visibility (ZTV) map is at a very large scale and relatively low resolution and using bare ground data only. There is no information on the location or design of the access roads/routes or battery storage. The scoping report itself does not define where significant effects may occur. Therefore, the comments in this response on possible issues and significant effects are provisional subject to further information coming forward.

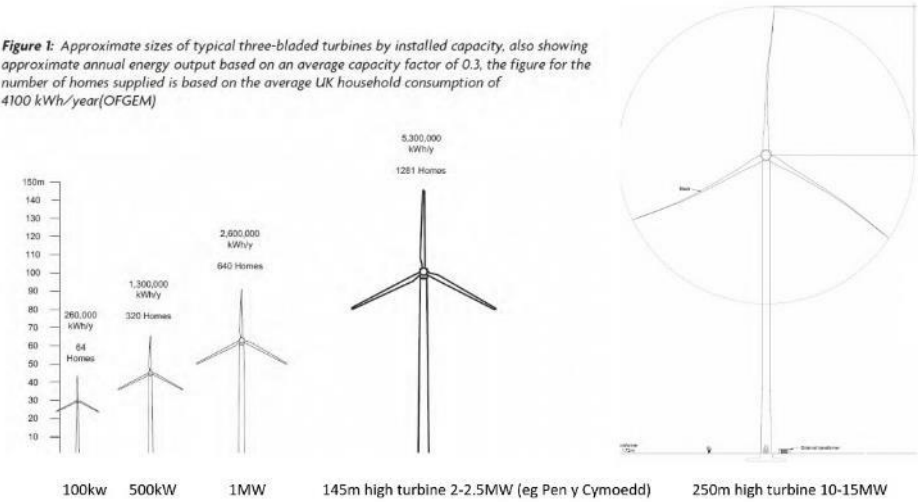
LANDSCAPE AND VISUAL IMPACT ASSESSMENT (LVIA) MATTERS

4. Key LVIA issues

- 4.1. The proposed major development on the site offers many challenges. Relevant key issues include:
- The proposed 250m height of the turbines (see **Diagram A**) is far larger than any other in Wales, and greater than the highest in the UK- 200m at Lethans which is located in Scotland in an area that is rural, larger scale and with far fewer settlements and apparently fewer sensitive receptors. Lethans was consented on a site where permission for smaller wind turbines had already been given.
 - The potential for turbines of this size to be out of scale with the landform on which they sit are of concern so close to well populated valleys, the coast and sensitive receptors.

Diagram A: Comparison of turbine size

Extract from TAN8 Annex C below with addition of 250m turbine size proposed to the right but **not** illustrated in report.



- The effect on the relationship between the large scale development on the relatively undeveloped forested coalfield plateau in the environs of the site, the nearby scarp slope, the coast and coastal plain and the related seascape of Swansea Bay.
- Starting from such a large scale proposed size, a reduction in height from 250m will not be considered as ‘minimising’ effects. Consideration of turbines only at 250m high may not be realistic and so consideration of significantly lower turbines should also form part of the assessment. The effects of any lower height development coming forward will have to be considered on their own merits.
- Local residents and communities are likely to undergo significant visual effects with dominant or prominent turbines and, in some cases, may suffer unacceptable effect on residential visual amenity.
- Cumulative effects in combination with existing and consented windfarms and wind turbines, especially those nearby including Foel Trawsnant, Llynfi Afan, Mynydd Brombil and Pen y Cymoedd.
- The effect on the setting of Margam Historic Park and Garden and associated visitors to the country park.
- The effect on the landscape character including Special Landscape Areas.
- The potential for views to open up towards the windfarm over time as the forest is managed with clearance before replanting in places.
- The potential conflicts with national and local policy on the basis of the above.

5. Responses to landscape and visual questions

- 5.1. The following questions
- Question 14: Do consultees agree that assessing the maximum hub height available for the tip height in question is appropriate.**
- 5.2. The higher the hub height, the smaller the blade length and therefore blade sweep area. This means that the likely visual effect of a turbine 250m tall with a larger blade sweep is likely to be greater. It is suggested that the ZTVs are based on a maximum blade tip height and maximum hub height but that the visual impact assessment takes into account the maximum sweep area (as in the Rochdale envelope approach). It would be very helpful to have clear drawings illustrating the two types of turbines- one with the highest hub height and one with the largest blade length.
- 5.3. As mentioned above, our view is that the 250m high turbines are likely to be too large for this site and a more realistic alternative should also be considered to inform decision-makers. Preferably, an assessment of smaller sized turbines only should be taken forward.

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

- 5.4. The outer 45km study area appears to be reasonable for development of this scale. The concern of NPTCBC and BCBC is on the likely significant effects more locally and therefore sufficient detailed assessment should be carried out for an inner study area of 15km supported by mapping and information at a more detailed scale such as ZTVs, viewpoints and constraints.

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?

- 5.5. The range of viewpoints located within NPTCBC and BCBC areas have been assessed through desk study and site visits. Overall, it is considered that most of the viewpoints are helpful but a fuller picture of effects on the Llynfi valley, coastal area, heritage assets and cumulative effects is needed to understand the impact of this very large development.
- 5.6. Detailed comments on the existing proposed viewpoints are as follows:

Table 1: Proposed LVIA viewpoints

LVIA scoping report ref	Location	Notes/comments
1	Evans Terrace, Caerau	Appears reasonable
2	Maesteg Golf Course	Appears reasonable
3	Bryn, play area	Appears reasonable
4	Brynna Road, Cymafan	Appears reasonable
5	Rhiwlas, Neath	Appears reasonable provided that structures and vegetation in the foreground are avoided.
8	Margam Park (Deer park)	Appears reasonable provided it is by the seat with clear view towards wind farm
10	St Illtyd's Way near Cynonville	Appears reasonable provided that vegetation in the foreground does not restrict view.
13	Junction of Heol Gelli Lenor and Brynllwarch, Maesteg	Appears reasonable
16	The Princess Margaret Way, Aberavon	Appears reasonable
17	Margam Park	Appears reasonable
19	Wales Coast Path, Rest Bay	Appears reasonable
20	Bridgend Circular Walk, Bryncoch	Appears reasonable- least important of the viewpoints selected but may demonstrate views from a representative distance.
21	Sarn Helen,	It is noted that the location is just outside the

	Aberdulais	open access land and to the side of Sarn Helen. Usually viewpoints on private land are not valid. Does the consultant consider the viewpoint represents the reasonable worst case of views from the above receptors?
22	Baxter Terrace, Glyncorrwg	Appears reasonable
Note: Where stated 'appears reasonable', the viewpoints cannot be finally verified/agreed until exact extent of turbines is defined on photos/visualisations.		

5.7. To give a fuller picture of the development in its context and to cover sensitive receptors as mentioned above the following additional viewpoints are proposed:

Table 2: Proposed additional viewpoints

Viewpoint reference	Eastings	Northings	Notes/justification
A	280106	185792	Margam Park visitor access road to explore range of visibility within HPG/residential receptors to south - to inform LVIA and cultural heritage assessments.
B	280160	181110	Kenfig Burrows registered historic landscape/ Kenfig visitors carpark/ Wales Coast Path- to inform LVIA and cultural heritage assessments.
C	281943	192051	Bryn- east- to explore effects on residents on this side of the village and inform RVAA and effects on St Illtyd's Walk and Cwm Farteg.
D	283680	187700	Ogwr Ridgeway Walk/ nearby Y Bwlwarcaw hillfort and Roman Camp setting to inform LVIA and cultural heritage assessments
E	286171	195028	Cemetery/ view from eastern edge of Maesteg/ associated eastern Llynfi valley slopes to show development more fully in context of the Llynfi valley.
F	285704	188789	Llangynwyd Conservation Area (south of cross)- nearby heritage and visual receptor and distinctive hilltop village- to inform LVIA and cultural heritage assessments.
G	287620	199357	A4063 users/residents on southern edge of Croeserw/ open access land/to explore cumulative effects with

			windfarms to east
H	289775	187495	Bettws- consider settlements at a medium distance with clear views of the development
Note: Tolerance of GPS references could be upto 10m- worst case viewpoint needs to be selected			

- 5.8. The Residential Visual Amenity Assessment (RVAA) study area at 1.5km is not illustrated in the scoping report. A review of this distance appears to show that it excludes part of Bryn, settlement on the east side of the Llynfi valley which is more likely to have views of turbines and some isolated rural properties that may have also have direct nearby views.
- 5.9. Guidance set out in TGN2/19 Residential Visual Amenity Assessment, Landscape Institute, March 2019 mentions wind turbines at 150m and taller (4.6) when discussing realistic buffers but these turbines at 250m are significantly larger. It goes on to state (4.7):
'When assessing relatively conspicuous structures such as wind turbines, and depending on local landscape characteristics, a preliminary study area of approximately 1.5-2km radius may initially be appropriate in order to begin identifying properties to include in a RVAA.' (This report emphasis).
- 5.10. The public inquiry decision for Mynydd Marchywel wind farm in NPT found that its five turbines at 126.5 m high breached the RVA threshold of acceptability with wind turbines at a distance of 920m-2.4km from a property. The wind farm was refused.
- 5.11. Taking into consideration the above, our view is that distance of 2km should be scoped for the RVAA. A mix of individual properties and groups of properties should be assessed as appropriate, depending on distance and arrangement.
Question 17: Do consultees agree with the methodology used to determine which windfarms are to be included within the cumulative assessment and also agree with the list provided in Table 12.8?
- 5.12. Cumulative impact assessments can be large and confusing and it is important that the most important cumulative effects are addressed clearly. Those that are most important are those with existing or consented turbines, at closer distances and juxtapositions, where there is a large sweep of turbines visible and where receptors (especially residential) have developments on two or more sides.
- 5.13. Additional viewpoints have been selected in this response to better reflect the potential for cumulative effects eg at Croeserw.
- 5.14. The list of windfarms to be considered in Table 12.8 appear to have one of two errors. It is understood that Foel Trawsnant has been consented. The difference in size of turbine and the adjacency of this proposal are of particular concern.
- 5.15. The turbines on the coastal plain south of Margam and those east of Porthcawl (eg Stormy Down) appear to have been omitted. These affect perceptions in these areas and should be considered. To minimise work possibly all these turbines should be considered together in relation to the development.
- 5.16. The comments relating to the **sensitivity** of landscape to effects below (relating to Table 12.2) also apply to cumulative effects. The factors that make a landscape more or less susceptible to a series of developments, especially of

different sizes and design, are not set out. This is important to understand how the judgements are reached. There are only three categories of sensitivity which means that there is a significant difference between the descriptors of high, medium and low with intermediate categories effectively being omitted. This does not reflect the complexity of most landscapes. Five categories are suggested.

- 5.17. The magnitude of cumulative landscape effects (Table 12.9) correctly identifies that the combined effects of the proposed development and other wind turbine developments should be considered. This should be assessed against the baseline of no wind turbines on the basis of the temporary nature of the development, albeit long-term. However, the contribution of Y Bryn to the cumulative effect should also be described in terms of relationship with other windfarms including relative size of turbine.
- 5.18. The significance of cumulative landscape effects (Table 12.10) has a very high threshold of significance and the definitions for major and major/moderate are very similar. It is considered that the definitions will tend to lead to under estimation of significant effects.
- 5.19. Magnitude of cumulative visual effects (Table 12.11), as with landscape effects, correctly identifies that the combined effects of the proposed development and other wind turbine developments should be considered. However, the contribution of Y Bryn to the cumulative visual effect should also be described in terms of the juxtaposition and relationship with other windfarms including relationship with the viewer (e.g. on either side), the percentage field of view etc.
- 5.20. The significance of cumulative visual effects (Table 12.7) includes a definition of 'the loss of some essential landscape features' in the major/moderate category. This statement does not make sense as wind turbines usually do not lead to the 'loss of features', just substantial modification of the view.

Question 18: Do the consultees agree with the proposed approach to assess the effects on landscape character and visual amenity?

Guidance

- 5.21. The following comments are made on the guidance set out in 12.2.1
 - The Guide to Assessment of Cumulative Effects of Wind Farm Developments, ETSU (2000) is very dated and should be given little, if any, weight. The SNH 2012 guidance is more helpful in this regard.
 - LANDMAP Information Guidance Note 3 has been superseded by Natural Resources Wales Guidance Note 046 'Using LANDMAP in Landscape and Visual Impact Assessments (LVIA)', January 2021. Note that Cultural Landscape Services succeeds Cultural landscape.
 - The Visual Representation of Development Proposals TAN 06/19 should be dated September 2019.
 - Seascape effects should be considered in line with the documents set out in the seascape section below.

Landscape

- 5.22. The sensitivity of landscape (Table 12.2) is not described as combining the susceptibility of a given landscape to a particular type of development with value in line with GLVIA3. The factors that make a landscape more or less

susceptible to a particular type and scale of development are not set out. This is important to understand how the judgements are reached. There are only three categories of sensitivity which means that there is a significant difference between the descriptors of high, medium and low with intermediate categories effectively being omitted. This does not reflect the complexity of most landscapes. Five categories are suggested.

- 5.23. The magnitude of landscape effects (Table 12.3) does not include the criteria of the proposed development becoming a dominant or key characteristic of an area. The definitions of high and high/medium are very similar with the latter being too high a threshold.
 - 5.24. The significance of landscape effects (Table 12.4) appears to use the term 'element' where characteristic would be more appropriate and in line with standard guidance definitions. An element is the hedgerow or a tree etc. The combination of sensitivity and magnitude of effect should be in line with the IEMA diagram in Appendix A.
- Seascape**
- 5.25. The effects on seascape are not addressed in the assessment. The ZTV clearly indicates uninterrupted visibility across Swansea Bay, along the southern coast of Gower and across the Bristol Channel to Exmoor. The proposed heights of turbines are so large that they are likely to modify the coastal backcloth to the seascape.
 - 5.26. The assessment should address the effects on seascape character areas at the appropriate scale. This may be the national marine character areas in Wales- 25, 26, 27 and 28, but consideration should also be given to using the local seascape character assessment for the Gower and Swansea Bay to inform qualities and potential effects, and possibly refine areas for assessment if required.
 - 5.27. The method for assessing effects should take into consideration GLVIA 3 and 'An Approach to assessing seascape sensitivity', Marine Management Organisation, (MMO1204), 2020. NRW Stage 1- Ready reckoner of visual effects related to turbine size, report number 315 relates to research on offshore wind farms and views from the coast. However, it may be helpful in establishing yardsticks for likely effects the large-scale onshore developments relatively close to the coast.

Visual Amenity

- 5.28. The sensitivity of visual receptors (Table 12.5) does not mention visitors to the coast, heritage assets and country parks, all of whom would be high sensitivity. It is assumed that medium sensitivity receptors would include users of B roads. As with the landscape sensitivity, only three categories do not reflect the range of sensitivities of receptors and users of motorways and A roads may be considered medium/low, not low.
- 5.29. The significance of the visual effects (Table 12.7) indicates that defining visual elements would become subservient within the view. Presumably this means that the development would be a dominant feature?
- 5.30. It is agreed that some effects of moderate significance could be significant. The method does not mention that where a series of linked moderate effects occur (e.g. along the footpath) that this may make the combined views significant. The combination of sensitivity and magnitude of effect should be in line with the IEMA diagram in Appendix A.

LVIA outputs

- 5.31. The following comments are made on the figures:

- All map figures should be prepared to cover the 45km study area and separate more detailed maps showing a 15km study area (possibly with the addition of the western edge of Swansea Bay and associated intervisible backcloth).
 - It is assumed that the non-statutory landscape designations will include Special Landscape Areas.
 - The access and movement figures should include access land.
 - LANDMAP should include aspect areas in line with updated Natural Resources Wales Guidance Note 046 'Using LANDMAP in Landscape and Visual Impact Assessments (LVIA)', January 2021. The change to cultural landscape services should be noted.
 - Character Areas- the method for defining these has not been identified or are they National?
 - Blade tip and hub height ZTVs should be at 15km with a 1:25k OS base as well as 45km with a 1:50k base. They should include bare ground and landcover versions to accommodate possible changes in tree cover over the life of the development.
 - Viewpoints should be shown as points to give an accurate indication of their location.
 - Viewpoint visualisations should include the additional viewpoints suggested in **Table 2**.
 - Photomontages should include a range of key views to be agreed. They should not necessarily be limited to 10 as such a large scale development is proposed and may necessitate more.
 - The height of the turbines may necessitate the use of portrait photos in some locations to ensure that full of the height of the turbine is covered.
 - Photomontages should include A3 single frame views where possible to allow for ease of printing by third parties and decision-makers and for taking on site. A good example is the Lethans A3 viewpoint pack (see sample in **Appendix B**).
 - The cumulative ZTVs should also be carried out at 15km radius on 1:25k OS mapping for the closest wind turbine developments.
- 5.32. In addition, the following information is regarded as important in understanding effects:
- Seascape character areas at national and local level.
 - Forestry resource/management plans are needed showing the phasing of removal and/or replanting of the forest plantation surrounding the proposed wind farm to clearly inform how this may open up or reduce views during the lifetime of the development, or at least 10 years. Expected tree growth rates for proposed species would be helpful.
 - Proposed mitigation.
 - Elevations of proposed turbines showing alternatives with highest hub height and with the largest blade circumference.
 - Location and details of access roads, battery storage and other ancillary infrastructure.

- Though some of the above will not be part of the LVIA they should be part of the overall description of the development.

Question 19: Do consultees see value to any particular enhancement measures?

- 5.33. Landscape enhancement measures would need to be considered hand-in-hand with biodiversity enhancement and cultural heritage measures such as interpretation. The measures should take into consideration the effects of climate change and reinforce resilience to species loss and issues such as flooding. They should be in line with NRW advice on management of forests and general climate change guidance eg Communicating landscape change from adaptation and mitigation in a changing climate, Natural Resources Wales report no.396. The clearance of forest to accommodate the development may reduce the capacity of the area to reduce run-off and this should be compensated and enhanced if at all possible.
- 5.34. Whilst the above may be considered benefits they are likely to be very minor in comparison to the level of landscape and visual effects. Whilst they need to be set out clearly with appropriate commitments, they should not be used to obscure the overall residual effects.

OTHER MATTERS NOT INCLUDED IN QUESTIONS

Relevant Policy

- 5.35. Landscape related designations and policy (noted in 12.3.6) should also include consideration of:

Neath Port Talbot:

- Strategic Policy SP 18 Renewable and Low Carbon Energy
- Policy RE 1 Criteria for the assessment of renewable and low carbon energy development
- Strategic Policy SP 21 Built Environment and Historic Heritage
- Landscape and seascape supplementary planning guidance (May 2018)

Bridgend:

- Strategic policy SP 4- Conservation and enhancement of the natural environment
- Strategic policy SP 5- Conservation of the built and historic environment
- Strategic policy SP 8 Renewable energy
- Policy ENV 18 Renewable energy developments

Grid connection

- 5.36. A high-level summary description and appraisal of the potential landscape and visual effects associated with the grid connection is normal practice. However, the route should be clearly marked on maps at sufficient detail with illustrations of the type of poles, substations and related infrastructure.

CULTURAL HERITAGE MATTERS

6. Cultural heritage issues

- 6.1. For avoidance of doubt, the local archaeological trust is the Glamorgan Gwent Archaeological Trust (GGAT).
- 6.2. The proposed major development on the site offers many challenges. The key issues relating to cultural heritage include:
 - The effect on the setting of Margam Grade 1 Historic Park and Garden and associated Conservation Area, Grade 1 and other listed structures and scheduled monuments (at 1.4km from the park boundary with the whole of the southern cluster within 5km).
 - The effect on Mynydd Margam Landscape of Special Historic Interest and associated features (the southern cluster lies within the area and the northern cluster adjacent).
 - The effect on scheduled monuments in or close to the site such as Y Bwlwarcau hillfort and Roman Camp.
 - The effect on other heritage features such as Llangynwyd Conservation Area.
 - The potential conflicts with national and local policy on the basis of the above.

7. Responses to cultural heritage questions

Question 22: Do consultees agree with the approach and scope of the heritage assessment?

- 7.1. The LVIA viewpoints and associated visualisations are mentioned in 14.2.8. These should include those mentioned as additional viewpoints in Table 2 above and should be used to help inform the level of effects in addition to the study and site visits. If the final layout means any turbines are likely to be visible from Margam Conservation Area an additional worst-case viewpoint and visualisation should be located here. It is not possible to judge at this stage where that should be with the information provided.
- 7.2. The method appears to reference the key documents (14.3.1) although it should be noted that the ‘Guide to good practice on using the register of landscapes of historic interest in Wales in the planning and development process’, 2007, is published by Cadw, CCW (now NRW) and Welsh Assembly Government, now Welsh Government.
- 7.3. It is not known if, (or agreed that), the inner study area (ISA) is low-medium in terms of archaeological potential (14.3.4).
- 7.4. The information cited in the baseline desk study (14.3.5) appears to be generally appropriate but has some omissions. In carrying out the ASIDOHL 2 assessment the historic landscape character areas (HLCAs) should be assessed. These are described by GGAT in the following website:
http://www.ggat.org.uk/cadw/historic_landscape/margam/english/mynydd_margam_summary.html
- 7.5. In relation to ASIDOHL2, past experience is that in assessing wind energy or any structure that is disproportionately tall in comparison to the extent of its physical footprint can affect findings. Under these circumstances, the ASIDOHL2

methodology can produce results that show a development having less impact than is really the case, because as the methodology stands, visual impacts are weighed up with physical impacts, which in the case of wind turbines are relatively small, especially in this case with very large turbines. The assessor should take this into account and give more weight to the visual impacts through use of ZTV data and likely adverse visual effects within each HLCA. These should take account of forest management and clearance due to the project as well as the overall Forest Management Plan.

- 7.6. Consideration should additionally be given to place-names as well as potential artistic or literary associations, sacred space, or local traditions and customs. Welsh language literary sources should be considered in this context, including early poetry associated with the Abbey and with the estate which followed it. Aeron Afan’s Cyfansoddiadau Buddugol yn Eisteddfod Iforaidd Aberafan Mehefin 23, 1853 (*Caerfyrddin: William Thomas*) captures the culture of the area in the early stages of industrialisation.
- 7.7. The levels of heritage significance set out in Table 14.1 indicate that Conservation Areas are only of medium importance. In the case of Margam in particular, with its range of grade I and II* buildings etc, this is considered to be too low.
- 7.8. In relation to scope (14.4.3) it is suggested that the effects of the proposed grid connection would be scoped out if it used underground cable. This may have an adverse effect on archaeological remains in the ground and therefore this should not be scoped out.

Question 23: Do consultees see value to any particular mitigation and/or enhancement measures for any local or regional heritage features, whether referred to above or otherwise?
- 7.9. Mitigation and enhancement of cultural heritage assets should be put forward in line with good practice and national guidance. As with LVIA mitigation, whilst these may be considered benefits they are likely to be very minor in comparison to the level of cultural heritage effects. Whilst they need to be set out clearly with appropriate commitments, they should not be used to obscure the overall residual effects.

Appendix A

TAN 8 SSA F refinement study extract

Consortium of South
Wales Valleys Authorities

**TAN 8 Annex D study of
Strategic Search Areas
E and F: South Wales
Valleys**

Final report

Consortium of South
Wales Valleys Authorities

**TAN 8 Annex D study of
Strategic Search Areas
E and F: South Wales
Valleys**

Final report

December 2006

This report takes into account the
particular instructions and requirements
of our client.
It is not intended for and should not be
relied upon by any third party and no
responsibility is undertaken to any third
party

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Contents

	Page
Executive Summary	1
1 Introduction/Brief	8
1.1 Scope of Study	8
1.2 Brief	9
1.3 Study Team	10
1.4 Report Structure	10
1.5 Bibliography	10
2 Methodology	12
2.1 Introduction	12
2.2 Overview	12
2.3 Qualification of methodology	13
2.4 Methodological stages	13
2.5 Acceptability Criteria	15
2.6 Study Area	16
2.7 Existing/Agreed wind farms	18
3 Technical and environmental constraints review	19
3.1 Overview	19
3.2 Absolute constraints	19
3.3 Variable constraints	20
3.4 Electrical Connection Issues	22
3.5 Cumulative constraints review	23
3.6 Identification of zones for further analysis	25
3.7 Review of indicative capacity for the SSA(s)	28
3.8 Identification of zone capacities	29
4 Landscape and Visual Analysis	33
4.1 Introduction: Landscape and Visual Analysis	33
4.2 Landscape terminology/Method	34
4.3 Landscape Value/Sensitivity and visual thresholds	34
4.4 Landscape Value Analysis	38
4.5 Landscape Capacity Analysis	42
4.6 Visual Impact Analysis	45
4.7 Historic landscape analysis	53
4.8 Overall landscape and visual performance	54
5 Overall Analysis	58
5.1 Introduction	58
5.2 Context/other factors	58

5.3	Zones required in SSA E	59
5.4	Development of the refined boundary for SSA E	59
5.5	Zones required in SSA F	63
5.6	Development of the refined boundary for SSA F	64
5.7	Wind Turbine height within the refined SSA boundaries	68
6	Conclusions and Recommendations	70
6.1	Conclusions	70
6.2	Recommendations	70

Appendices

Appendix A

Existing/Agreed Wind farms

Appendix B

Wind Farm capacity estimates

Appendix C

LANDMAP - Further Information

Appendix D

Treatment of Historic landscapes

Appendix E

Landscape Sensitivity/Capacity methodology

Appendix F

Landscape Sensitivity and value results for the SSA Zones

Appendix G

GIS and Visual Assessment Methodology

Appendix H

ZTV Parameters and ZTV results

Appendix I

Qualitative Visual Effects Analysis

Appendix J

Micro-siting guidance for wind farms in SSAs

Appendix K

Wildlife Trust Sites

Executive Summary

Introduction and context

In July 2005 the Welsh Assembly Government (WAG) published the Ministerial Interim Planning Policy Statement (MIPPS) 01/2005: Planning for Renewable Energy¹ and *Technical Advice Note (TAN) 8: Planning for Renewable Energy*. This TAN indicates that there are only a few relatively unconstrained areas in Wales that are capable of accommodating large scale (>25MW+) wind power developments; these areas comprise 7 Strategic Search Areas (SSA). The availability of existing or planned electrical grid infrastructure was a significant factor in the identification of these unconstrained areas.

Two of these 7 areas are Area E “Pontardawe” and Area F “Coed Morgannwg” which the TAN suggests have an “indicative generating capacity” of 100 MW and 290MW respectively (approximately 50 and 150 modern wind turbines of 100m in height).

An extract from TAN 8 showing the extent of the published SSAs is included within the main report.

Paragraph 2.3 of TAN 8 indicates that “*Local Planning Authorities are best placed to assess detailed locational requirements within and outside SSAs in the light of local circumstances*” and that (Para 2.10) “*Local Planning Authorities should take an active approach to developing local policy for SSAs in order to secure the best outcomes. Further advice is contained within Annex D [of TAN 8]*”. A consortium of South Wales Valley Planning Authorities² have therefore jointly commissioned consultants (Arup (with sub-consultants)) to undertake such a refinement exercise of SSA E and F which a view to providing an evidence base for subsequent planning policy formation and decision-making.

This Arup study is primarily a landscape and visual assessment exercise which seeks to identify a 'Preferred Area or Areas' for large-scale wind farms broadly within the boundaries of the Strategic Search Area(s), working within the context of the indicative capacity targets for the SSAs (identified in TAN 8 in Table 1 Page 5). The study however also uses a range of technical and other environmental data to inform its work.

No formal consultation has been undertaken with statutory bodies as part of the study; the only discussions that have taken place have been with the Planning Authorities that commissioned the study.

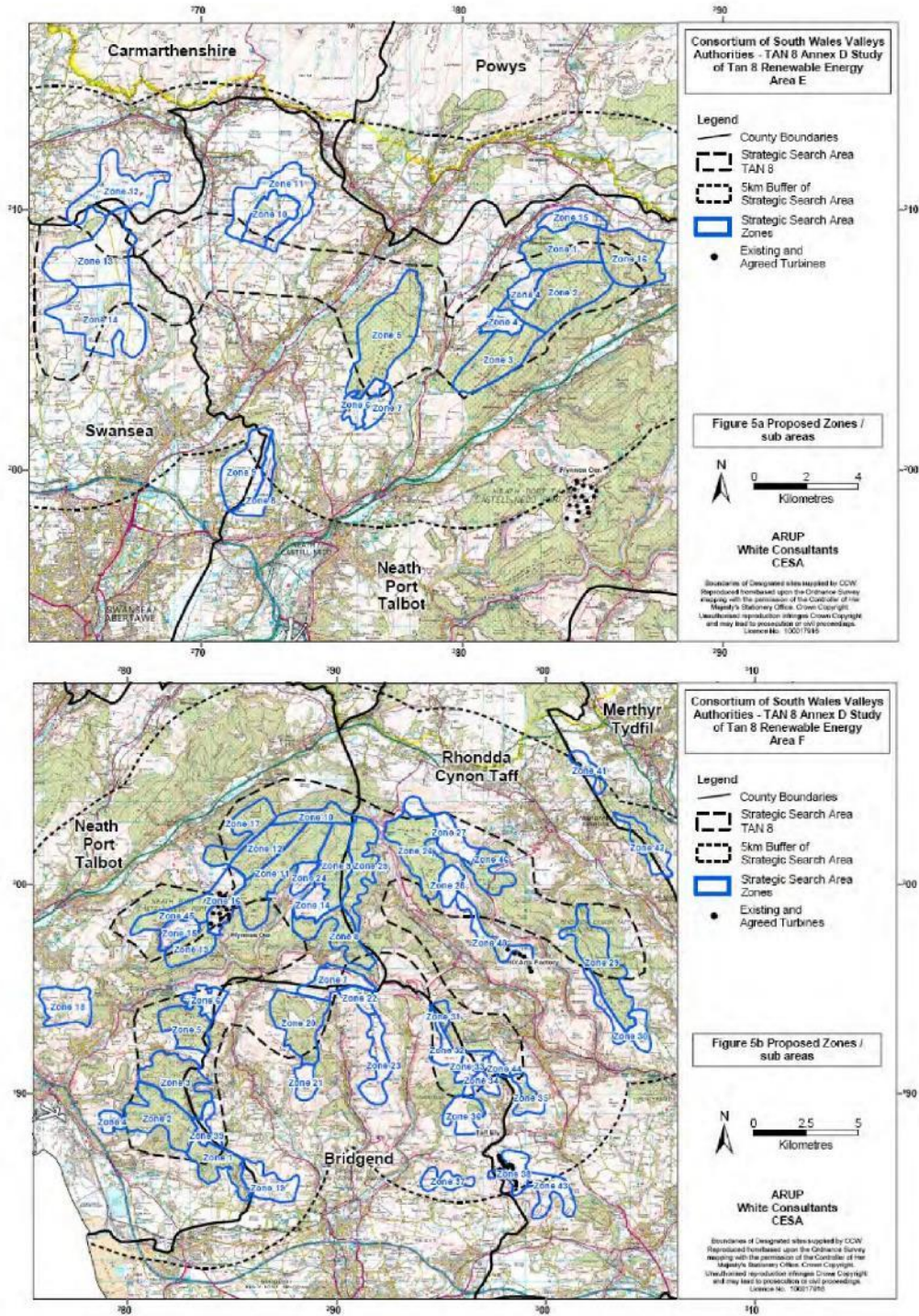
Approach

In order to assist in the discrimination of the environmental performance of the SSA as defined, the technically feasible parts of the SSA and its margins up to 5km were sub-divided into smaller spatial units, termed *zones*. The zones were derived so that they can enable discrimination between parts of the SSAs in landscape and visual terms. It follows therefore that each zone should have similar landscape and visual characteristics (i.e. they are homogeneous landscape units where possible) and are therefore based upon the units published in existing landscape assessment studies such as LANDMAP. By virtue of an initial constraint analysis, the zones coincide with areas considered both “technically feasible” for the development for larger scale wind farms and largely free of other environmental constraints. The range of constraints considered included wind speed, slopes, residential properties, Sites of Special Scientific Interest and Scheduled Ancient Monuments; the presence or absence of settlement and/or suitable wind resource has been shown to have the greatest influence on the available areas for further study.

Some 62 zones were derived, and these are shown on **Figure A** below.

¹ The MIPPS amends Sections 12.8 to 12.10 of Planning Policy Wales (PPW) (2002).
² Led by Neath Port Talbot County Borough Council, the consortium also comprises the City and County of Swansea, Carmarthenshire County Council, Bridgend County Borough Council and Rhondda Cynon Taff County Borough Council.

Figure A - SSA Zones derived for the study, SSAs E and F



The study first reviews the defined zones as to whether they are broadly acceptable in accordance with the following TAN 8 criteria (Para 2.9 p 6):

- Comprise an extensive area with a good wind resource
- Be an upland area (typically over 300m above ordnance datum) which contains a dominant landform that is flat (plateau) rather than a series of ridges.
- Be generally sparsely populated.
- Be dominated by conifer plantation and/or improved/impooverished moorland.
- have a general absence of nature conservation or historic landscape designations.
- Be of sufficient area to accommodate developments over 25MW, or at least in combination with other contiguous SSA parts be able to accommodate developments over 25MW

TAN 8 Annex D Para 8.6 indicates that at the local level, accepted thresholds of change, having regard to nationally developed capacity targets, can be established by more detailed assessments.

Therefore, in addition, the defined zones have been reviewed for broad acceptability in accordance with the following criteria (developed specifically for this study):-

- To have a LANDMAP visual and sensory Value aspect rating of less than 'Outstanding'
- To have a landscape sensitivity that is less than is considered 'High'
- To have visual impacts upon residential dwellings that would not cause 'dominance'
- Not to cause cumulative landscape or visual impact upon settlements within the SSA

These criteria and their explanation/justification are set out within Chapter 4 of this report : Landscape and visual analysis.

The study then ascertains the *relative* environmental and landscape performance of the SSA zones which pass the above tests (those which are "environmentally acceptable ") with respect to the following criteria:

- **LANDMAP Visual and sensory value.** This is derived largely from desk study based upon published landscape assessments. The Visual & Sensory aspect of LANDMAP identifies those landscape qualities within the zone that are perceived through the senses. It deals with the individual physical attributes of landform and land cover, as well as their visual patterns of distribution and sensory characteristics, and the relationships between them in a particular area
- **Landscape "capacity"** to large scale wind farms i.e. a physical property relating to the zone which considers whether the landform/landcover is of scale/character and thus of low enough landscape sensitivity to could accommodate large wind turbines i.e. it has a higher landscape capacity than other areas within the SSA. This factor has been derived specifically for this study following fieldwork and desk study in accordance with published landscape best practice techniques for the assessment of wind farms in the UK and a methodology developed specifically for this study
- **The potential for additional visual impact** i.e. the wider visual effects that developing a zone might have, and the degree to which sensitive receptors such as settlement, roads, National Parks, National Trails (where appropriate) and AONBs are influenced by any additional visual effects. The additional visual effects have been determined from 3-D computer modelling. The results are presented in terms of the theoretical visual effects (ZTV) of hypothetical wind turbines (located on a uniform layout within each zone) in the strategic search area when compared to any visual effects arising from existing large wind farms in and around the SSA. The results have been broadly validated by fieldwork. The detailed methodology has also been developed specifically for this study.
- **Presence/absence of designated Historic Landscape** (as defined by Cadw) and thus degree of the total historic landscape resource potentially affected within any given zone.
- **The likelihood of major effects upon visual amenity and setting, particularly cumulative effects upon valley communities.** i.e. the visual effects that developing a zone might have upon adjacent villages and settlement in terms of dominance and sense of enclosure. These visual effects (as above) have been determined from 3-D computer modelling.

The results of the *relative* environmental and landscape performance of the zones or sub-areas of SSA are then brought together in the report within a summary matrix which includes the approximate estimated capacities³ (in MW) for the respective zones.

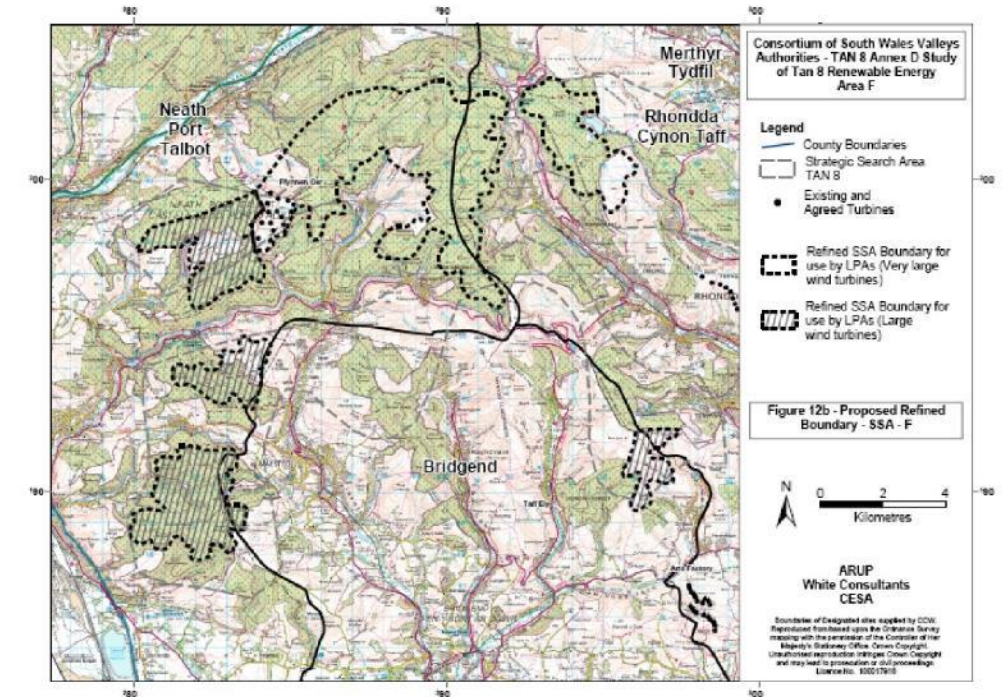
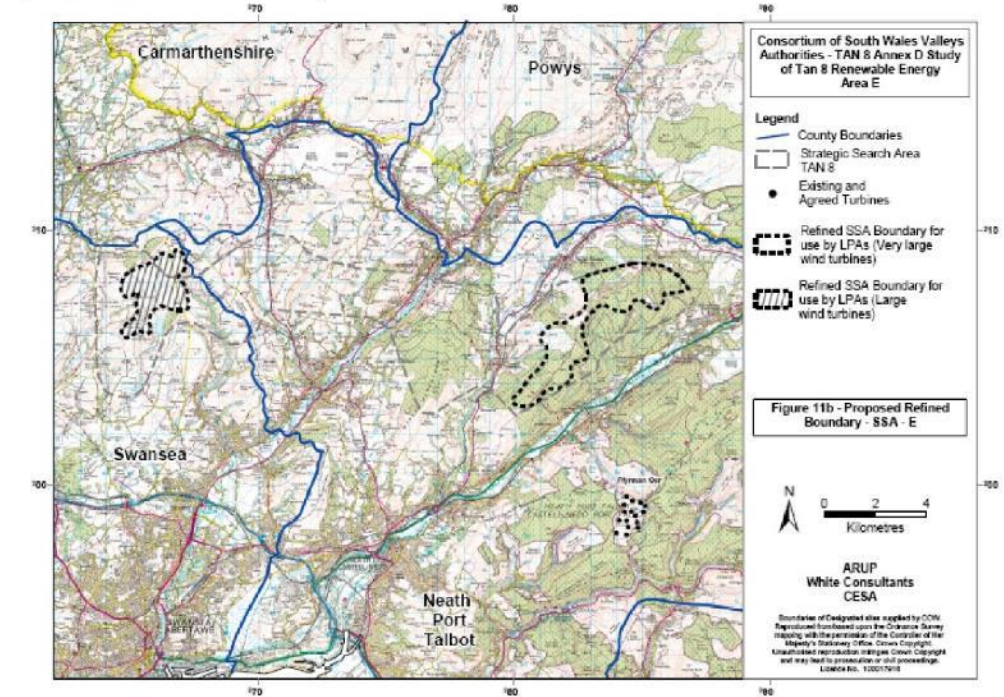
The study then goes on to consider how many "environmentally acceptable" zones are required to deliver the TAN 8 indicative targets for each strategic search area. It then develops a refined SSA boundary that encompasses these zones, making recourse in the derivation of this boundary to the constrain data prepared previously.

³ The study has considered the "developable capacity" of the defined zones in terms of the amount of Megawatts (MW) of wind energy that may be possible in each, based upon a average yield of 7.5MW per sq. km (typically around 3-5 modern wind turbines) where the areas are not constrained.

Results for the SSAs

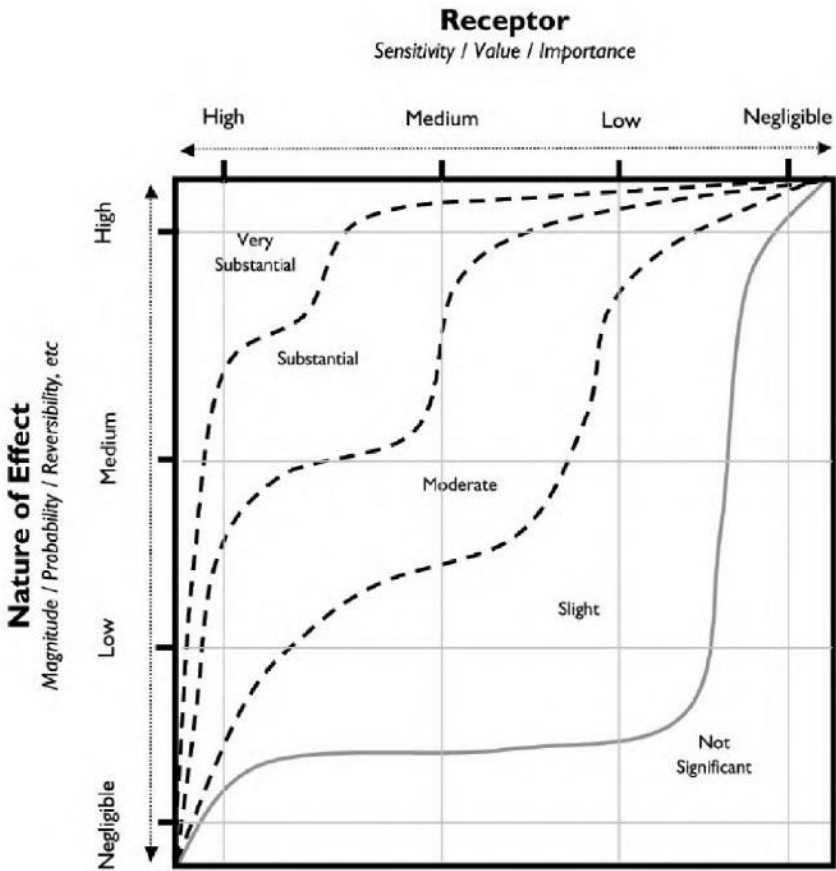
It is recommended that the TAN 8 SSA boundaries are therefore refined to remove the environmentally worst performing areas and any additional land not needed to deliver the TAN 8 indicative capacities. The recommended refined boundaries are shown on **Figure B** overleaf. The recommended refined boundaries do not accord fully with the full extent of the earlier recommended zones. This is because the opportunity has been taken, following further desk study and field work, to draw the boundaries back slightly from the zone boundaries in some cases. This is to better reflect local topography and the inherent landscape and visual benefits that this offers. This has been possible without undermining the estimated developable capacities of the zones used in the first stage of the analysis as the changes are small and at the margins of the zones.

Figure B - Refined SSA Boundaries, SSAs E and F



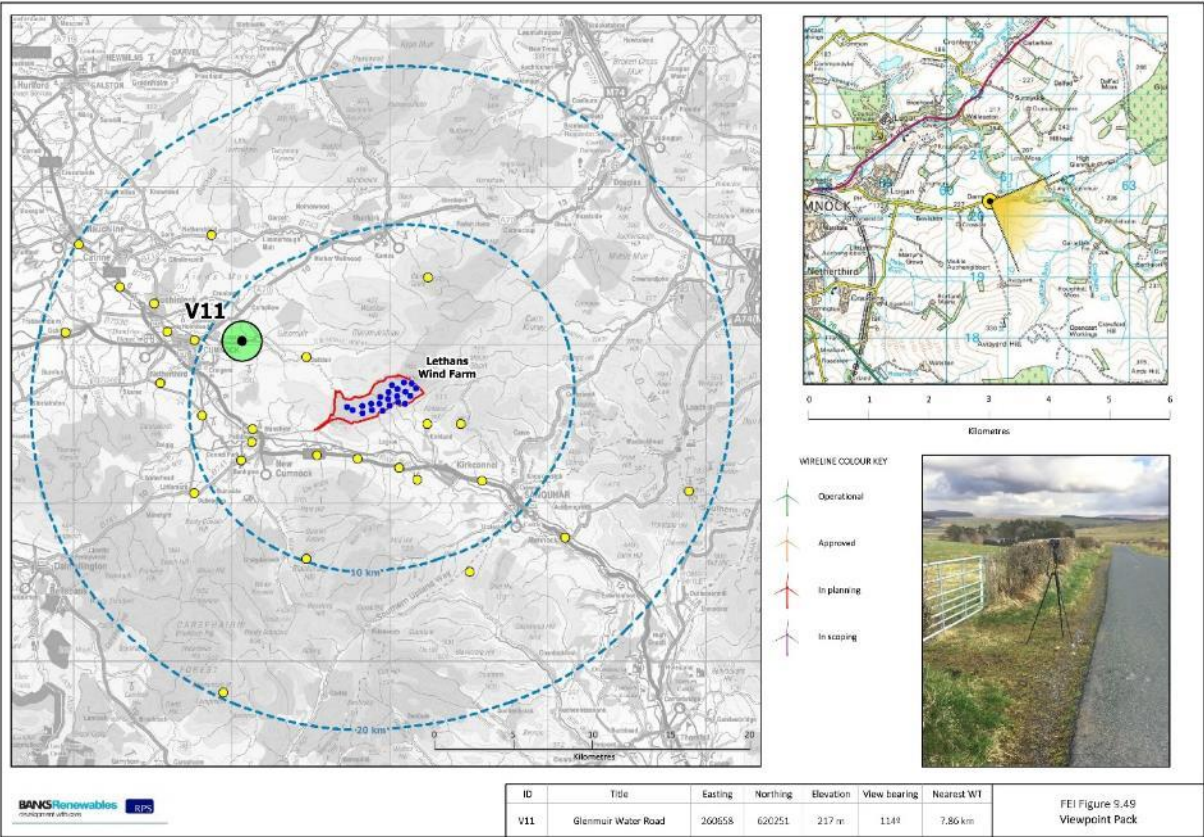
The refined boundaries are for subsequent transposition into the appropriate Local Development Plan(s) or any interim Supplementary Planning Guidance. They may also be used in the interim to inform development control decisions with respect to large scale wind farms in the area.

Appendix B
IEMA significance diagram

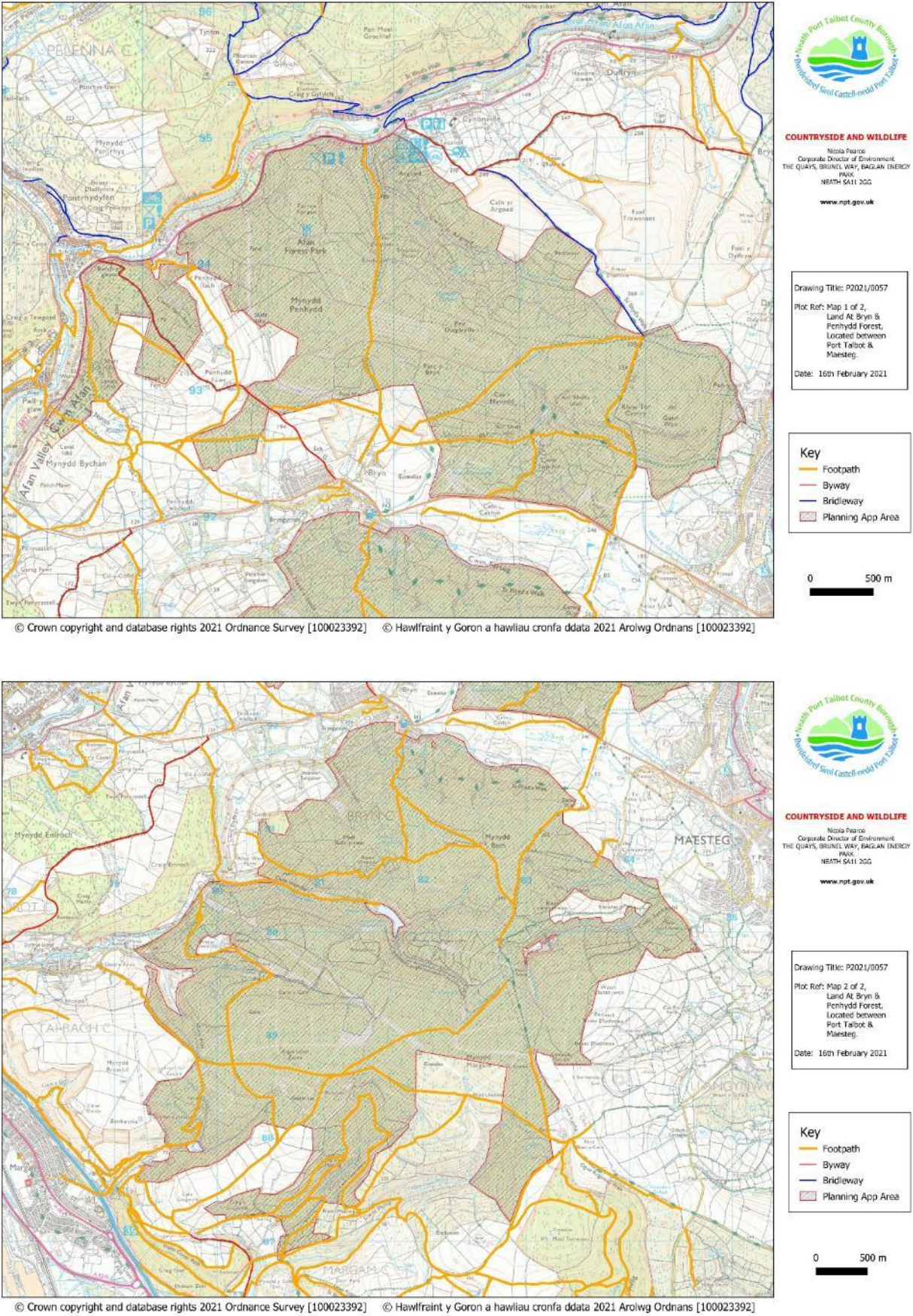
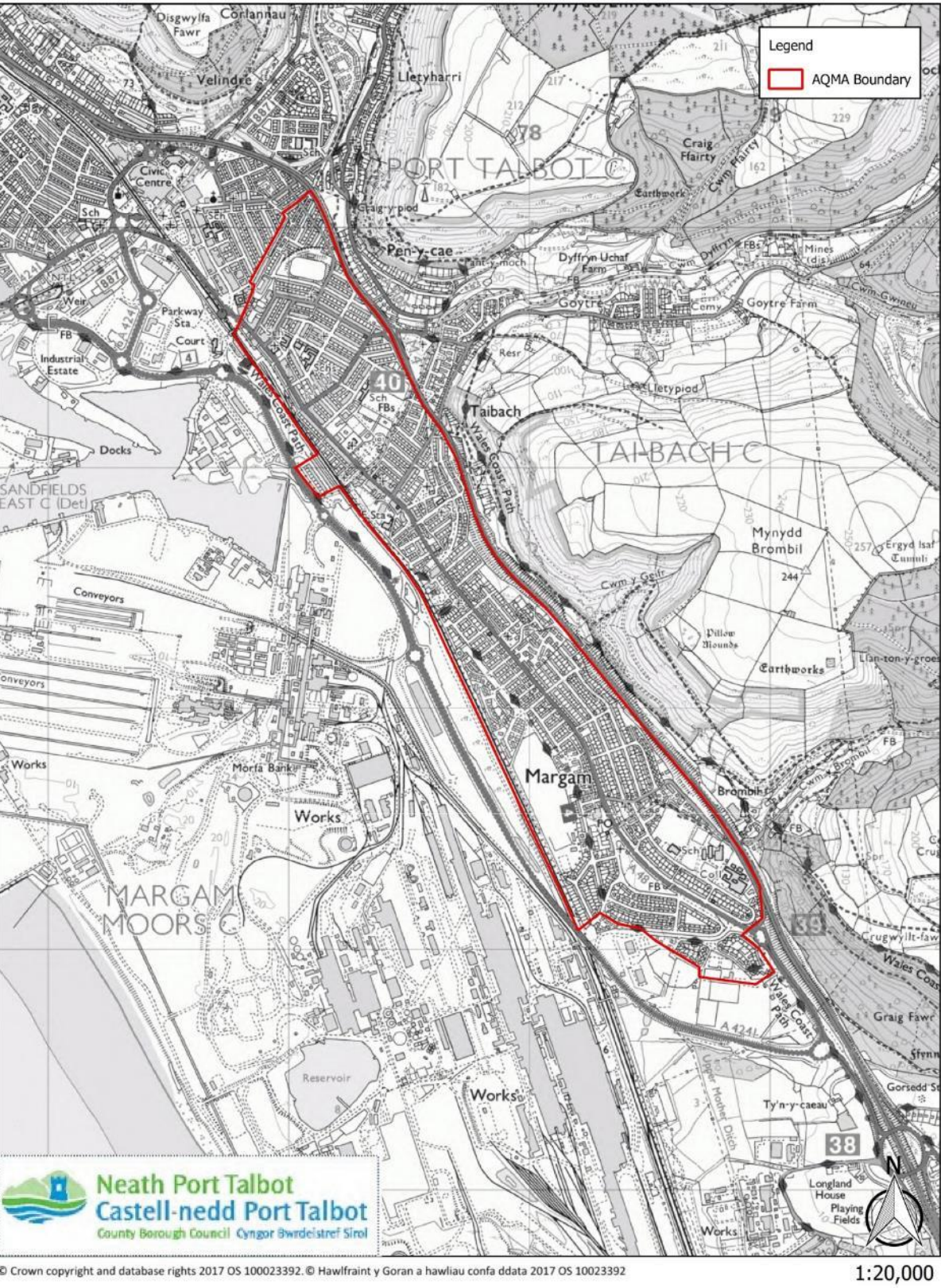


Derived from Figure 6.3, page 61- IEMA Special Report – The state of environmental impact assessment practice in the UK, 2011.

Appendix C
Lethans wind farm A3 single frame visualisation sample



Margam / Taibach - AQMA



Cyngor Bwrdeistref Sirol Pen-y-bont ar Ogwr Bridgend County Borough Council

Swyddfeydd Dinesig, Stryd yr Angel, Pen-y-bont, CF31 4WB / Civic Offices, Angel Street, Bridgend, CF31 4WB



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Gofynnwch am / Ask for: **Rhodri Davies**
Ein cyf / Our ref: **P/21/34/DNS**
Eich cyf / Your ref: **3264571**
Dyddiad / Date: 15 February 2021

Dear Giulia,

**TOWN AND COUNTRY PLANNING ACT 1990
THE DEVELOPMENTS OF NATIONAL SIGNIFICANCE (PROCEDURE) (WALES) ORDER
2016 (AS AMENDED)
TOWN AND COUNTRY PLANNING (ENVIRONMENTAL IMPACT ASSESSMENT) (WALES)
REGULATIONS 2017**

**PROJECT NAME: Y BRYN WIND FARM
SITE ADDRESS: LAND AT BRYN AND PENHYDD FOREST, LOCATED BETWEEN PORT
TALBOT AND MAESTEG
PROPOSED DEVELOPMENT: WIND FARM OF UP TO 26 TURBINES (6.6 MW PER
TURBINE) AND
BATTERY STORAGE**

LPA REFERENCE: P/21/34/DNS

I refer to your letter dated 15th January, 2021.

In order to inform your Scoping Direction, Bridgend County Borough Council request that the following comments on the scope of the EIA and the proposed methodologies outlined in the Scoping Report (prepared by Natural Power Consultants Limited (Natural Power) on behalf of Y Bryn Wind Farm Limited) be considered.

In terms of the planning policy framework for the development, and notwithstanding the fact that only one turbine will be within the BCBC administrative area, the following advice can be provided:

The proposal is located in the countryside and should be assessed in the context of Policy ENV1 which strictly controls development in the countryside except for specific identified purposes. Policy ENV1(6) of the BCBC LDP 2013 identifies utilities infrastructure as an appropriate exception.

Negesuon SMS/ SMS Messaging [REDACTED] E-bost/Email [REDACTED]
Cyfnewid testun: Rhwng 18001 o flaen unrhyw un o'n rhifau ffôn ar gyfer y gwasanaeth trosglwyddo testun
Text relay: Put 18001 before any of our phone numbers for the text relay service
Rydym yn croesawu gohebiaeth yn Gymraeg. Rhwng wybod i ni os mai Cymraeg yw eich dewis iaith
We welcome correspondence in Welsh. Please let us know if your language choice is Welsh

Paragraphs 4.1.11 and 4.1.12 of the LDP, which expand on Policy ENV1, make it clear that whilst certain developments may be appropriate in the countryside in respect of Policy ENV1, the policy forms the starting point for assessment and proposals will need to satisfy other relevant policies in the LDP.

In this regard, I would draw your attention to Policy SP8 which states that development proposals which contribute to meeting national renewable energy and energy efficiency targets will be permitted where it can be demonstrated that there will be no adverse impacts on the environment and local communities.

Policy ENV18 is relevant in providing a more robust assessment of renewable energy schemes.

Proposals for renewable energy developments will be permitted provided that:

1) *In the case of wind farm developments of 25MW or more, the preference will be for them to be located within the boundary of the refined Strategic Search Area;*

The proposal represents a wind farm development which is proposed to provide a generating capacity of more than 25MW. Whilst the site is located within Strategic Search Area F (SSA F – Coed Morgannwg), as set out in the Welsh Assembly Government's Technical Advice Note 8: Planning for Renewable Energy (TAN 8)) and is largely located within the refined SSA's of Foel y Dyffryn & Margam Mountain, the Y Bryn Project Boundary extends partially outside of the refined SSA boundaries. However, it is important to note that the policy does not prevent wind energy developments outside the refined SSA's and does not state a limit on generating capacity.

2) *The availability of identified mineral resources or reserves will not be sterilised;*

The proposal is located on a sandstone resource. However, Policy ENV9(3) states that temporary development will be acceptable where the proposal can be implemented and the site restored within the timescales the mineral is likely to be required. Paragraph 4.3.1 of the LDP identifies that in 2009, the aggregate reserves for Bridgend was estimated at 40 years. In light of this and other, preferable areas for quarrying before this site could realistically be considered, this development is acceptable in the context of Policies ENV9(3) and ENV18(2).

3) *Appropriate monitoring and investigation can demonstrate that the development will not have any significant impacts on nature conservation;*

4) *Appropriate arrangements have been made for the preservation and/or recording of features of local archaeological, architectural or historic interest;*

The southern block of the proposed boundary lies within the Historic Landscape of 'Margam Mountain' as defined by Policy SP5(5) Historic Landscapes, Parks, and Gardens of the LDP.

5) *They can be safely accessed to permit regular maintenance without detriment to the environment or the public rights of way network;*

6) *They will not detrimentally affect local amenity by reason of noise emission, visual dominance, shadow flicker, reflected light, the emission of smoke, fumes, harmful gases, dust, nor otherwise cause pollution to the local environment;*

- 7) They will not lead to electromagnetic disturbance to existing transmitting and receiving systems (which includes navigation and emergency services), thereby prejudicing public safety;
- 8) Local receptors of heat and energy from the proposal are identified and, where appropriate, are connected to/benefit from the facility; and
- 9) Provision has been made for the removal of all infrastructure from, and reinstatement of the site following termination of the use.

All of the issues identified in criteria 5, 6, 7 and 9 will need to be addressed in the Environmental Statement. With regards criterion 8, the submitted 'Scoping Report' states that the proposal will connect to the national grid. However, I draw your attention to paragraph 4.6.10 of the LDP which seeks to expand on this policy criteria stating:

This Policy, together with SP8 will ensure that the consideration of proposals is balanced between the desire to generate increased levels of renewable energy and the need to protect sensitive areas. The local community should also benefit appropriately from any facility with examinations of the potential to connect existing/future developments to the facility or, where this is not possible, other forms of community benefits should be examined.

In addition to the above, the proposal should also be considered in the context of Policy SP2 which considers general issues associated with amenity and design. Many of the issues which are the subject of Policy SP2 have already been considered in the context of Policy ENV18. However, of significant importance in respect of a development of this nature is SP2(2) which states that all development should have:

A design of the highest quality possible, whilst respecting and enhancing local character and distinctiveness and landscape character

With respect to the issue of 'landscape character', the County Borough has been the subject of a Landscape Character Assessment, the results of which have been used to inform 'SPG 20: Renewables in the Landscape' which considers the impact of different scales of wind and solar developments in the landscape of the County Borough.

The proposal is located within Landscape Character Area (LCA) 1: Llangynwyd Rolling Uplands and Forestry, the key landscape characteristics of which are defined as:

- Strongly undulating upland landscape with a series of north-east facing slopes and hill summits ranging from 120 to 365 metres AOD.
- Distinctive topography influenced by the heavily dissected Upper Coal Measures plateau greatly modified by the effects of glaciation.
- Landscape crossed by a number of fast-flowing springs and streams, flowing into the Llynfi Valley below.
- Dense coniferous forestry plantations on some slopes and hill summits (e.g. Garn Wen and Waun Lluest-wen) with linear broadleaved woodlands found along valley sides.
- Dark, straight plantation edges providing a stark contrast to the adjacent muted grasslands on rounded slopes.
- Pastoral landscape with significant tracts of rough sheep and pony grazing on higher ground (particularly in the north).

- A strong pattern of irregular fields enclosed by hedgerows, tree belts and stone walls.
- Elevated land around Mynydd Ty-talwyn including large, regular semi-improved pastures divided by fencing.
- Valued habitats including heathland, blanket bog, acid grassland, fen and marsh (with significant areas defined as SINCs).
- Broadleaved semi-natural woodland on slopes and valleys, and nationally important marshy grassland (supporting marsh fritillaries) at Cwm Risca Meadow SSSI.
- Patches of bracken, gorse and rush pasture found throughout.
- Land west of Llangynwyd within the Margam Mountain Landscape of Special Historic Interest, with scheduled archaeological features including Y Bwlwarcau hillfort and the medieval Llangynwyd Castle.
- Cluster of nationally important medieval house platforms and settlement remains around Mynydd Ty Talwyn.
- Nucleated hill-top village of Llangynwyd (a Conservation Area), with prominent 15th century square church tower forming a local landmark.
- Farmsteads and small groups of dwellings thinly dispersed elsewhere.
- A small number of minor roads, tracks and footpaths cross through the landscape. The Ogwr Ridgeway Walk passes through the southern part of the LCA, and areas of higher ground are open access land.
- A strongly rural and tranquil landscape despite the close proximity of nearby development at Maesteg.
- Tranquil qualities eroded by the presence of pylon lines, telecommunications masts and urban fringe land uses close to Maesteg, including a golf course.
- Southern ridgelines affording panoramic views across the County Borough, including wind farm developments on distant skylines.
- Intervisibility with Maesteg a strong feature of the northern half of the LCA.

Based on the stated landscape characteristics, I draw your attention to the following discussion on landscape sensitivity and conclusions:

Discussion on landscape sensitivity	- Although this is a large-scale landscape with some existing development such as pylons, telecommunications masts and views of nearby development which may indicate reduced sensitivity to wind energy development, many features and characteristics of the landscape may increase levels of sensitivity. These include in particular the landscape's sense of tranquillity and rural character, valuable semi-natural habitats and the setting of nationally important heritage assets, which results in the landscape being particularly sensitive to developments of 'very large' turbines. The following locational variations in terms of the above summary should be taken into account: - The area within the Western Uplands Special Landscape Area would be highly sensitive to the development of 'large' and 'very large' turbines due to its smaller scale landscape patterns and strong historic associations (including Llangynwyd Conservation Area).	
	Very Small (15-25m)	L
	Small (26-50m)	L-M
	Medium (51-75m)	M
Sensitivity to different		

turbine heights	Large (76-110m)	M
	Very large (111-150m)	M-H
Commentary on different cluster sizes	Although this is a large-scale landscape with existing man-made structures on skylines, the distinctive topography, presence of frequent human-scale features and the landscape's function as a rural backdrop to views from Maesteg, Bridgend and Cefn Cribwr mean that it would be highly sensitive to 'large' and 'very large' clusters of wind turbines	
Single turbine		
Small (<5 turbines)		
Medium (6-10)		
Large (11-25)		
Very large (>25)		

The proposed development consists of 26 no. turbines with a tip height of 250m along with a generating capacity of 6.6MW (a total of 171.6MW generating capacity) located both inside and outside the Local Authority Boundary.

There are a number of Special Landscape Areas in the study area, all of which should be considered. The closest in Bridgend is Foel y Dyffryn. However, views from other areas such as Kenfig Burrows should also be considered.

The results of the landscape sensitivity assessment suggests that this development, in cumulative terms, could be highly sensitive with respect to the number of turbines and also highly sensitive in respect of their height.

In terms of National Policy, TAN 8 defines a series of strategic search areas (SSAs) in Wales and the proposed site lies within Area F Coed Morgannwg. An Annex D refinement study for the area was carried out by Arup in 2006, assisted by White Consultants. Using multi-criteria analysis and review this identified two areas in which the proposed development lies as being potentially suitable for turbines up to a maximum of 100m high to blade tip. Areas for higher turbines were identified to the north including the area in which Pen y Cymoedd wind farm now stands (around 145m high turbines). This is a clear indication that this location and landscape may not be appropriate for very large turbines such as the ones proposed.

The Future Wales 2040/National Plan is due to be published on 24 February 2021. This document will replace TAN 8 as the national spatial strategy for wind farm development within the context of PPW. The current draft defines strategically pre-assessed areas, however, it is not yet known if these will be retained in the final published version.

The northern cluster of the proposed development lies within pre-assessed area 9 for wind energy and the southern cluster lies outside.

Draft Policy 17 currently states that in pre-assessed areas the Welsh Government has already modelled the likely impact on the landscape and found them to be capable of accommodating development in an acceptable way and there is a presumption in favour of large-scale development, subject to draft Policy 18. Policy 18 currently states that a DNS will be permitted outside pre-assessed areas for wind development providing the proposal:

- Does not have an unacceptable adverse impact on the surrounding landscape (particularly on the setting of National Parks and Areas of Outstanding Natural Beauty).

- The proposal is designed to minimise its visual impact on nearby communities and individual dwellings and a cumulative impact of the proposal with other existing or proposed development is acceptable.
- There are no unacceptable adverse impacts on statutorily protected built heritage assets.

The above policies are an indication that at a strategic level the southern cluster may have an unacceptable impact and raises concerns.

The research relating to the National Plan wind farm pre-assessed areas was summarised in a report by Arup for Welsh Government 'Priority Areas for Solar and Wind Energy' (July 2019). The report's summary recommendations indicate that local level constraints have not been taken into account and that robust policy on design guidance should be developed to accompany the priority areas within the NDF.

This is not available and is a major drawback in the current draft policy context. It is also recognised that the priority areas still have constraints. Therefore, appropriate evidence will be required to inform decision-making at the DNS application stage. There is an apparent disconnect between these recommendations and study findings and Policy 17 as currently drafted which suggests that the study modelled the likely impact on the landscape and found them to be capable of accommodating development in an acceptable way. There are no comparative diagrams so the study may not have fully engaged with this issue.

Intervisibility of turbines of 150m and up to 250m to blade tip was considered. The criteria for level of effects was derived from NRW's 'Stage I ready reckoner report' for offshore development (prepared by White Consultants) as medium magnitude of effect at 15km and 24km for 250m high turbines (this level of effect would be highly likely to be significant on high sensitivity receptors). Priority areas should be refined to avoid the areas of greatest levels of intervisibility and design guidance should be developed to minimise visual effects. In terms of Bridgend, the key factor to note is that the effect on people (i.e. existing communities) has not been considered at a strategic level - it is assumed that 'sensitive design' can usually avoid significant impacts.

Having specific regard to the Scoping Report prepared by Natural Power Consultants Limited, the following comments are provided in relation to the questions raised in each section.

Consultation:

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

No.

Mitigation, Enhancement and Monitoring of Environmental Effects:

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

BCBC has concerns about Table 5.2 "Significance of Effect" which suggests that only residual adverse effects of major and major/moderate are regarded as being significant. In our view, a

series of moderate effects can be significant if related e.g. on a particular landscape receptor or a long distance trail or scenic route.

Ignoring these effects is not in line with good practice as shown in GLVIA 3. Nevertheless, it is appreciated that the most significant effects should be given greatest consideration and appropriate prominence within the EIA so as not to be lost amongst all the other effects.

The 50 year operational period is lengthy and should be justified in terms of the effective operational life of the proposed turbines.

The information within the scoping report is not detailed enough to agree on the features and topics that are likely to experience a significant effect as suggested in paragraph 5.1.6. For instance, the Zone of Theoretical Visibility (ZTV) map is at a very large scale and relatively low resolution and uses bare ground data only.

There is no information on the location or design of the access roads/routes or battery storage. The scoping report itself does not define where significant effects may occur.

Therefore, this response on possible issues and significant effects is provisional subject to further information coming forward.

Environmental Statement:

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

No.

Purpose of this Scoping Report:

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

No.

Ecology:

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

The Council's Countryside Management Officer and Biodiversity Policy and Management Officer have been consulted and any comments will be forwarded to PINS in due course.

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

See Traffic and Transport Section below.

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?

The Council's Countryside Management Officer and Biodiversity Policy and Management Officer have been consulted and any comments will be forwarded to PINS in due course.

Ornithology:

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

The Council's Countryside Management Officer and Biodiversity Policy and Management Officer have been consulted and any comments will be forwarded to PINS in due course.

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)?

The Council's Countryside Management Officer and Biodiversity Policy and Management Officer have been consulted and any comments will be forwarded to PINS in due course.

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?

The Council's Countryside Management Officer and Biodiversity Policy and Management Officer have been consulted and any comments will be forwarded to PINS in due course.

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

The Council's Countryside Management Officer and Biodiversity Policy and Management Officer have been consulted and any comments will be forwarded to PINS in due course.

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?

The Council's Countryside Management Officer and Biodiversity Policy and Management Officer have been consulted and any comments will be forwarded to PINS in due course.

Landscape and Visual Impact Assessment (LVIA):

BCBC, in conjunction with Neath Port Talbot CBC, has enlisted the expert advice of Simon White (White Consultants) in relation to the Landscape and Visual Impact section of the Scoping report. His full comments are included as Appendix 1 to this letter.

The proposed development on the site offers many challenges. Relevant key issues include:

- The proposed 250m height of the turbines is far larger than any other in Wales, and greater than the highest in the UK - 200m at Lethans which is located in Scotland in an

area that is rural, larger scale and with far fewer settlements and apparently fewer sensitive receptors. Lethans was consented on a site where permission for smaller wind turbines had already been given.

- The potential for turbines of this size to be out of scale with the landform on which they sit is of concern so close to well populated valleys, the coast and sensitive receptors.
- The effect on the relationship between the large scale development on the relatively undeveloped forested coalfield plateau in the environs of the site, the nearby scarp slope, the coast and coastal plain and the related seascape.
- Starting from such a large scale proposed size, a reduction in height from 250m will not be considered as 'minimising' effects. Consideration of turbines only at 250m high may not be realistic and so consideration of significantly lower turbines should also form part of the assessment. The effects of any lower height development coming forward will have to be considered on their own merits.
- Local residents and communities are likely to undergo significant visual effects with dominant or prominent turbines and, in some cases, may suffer unacceptable effect on residential visual amenity.
- Cumulative effects in combination with existing and consented windfarms and wind turbines, especially those nearby including Foel Trawsant, Llynfi Afan, Mynydd Brombil and Pen y Cymoedd.
- The effect on the landscape character including Special Landscape Areas.
- The potential for views to open up towards the windfarm over time as the forest is managed with clearance before replanting in places.
- The potential conflicts with national and local policy on the basis of the above.

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

The taller the hub height, the smaller the blade length and therefore blade sweep area. This means that the likely visual effect of a turbine 250m tall with a larger blade sweep is likely to be greater. It is suggested that the ZTVs are based on a maximum blade tip height and maximum hub height but that the visual impact assessment takes into account the maximum sweep area (as in the Rochdale envelope approach). It would be helpful to have clear drawings illustrating the two types of turbines - one with the highest hub height and one with the largest blade length.

Our view is that the 250m high turbines are likely to be too large for this site and a more realistic alternative should also be considered to inform PINS and the Ministers.

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

The outer 45km study area appears to be reasonable for development of this scale. The main concern from a BCBC point of view is the likely significant effects more locally and therefore sufficient detailed assessment should be carried out for an inner study area of 15km supported by mapping and information at a more detailed scale such as ZTVs, viewpoints and constraints.

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?

The range of viewpoints located within the BCBC administrative areas have been assessed through desk study and site visits. Overall, it is considered that most of the viewpoints are

acceptable but a fuller picture of effects on the Llynfi valley, coastal area, heritage assets and cumulative effects is needed to understand the impact of this very large development.

More specifically, to give a fuller picture of the development in its context and to cover sensitive receptors the following additional viewpoints are proposed for BCBC:

- Kenfig Burrows registered historic landscape/ Kenfig visitors carpark/ Wales Coast Path- to inform LVIA and cultural heritage assessments.
- Ogwr Ridgeway Walk/ nearby Y Bwlwarcu hillfort and Roman Camp setting to inform LVIA and cultural heritage assessments.
- Cemetery/ view from eastern edge of Maesteg/ associated eastern Llynfi valley slopes to show development more fully in context of the Llynfi valley.
- Llangynwyd Conservation Area (south of cross)- nearby heritage and visual receptor and distinctive hilltop village- to inform LVIA and cultural heritage assessments.
- A4063 users/residents on southern edge of Croeserw/ open access land/to explore cumulative effects with windfarms to east.
- Bettws - consider settlements at a medium distance with clear views of the development.

Guidance set out in TGN2/19 Residential Visual Amenity Assessment, Landscape Institute, March 2019 mentions wind turbines at 150m and taller when discussing realistic buffers but these turbines at 250m are significantly larger. It goes on to state:

'When assessing relatively conspicuous structures such as wind turbines, and depending on local landscape characteristics, a preliminary study area of approximately 1.5-2km radius may initially be appropriate in order to begin identifying properties to include in a RVAA.'

The public inquiry decision for Mynydd Marchywel wind farm in NPT found that its five turbines at 126.5m high breached the RVA threshold of acceptability with wind turbines at a distance of 920m-2.4km from a property. The wind farm was refused.

Taking into consideration the above, our view is that distance of 2km should be scoped for the RVAA. A mix of individual properties and groups of properties should be assessed as appropriate, depending on distance and arrangement.

Question 17: Do consultees agree with the methodology used to determine which wind farms are to be included within the cumulative assessment and also agree with the list provided in Table 12.8?

Cumulative impact assessments can be large and confusing and it is important that the most important cumulative effects are addressed clearly. Those that are most important are those with existing or consented turbines, at closer distances and juxtapositions, where there is a large sweep of turbines visible and where receptors (especially residential) have developments on two or more sides.

Additional viewpoints have been selected in this response to better reflect the potential for cumulative effects e.g. at Croeserw. The list of windfarms to be considered in Table 12.8 appear to have one of two errors. It is understood that Foel Trawsant has been consented. The difference in size of turbine and the adjacency of this proposal are of particular concern. The turbines east of Porthcawl (e.g. Stormy Down) appear to have been omitted. These affect perceptions in these areas and should be considered. To minimise work, all of these turbines should be considered together in relation to the development.

The comments relating to the sensitivity of landscape effects (relating to Q18 below) also apply to cumulative effects. The factors that make a landscape more or less susceptible to a series of developments, especially of different sizes and design, are not set out. This is important to understand how the judgements are reached.

There are only three categories of sensitivity which means that there is a significant difference between the descriptors of high, medium and low with intermediate categories effectively being omitted. This does not reflect the complexity of most landscapes. Five categories are recommended.

The magnitude of cumulative landscape effects correctly identifies that the combined effects of the proposed development and other wind turbine developments should be considered. This should be assessed against the baseline of no wind turbines on the basis of the temporary nature of the development, albeit long-term. However, the contribution of Y Bryn to the cumulative effect should also be described in terms of relationship with other windfarms including relative size of turbine. The significance of cumulative landscape effects has a very high threshold of significance and the definitions for major and major/moderate are very similar. It is considered that the definitions will tend to lead to under estimation of significant effects.

Magnitude of cumulative visual effects, as with landscape effects, correctly identifies that the combined effects of the proposed development and other wind turbine developments should be considered. However, the contribution of Y Bryn to the cumulative visual effect should also be described in terms of the juxtaposition and relationship with other windfarms including relationships with the viewer (e.g. on either side) and the percentage field of view etc.

The significance of cumulative visual effects includes a definition of 'the loss of some essential landscape features' in the major/moderate category. It is considered that this statement does not make sense as wind turbines usually do not lead to the 'loss of features', just substantial modification of the view.

Question 18: Do the consultees agree with the proposed approach to assess the effects on landscape character and visual amenity?

The following general comments are made on the guidance as set out in 12.2.1.

- The Guide to Assessment of Cumulative Effects of Wind Farm Developments, ETSU (2000) is very outdated and should be given little, if any, weight. The SNH 2012 guidance is more helpful in this regard.
- LANDMAP Information Guidance Note 3 has been superseded by Natural Resources Wales Guidance Note 046 'Using LANDMAP in Landscape and Visual Impact Assessments (LVIA)', January 2021. Note that Cultural Landscape Services succeeds Cultural landscape.
- The Visual Representation of Development Proposals TAN 06/19 should be dated September 2019.
- Seascape effects should be considered in line with the documents set out in the seascape section below.

Landscape

The sensitivity of landscape is not described as combining the susceptibility of a given landscape to a particular type of development with value in line with GLVIA3. The factors that make a landscape more or less susceptible to a particular type and scale of development are not set out. This is important to understand how the judgements are reached.

There are only three categories of sensitivity which means that there is a significant difference between the descriptors of high, medium and low with intermediate categories effectively being omitted. This does not reflect the complexity of most landscapes. Five categories are recommended.

The magnitude of landscape effects does not include the criteria of the proposed development becoming a dominant or key characteristic of an area. The definitions of high and high/medium are very similar with the latter being too high a threshold.

The significance of landscape effects appears to use the term 'element' where 'characteristic' would be more appropriate and in line with standard guidance definitions. The combination of sensitivity and magnitude of effect should be in line with the IEMA diagram in Appendix A.

Seascape

The effects on seascape are not addressed in the assessment. The ZTV clearly indicates uninterrupted visibility across Swansea Bay, along the southern coast of Gower and across the Bristol Channel to Exmoor. The proposed heights of turbines are so large that they are likely to modify the coastal backcloth to the seascape.

Visual Amenity

The sensitivity of visual receptors does not mention visitors to the coast, heritage assets and country parks, all of whom would be highly sensitive. It is assumed that medium sensitivity receptors would include users of B roads. As with the landscape sensitivity, three categories do not reflect the range of sensitivities of receptors and users of motorways and A roads may be considered medium/low, not low.

The significance of the visual effects indicates that defining visual elements would become subservient within the view. Presumably, this means that the development would be a dominant feature?

It is agreed that some effects of moderate significance could be significant. The method does not mention that where a series of linked moderate effects occur (e.g. along the footpath) that this may make the combined views significant. The combination of sensitivity and magnitude of effect should be in line with the IEMA diagram in Appendix A.

LVIA outputs

The following comments are made on the figures:

- All map figures should be prepared to cover the 45km study area and separate more detailed maps showing a 15km study area.
- It is assumed that the non-statutory landscape designations will include Special Landscape Areas.
- The access and movement figures should include access land.
- LANDMAP should include aspect areas in line with updated Natural Resources Wales Guidance Note 046 'Using LANDMAP in Landscape and Visual Impact Assessments (LVIA)', January 2021. The change to cultural landscape services should be noted.
- Character Areas - the method for defining these has not been identified or are they National?
- Blade tip and hub height ZTVs should be at 15km with a 1:25k OS base as well as 45km with a 1:50k base. They should include bare ground and landcover versions to accommodate possible changes in tree cover over the life of the development.

- Viewpoints should be shown as points to give an accurate indication of their location.
- Viewpoint visualisations should include the additional viewpoints suggested in Table 2.
- Photomontages should include a range of key views to be agreed. They should not necessarily be limited to 10 as such a large scale development is proposed and may necessitate more.
- The height of the turbines may necessitate the use of portrait photos in some locations to ensure that full of the height of the turbine is covered.
- Photomontages should include A3 single frame views where possible to allow for ease of printing by third parties and decision-makers and for taking on site. A good example is the Lethans A3 viewpoint pack (see sample in Appendix B).
- The cumulative ZTVs should also be carried out at 15km radius on 1:25k OS mapping for the closest wind turbine developments.

In addition, the following information is regarded as important in understanding effects:

- Seascape character areas at national and local level.
- Forestry resource/management plans are needed showing the phasing of removal and/or replanting of the forest plantation surrounding the proposed wind farm to clearly inform how this may open up or reduce views during the lifetime of the development, or at least 10 years. Expected tree growth rates for proposed species would be helpful.
- Proposed mitigation.
- Elevations of proposed turbines showing alternatives with highest hub height and with the largest blade circumference.
- Location and details of access roads, battery storage and other ancillary infrastructure.

Although some of the above will not be part of the LVIA they should be part of the overall description of the development.

Question 19: Do consultees see value to any particular enhancement measures?

Landscape enhancement measures would need to be considered hand-in-hand with biodiversity enhancement and cultural heritage measures such as interpretation. The measures should take into consideration the effects of climate change and reinforce resilience to species loss and issues such as flooding. They should be in line with NRW advice on management of forests and general climate change guidance e.g. Communicating landscape change from adaptation and mitigation in a changing climate, Natural Resources Wales report no.396.

The clearance of forest to accommodate the development may reduce the capacity of the area to reduce run-off and this should be compensated and enhanced if at all possible.

Whilst the above may be considered as benefits, they are likely to be very minor in comparison to the level of landscape and visual effects. Whilst they need to be set out clearly with appropriate commitments, they should not be used to obscure the overall residual effects.

Hydrology, Geology and Hydrogeology:

Question 20: Are consultees in agreement with the methodologies proposed and the topics to be scoped out?

Whilst the Council's Land Drainage Section has been consulted their advice has not been received to date and any comments will be forwarded to PINS in due course.

Question 21: Do consultees see value to any particular mitigation and/or enhancement measures for any local or regional receptors, whether referred to above or otherwise?

Whilst the Council's Land Drainage Section has been consulted their advice has not been received to date and any comments will be forwarded to PINS in due course.

Cultural Heritage:

Question 22: Do consultees agree with the approach and scope of the Heritage assessment?

The levels of heritage significance set out in Table 14.1 indicate that Conservation Areas are only of medium importance. In the case of Llangynwyd, with its concentration of Grade II Listed buildings and structures and recognition as a Historic Landscape Character area, this is considered to be too low. This should be included as an additional viewpoint as requested above and should be used to help inform the level of effects in addition to the study and site visits.

The method appears to reference the key documents but reference should also be made to the document *'Managing Conservation Areas in Wales' (2017)* which supplements Planning Policy Wales and Technical Advice Note 24: The Historic Environment. It should be noted that the *'Guide to good practice on using the register of landscapes of historic interest in Wales in the planning and development process' (2007)*, is published by Cadw, CCW (now NRW) and Welsh Assembly Government, now Welsh Government.

It is not known if, (or agreed that), the inner study area (ISA) is low-medium in terms of archaeological potential (14.3.4).

In paragraph 14.3.5 of the Scoping Report, reference should be made to Archaeologically Sensitive Areas (including Maesteg and Kenfig). In carrying out the ASIDOHL 2 assessment the historic landscape character areas (HLCAs) should be assessed. These are described by GGAT in the following website:

http://www.ggat.org.uk/cadw/historic_landscape/margam/english/mynydd_margam_summary.html

Past experience is that in assessing wind energy or any structure that is disproportionately tall in comparison to the extent of its physical footprint can affect findings. Under these circumstances, the ASIDOHL2 methodology can produce results that show a development having less impact than is really the case, because as the methodology stands, visual impacts are weighed up with physical impacts, which in the case of wind turbines are relatively small, especially in this case with very large turbines.

The assessor should take this into account and give more weight to the visual impacts through use of ZTV data and likely adverse visual effects within each HLCA. These should take account of forest management and clearance due to the project as well as the overall Forest Management Plan.

Consideration should additionally be given to place-names as well as potential artistic or literary associations, sacred space, or local traditions and customs. Welsh language literary sources should be considered in this context, including early poetry associated with the Abbey and with the estate which followed it. Aeron Afan's Cyfansoddiadau Buddugol yn Eisteddfod Iforaidd

Aberafan Mehefin 23, 1853 (Caerfyrddin: William Thomas) captures the culture of the area in the early stages of industrialisation.

In relation to scope, it is suggested that the effects of the proposed grid connection would be scoped out if it used underground cable. This may have an adverse effect on archaeological remains in the ground and therefore this should not be scoped out.

Question 23: Do consultees see value to any particular mitigation and/or enhancement measures for any local or regional heritage features, whether referred to above or otherwise?

Mitigation and enhancement of cultural heritage assets should be put forward in line with good practice and national guidance. As with LVIA mitigation, whilst these may be considered benefits they are likely to be very minor in comparison to the level of cultural heritage effects. Whilst they need to be set out clearly with appropriate commitments, they should not be used to obscure the overall residual effects.

Traffic and Transport:

Although there are no questions in this section of the Scoping Report, BCBC would like to comment as follows:

The methodology for determining the impact of the development on the highway network has been considered and raises a number of questions and concerns. Whilst it is agreed that the significant majority of the traffic impact for this proposal will be at the construction stage, the percentage thresholds to determine if further transport studies are required are considered to be too high for the following reasons.

An increase of 5% traffic on the highway network is a material planning consideration and requires further analysis. Therefore, the proposed 30% is not acceptable. In addition, using a percentage increase is a coarse methodology for a development such as this and Average Daily Trips should be calculated for all construction activity over the working day. This methodology has been used successfully in other windfarm developments in the County Borough to determine the impacts on the network during the peak traffic hours especially during the mass concrete pour for the turbine bases which are often intense and have to be continuous.

In addition, early engagement with the abnormal loads officer will enable the determination of the route of the abnormal loads. Whilst a rudimentary survey of the highway network reveals the infrastructure that will be affected, the abnormal loads officer has details of unseen culverts under the highway network, which are prevalent in Bridgend, and which often carry weight limits preventing the abnormal load from crossing.

Early engagement with the Highway Authority is of paramount importance for this type of development and, therefore, it is considered that Section 15 of the Scoping Report does not adequately scope out the potential impact on the highway network to enable a satisfactory Construction Traffic Management Plan to be devised.

Noise:

Question 24: Do consultees agree with the proposed approach to cumulative noise and the list of other wind developments that are planned to be included in the cumulative noise assessment?

It is noted that out of the table of listed wind turbines, only those listed in 16.2.6 of the report are to be included in the cumulative assessment.

Whilst the closest wind farms have been included, the consultants will need to evidence why they think the Upper Ogmere Wind Farm should not be included in the cumulative assessment e.g. The Institute of Acoustics 'Good practice guide to the application of ETSU-R-97 for the assessment and rating of wind turbine noise' (GPG) states that 'if the proposed wind farm produces noise levels within 10 dB of any existing wind farm/s at the same receptor location, then a cumulative noise impact assessment is necessary' – therefore, the consultants will need to confirm if have they carried out preliminary calculations which prove that the turbines from that wind farm will not add to the cumulative effect.

With regards to the cumulative assessment itself, the scoping report states, 'consideration will be given to the 'controlling property' and 'significant presented headroom' approaches outlined in the GPG. If it is possible and realistic, it will be assumed that the other wind farm developments are at their respective noise limits'.

This is a difficult area as existing wind farm operators have the right to produce noise to their consented total ETSU-R-97 limits and even if it can be demonstrated that that headroom currently exists, it may not be the case that that headroom will be present indefinitely as stated in paragraph 5.4.7 of the GPG.

For the development to proceed, the presented 'headroom' needs to be maintained. Therefore, unless the 'cumulative conditioning' or 'negotiation' methods described in Section 5.7. of the GPG is undertaken, which in itself provides difficulties and enforcement of cumulative conditions, BCBC request that when the limits for the new wind farm are proposed, the developer will need to ensure that the cumulative levels does not exceed the original derived ETSU-R-97 level based on their permitted consented levels. The SB21 of the GPG states '**SB21: Whenever a cumulative situation is encountered, the noise limits for an individual wind farm should be determined in such a way that no cumulative excess of the total ETSU-R-97 noise limit would occur**'.

Question 25: Do consultees agree it is appropriate to assess noise from the development, individually and cumulatively, against a daytime limit of 40 dB LA90 / Background + 5 dB and 45 dB LA90 for financially involved properties?

The scoping report recognises that when choosing the fixed limit of 35-40dB LA90 in low noise environments (where the background LA90 is 30dB) or less, ETSU-R-97 requires a consideration of all the following factors:

- The number of dwellings in the neighbourhood of the wind farm;
- The effect of noise limits on the number of kilowatt/hour (kWh) generated; and
- The duration and level of exposure.

However, it then goes on to discuss just the power generation consideration to justify assessing the development against the upper limit of 40dB LA90.

BCBC cannot agree with this from the outset as consideration needs to be given to all 3 factors and especially the duration and level of exposure. For example, in low noise environments e.g. 26dB (which can occur in some sheltered valley properties at lower wind speeds), if an upper limit of 40 dB LA90 was allowed, that would be an exceedance of 14dB over the background level of 26dBA, which is significant. The IOA Good Practice Guide states that the duration and level of exposure criteria in ETSU-R-97 *'notes that the likely excess of turbine noise relative to background noise levels should be a relevant consideration. In rural areas, this will often be determined by the sheltering of the property relative to the wind farm site. Account can also be taken of the effects of wind directions (including prevailing ones at the site) and likely directional effects. For cumulative developments, in some cases the effective duration of exposure may increase because of cumulative effect'*.

Consequently, the upper fixed 40dB limit cannot be agreed at this stage. With respect to background plus 5dB and 45dB for financially involved properties, this can be agreed as per the ETSU guidance. Evidence should be provided of what properties are financially involved and that they have a direct involvement e.g. that they are living in those properties and are not merely renting or leasing them out to someone else.

Question 26: Do consultees agree with the areas proposed for background noise monitoring?

It is stated in paragraph 16.2.11 of the scoping report that *'For the assessment of receptors to the north and north-east, it is intended to refer to these background noise measurements collected for Foel Trawsnant'* and in paragraph 16.2.12 *'it is intended to use these background noise levels for the assessment of receptors to the south-west of the development'*. Whilst we have no objection to this in principle, as specified in the GPG *'if the developer wishes to utilise previously presented background noise level data from other, care should also be taken with respect to any differences in wind speed conditions between the original and proposed site. The underlying principle of ETSU-R-97 requires that the background noise levels at any given location must be correlated with the wind speeds measured on the wind farm site of interest. Where a systematic difference exists between the wind conditions on the two sites, then a correction will need to be applied, meaning that the derived background noise curves for the two sites will be different.'* Therefore, this will need to be considered to comply with the Good Practice Guide.

In addition, paragraph 16.2.13 states that *'It is intended, if possible, to undertake new background noise monitoring at several locations within areas A and B as highlighted on Figure 16.1. These are areas where preliminary noise predictions suggest cumulative wind farm noise levels may be approaching the ETSU-R-97 daytime limit range of 35-40 dB LA90, and where background noise monitoring has not previously been undertaken'*.

BCBC is concerned about the wording *'it is intended, if possible, to undertake new background noise measurements... within areas A and B'*. Given the location of the closest turbines to those areas, it is essential that monitoring is undertaken at these additional receptors and not 'where possible'. However, it should be pointed out that any monitoring undertaken would have to be corrected for any other wind turbines in operation during that time to ensure that existing wind turbines were not elevating or impacting on the true background measurements. This is

recognised in the GPG which states that *'Where a new wind farm is proposed and a receptor is also within the area acoustically affected by an already operational wind farm, then noise from the existing wind farm must not be allowed to influence the background noise measurements for the proposed development'*. The location of actual new monitoring locations within those areas should be agreed with the respective Environmental Health Department for Neath Port Talbot and Shared Regulatory Services for Bridgend County Borough Council.

Question 27: Do consultees agree with the proposed approach to assessing construction related noise from the proposed development?

Yes - although predicted impacts will also need to include the impacts of vibration as well. In addition, it should be noted that the hours of operation specified by Shared Regulatory Services, which covers the area of Bridgend, Cardiff and the Vale of Glamorgan Councils, which are audible at any residential property are Monday - Friday 0800 -18.00 hours, Saturday 08.00 - 13.00 hours and no working Sundays or Bank Holidays. Within that period, works which produce vibration in excess of 0.2mm/s at any residential property should only be undertaken between 09.00-17.00 hours Monday - Friday and 09.00 -1300 Saturdays.

Forestry:

Question 28: Are consultees in agreement that this provides sufficient guidance for the forestry elements of this wind farm proposal?

The Council's Countryside Management Officer has been consulted and any comments will be forwarded to PINS in due course.

Question 29: Are consultees in agreement with the proposed methodology and approach for forestry?

The Council's Countryside Management Officer has been consulted and any comments will be forwarded to PINS in due course.

Socio-Economics:

Question 30: Are consultees in agreement with the proposed methodology for socioeconomic and that tourism is scoped out?

Yes.

Health and Public Safety:

Question 31: Do you agree that ice throw and lighting is scoped out of the ES and potentially shadow flicker if no properties lie within 10 rotor diameter of turbines?

With respect to shadow flicker, even if it is scoped out, a condition should be included that if complaints arise from shadow flicker, that they are investigated by the developer and remedial action undertaken if shadow flicker is found to occur. A previous and justifiable complaint was lodged about another wind farm where shadow flicker was found to be occurring at properties where it was originally anticipated that they were not going to be affected in the original assessment, which resulted in remedial action being undertaken.

Aviation and Existing Infrastructure:

Question 32: Are consultees in agreement with the proposed methodology and approach for aviation?

Yes.

Question 33: Do consultees agree with the proposal to scope in aviation, Public Rights of Way and scope out impacts on impact on TV and microwave fixed links, gas, water and power lines?

Yes.

Residual Effects, Mitigation and Enhancement:

Question 34: Do the consultees have any comments regarding the proposed documentation that will accompany the application?

No.

In general terms, the scoping report at paragraph 12.3.6 should refer to Bridgend CBC LDP in the title and the following:

- SPG 20 - Renewables in the Landscape: Supplementary Planning Guidance
- BCBC Landscape Character Area Assessment

Paragraph 14.2.1 should refer to the Glamorgan Gwent Archaeological Trust (GGAT) not Gwynedd Archaeological Trust (GAT).

Paragraph 14.2.3 should read "Landscape of Outstanding Historic Interest within 5 km of the site boundary" not "Special Historic Interest."

Paragraphs 14.2.10 and 14.3.1 should refer to Glamorgan Gwent Archaeological Trust not Gwent Glamorgan Archaeological Trust.

In terms of the supporting figures and reports:

- Fig. 3.1 – 'Constraints to Site Design' should include historic Landscapes, Conservation Areas and Special Landscape Areas for completeness.

A map of the Landscape Character Area Assessment for BCBC is attached at Appendix 2 to illustrate some of the designations in the area.

Other consultee comments:

The following comments have been received from the Coal Authority:

"The proposed EIA development is located within the defined Development High Risk Area; the site has therefore been subject to past coal mining activity. In addition, the site is located within an area of surface coal resource."

In accordance with the agreed risk-based approach to development management in Development High Risk Areas, the past coal mining activities and the presence of surface coal resources within the site should be fully considered as part of the Environmental Statement (ES); this should take the form of a risk assessment, together with any necessary mitigation measures.

Whilst the Coal Authority notes the submitted information provided by The Natural Power Consultants Ltd, it would appear that no form of assessment has been made of the impact of coal mining legacy. Within the application site and surrounding area there are coal mining features and hazards which need to be considered. This issue should be included within a range of proposed studies to be undertaken should an EIA be required and the Coal Authority considers that the proposals should be informed by the presence of these features and hazards.

Consideration of Coal Mining Issues in the ES

There are a number of coal mining legacy issues that can potentially pose a risk to new development and therefore should be considered as part of an Environmental Statement for development proposals within coalfield areas:

- The location and stability of abandoned mine entries
- The extent and stability of shallow mine workings
- Outcropping coal seams and unrecorded mine workings
- Hydrogeology, mine water and mine gas

In addition, consideration should be afforded as part of development proposals and the ES to the following:

- If surface coal resources are present, whether prior extraction of the mineral resource is practicable and viable
- Whether Coal Authority permission is required to intersect, enter, or disturb any coal or coal workings during site investigation or development work

Coal Mining Information

Information on these issues can be obtained from the Coal Authority's Property Search Services Team (Tel: 0345 762 6848 or via the Coal Authority's website) or book an appointment to visit the Coal Authority's Mining Records Centre in Mansfield to view our mining information (Tel: 0345 7626848).

The Coal Mining Risk Assessment should be prepared by a "competent body". Links to the relevant professional institutions of competent bodies can be found at:
<https://www.gov.uk/planning-applications-coal-mining-risk-assessments>

Guidance on how to produce a Coal Mining Risk Assessment and a template which the "competent body" can utilise is also contained at:
<https://www.gov.uk/planning-applications-coal-mining-risk-assessments>

Building over or within the influencing distance of a mine entry (shaft or adit) can be dangerous and has the potential for significant risks to both the development and the occupiers if not undertaken appropriately. The Coal Authority would draw your attention to our adopted policy regarding new development and mine entries:
<https://www.gov.uk/government/publications/building-on-or-within-the-influencing-distance-of-mine-entries>

In accordance with our consultation requirements, we look forward to receiving the planning application and Environmental Statement for comment in due course."

I trust that the above advice is of assistance.

Yours sincerely,

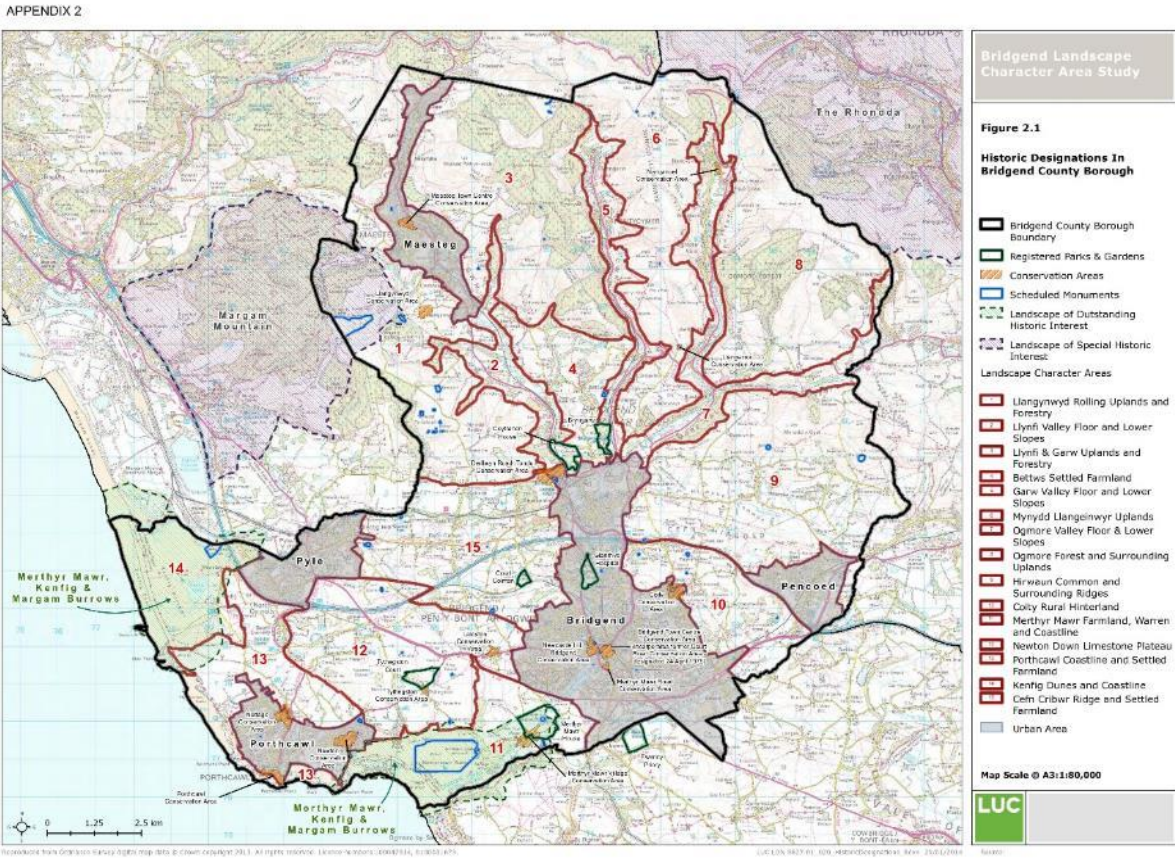
Mr. Rhodri Davies BA, BTP, MRTPI
Development and Building Control Manager

Enc.

Appendix 1 – Response to Scoping Report in relation to Landscape and Visual and Cultural Heritage Matters (by White Consultants)

Appendix 2 - Historic Designations in Bridgend County Borough Council

Appendix 1 of Bridgend County Borough Council scoping opinion has not been repeated here as it can also be found in the appendix of Neath Port Talbot County Borough Council scoping opinion.





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Please ask for: Chris Lindley
Direct Line: [REDACTED]
E-Mail: [REDACTED]
Our Ref: [REDACTED]
Your Ref: **DNS/3264571**
Date: 22 Feb 2021

Dear Sirs

Y BRYN WIND FARM – DEVELOPMENT OF NATIONAL SIGNIFICANCE (DNS)
GOWER AREA OF OUTSTANDING NATURAL BEAUTY

The above proposed development has been brought to the attention of Swansea Council, the local authority responsible for the Gower Area of Outstanding Natural Beauty (AONB).

Having reviewed the Scoping Report (dated 14 January 2021) and the associated figures, it is apparent that there is the potential for landscape and visual effects on the Gower AONB resulting from the scale and extent of the proposed Y Bryn Wind Farm development.

In this context, Swansea Council offers the following comments to inform the Planning Inspectorate's Scoping Direction regarding the proposed DNS. The Council's comments are specifically with regard to proposed Landscape and Visual Impact Assessment, with the aim of ensuring that the potential effects on the Gower AONB are suitably identified and evaluated.

- **Baseline evidence/information** – we draw your attention to the following existing studies. We believe that these are necessary and relevant to the LVIA and should be incorporated into the assessment:
 - Gower Landscape Character Assessment 2013 – this identifies a suite of Landscape Character Areas for Gower AONB, based on the LANDMAP datasets and methodology. This report can be downloaded from here: <https://www.swansea.gov.uk/LDPEvidenceBase>
 - Carmarthen Bay, Gower and Swansea Bay Local Seascape Character Assessment - this study identifies seascape character areas across Swansea Bay using a standardized methodology. This report can be downloaded from here: <https://www.swansea.gov.uk/sca>

- **Visual Impact – Section 12.3.9 and Figure 12.1 (ZTV)** – we note and welcome the inclusion of the proposed viewpoints 6 (Mumbles Hill) & 7 (Cefn Bryn) in the LVIA.

We understand that the principle of viewpoint selection (outlined in Section 12.3.10 of the Scoping Report) is intended to be broadly representative of the landscape character and visual sensitivities of the study area, and are not intended to cover all areas and receptors.

However, we also note that the maximum height of the proposed turbines at Bryn Windfarm is significantly taller than any of the operational or consented wind farms identified.

Given the status of Gower AONB as a nationally important coastal landscape, we recommend that the LVIA includes a further viewpoint within the AONB to give a better understanding of the visual impacts from the AONB across Swansea Bay. Referring to the ZTV in Figure 12.1, we recommend that the additional viewpoint is positioned either close Pwll Du Head (OS Grid SS8567) or Oxwich Point (OS Grid SS5185)

We would be grateful if you would consider these points in your Scoping Direction when responding to the developer.

Yours faithfully

Chris Lindley
Gower AONB Team Leader
Swansea Council

To receive this information in alternative format, or in Welsh please contact the above.
I dderbyn yr wybodaeth hon mewn fformat arall neu yn Gymraeg, cysylltwch â'r person uchod.





Giulia Bazzoni
Planning & Environment Officer
The Planning & Environment Team
The Planning Inspectorate

Eich cyfeirnod
Your reference
3264571

Ein cyfeirnod
Our reference

Dyddiad
Date
18 February 2021

Llinell uniongyrchol
Direct line

E-bost
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Dear Giulia

EIA Scoping: Y Bryn Wind Farm - Wind farm of up to 26 turbines (6.6 MW per turbine) and battery storage
Location: Land at Bryn and Penhydd forest, located between Port Talbot and Maesteg

Thank you for your letter of 15 January asking for Cadw's view on the above. I apologise for the delay in my reply.

This advice is given in response to scoping opinion as to the contents of an Environmental Impact Assessment (EIA) that will be submitted in support of the above.

The scoping opinion is accompanied by scoping report produced by Natural Power. Section 14 of this document outlines the proposed works that will be carried out in order to produce the required information for the EIA. In general we agree with the contents of this document. Although we noticed that the document states that Gwynedd Archaeological Trust has provided data, is this correct or was it the Glamorgan-Gwent Archaeological Trust?

We agree that methodology for the proposed desk-based and field study assessments, including the data sources and the study areas are appropriate.

We can also confirm that a full Assessment of the Significance of the Development on the Historic Landscape (ASIDOHL2) is required. Cadw will be the Curator for the ASIDOHL process and will be able to assist in its' preparation, in particular by agreeing which Historic Landscape Character Areas should be included.

Yours sincerely

Jenna Arnold
Diogelu a Pholisi/ Protection and Policy

Mae'r Gwasanaeth Amgylchedd Hanesyddol Llywodraeth Cymru (Cadw) yn hyrwyddo gwaith cadwraeth ar gyfer amgylchedd hanesyddol Cymru a gwerthfawrogiad ohono.

The Welsh Government Historic Environment Service (Cadw) promotes the conservation and appreciation of Wales's historic environment.

Rydym yn croesawu gohebiaeth yn Gymraeg ac yn Saesneg.
We welcome correspondence in both English and Welsh.



The Planning Inspectorate
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Maes Newydd,
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e-bost/email:

17th February 2021

Annwyl Syr/Madam / Dear Sir/Madam,

**TOWN AND COUNTRY PLANNING ACT 1990
THE DEVELOPMENTS OF NATIONAL SIGNIFICANCE (PROCEDURE) (WALES)
ORDER 2016 (AS AMENDED)
TOWN AND COUNTRY PLANNING (ENVIRONMENTAL IMPACT ASSESSMENT)
(WALES) REGULATIONS 2017**

Project Name: Y Bryn Wind Farm

Site Address: Land At Bryn And Penhydd Forest, Located Between Port Talbot And Maesteg

Proposed Development: Wind Farm Of Up To 26 Turbines (6.6 Mw Per Turbine) And Battery Storage

Thank you for referring the above proposal for a scoping opinion, which we received on 15th January 2021. Natural Resources Wales (NRW) has reviewed the information provided in the 'Scoping Report' (SR) document by Natural Power (reference: 1233647; dated 7th January 2021) and the associated appendices provided on the Planning Inspectorate website.

Please note that our comments are without prejudice to any comments we may wish to make when consulted on any subsequent planning applications or on the submission of a more detailed scoping report or the full Environmental Statement (ES). At the time of any planning application there may be new information available which we will need to take into account in making a formal response.

These comments include those matters NRW consider will need to be taken into consideration and applied to the Environment Impact Assessment (EIA) and the resulting ES. Our comments are set out below following the chapter order in the SR and we have provided a response to the questions posed where relevant to matters that fall under our remit.

Croesewir gohebiaeth yn y Gymraeg a'r Saesneg
Correspondence welcomed in Welsh and English

Chapter 3 - The Proposed Y Bryn Development

Section 3.2 - Project Design - EIA guidance requires the applicant to provide evidence of alternatives e.g. locations, layouts, design such as heights and numbers of turbines. This section states that the design process has taken account of the relationship to the surrounding landscape and communities, cumulative developments and technical and environmental constraints. Evidence of the alternatives considered and the iterative design approach, including landscape considerations should be provided. We note that there is a section on 'Site Selection and Design Evolution' proposed to be included in the ES as outlined in *Table 7.7.1: Proposed ES Structure*.

Chapter 7 - Environmental Statement

We have provided comments on additional matters and their assessments which we advise should be scoped into the ES under the relevant chapters in this letter.

The proposed 'Forestry Assessment' chapter would be better suited under the Physical Environment section as this relates to land use and changes in tree cover.

Chapter 10 – Ecology

General Advice

We consider that the EIA for this development should include sufficient information to determine the extent of any environmental impacts arising from the proposed scheme on legally protected species, including those which may also comprise notified features of designated sites affected by the proposals.

Evaluation of the impacts of the scheme should include direct and indirect; secondary; cumulative; short, medium and long term; permanent and temporary; positive and negative, and construction, operation and decommissioning phase and long-term site security impacts on the nature conservation resource, landscape and public access.

Description of the Project

Within the EIA, the proposed scheme should be described in detail in its entirety. This description should cover construction, operation and decommissioning phases as appropriate and include detailed, scaled maps and drawings as appropriate.

We would expect the description to include:

- The purpose and physical characteristics of the proposals;
- Location, development size and configuration of the development including flexibility of the site layout;
- Procedures for good working practices;
- Identification of appropriate pollution contingency and emergency measures for watercourses on site;

- Timing of all works and contingency plans should slippage in the programme occur;
- Maintenance requirements of structures;
- Maintenance of any habitats within the site;

Illustrations within the Environmental Statement

Any maps, drawings and illustrations that are produced to describe the project should be designed in such a way that they can be overlaid with drawings and illustrations produced for other sections of the ES such as biodiversity.

Description of Biodiversity

The ES must include a description of all the existing natural resources and wildlife interests within and in the vicinity of the proposed development, together with a detailed assessment of the likely impacts and significance of those impacts.

Key Habitats

Any habitat surveys should accord with the Nature Conservancy Council (NCC) Phase 1 survey guidelines (NCC (1990) Handbook for Phase 1 habitat survey. NCC, Peterborough). We note that this is referred to in section 10.3.6. We advise that Phase 1 surveys are undertaken and completed during the summer to ensure the best chance of identifying the habitats present. The EIA should specify and quantify any proposed loss of habitats to the scheme including forestry habitats from all aspects of the proposed development including any infrastructure requirements (e.g. road widening) and provide information on mitigatory or compensatory habitat creation if applicable. We advise that you consult with the Local Planning Authority (LPA) with regard to any impacts on habitats falling under Section 7 of the Environment (Wales) Act 2016.

Section 10.4.10 'Woodland and scrub' – We advise this section is inaccurate as the woodland cover does not consist of even-aged stands and the stands are not pre-dominantly Sitka Spruce and Lodgepole Pine. Large scale felling within these forests are a result of the removal of *Phytophthora ramorum* infected larch to comply with Plant Health Regulations. We advise that you contact our Forestry Land Management Team who can provide information on the baseline forestry habitats. The NRW contact is Philip Morgan, Land Management Team Leader who is contactable at: Philip.Morgan@cyfoethnaturiolcymru.gov.uk.

Designated Sites

'Table 10.1: Designated Sites' has omitted the Eglwys Nunydd Site of Special Scientific Interest (SSSI), however we note that this is referenced in Table 11. 6 within Chapter 11 - Ornithology. Migrant and resident wetland bird populations are a feature of this SSSI, which may use the site to access the reservoir and therefore the site should be screened in regarding any potential impacts on them. We note that the remaining sites listed in Table 10.1 will be scoped out of the EIA.

Protected Species

Sites Surveys

We advise the site is subject to assessment to determine the likelihood of protected species being present in the area and likely to be affected by the proposals. Targeted species surveys should be undertaken for all species scoped in and:

- i. Be undertaken by qualified, experienced and where necessary, licensed ecologist; and
- ii. Comply with current best practice guidelines. In the event that the surveys deviate from published guidance, or there are good reasons for deviation, full justification for this should be included within the EIA.

We note and welcome that bats, great crested newts, dormice, otters and water voles are scoped into the EIA. We provide additional comments on some of these species below.

Bats

We advise that any bat surveys are carried out in accordance with the following guidance: [Bats and onshore wind turbines: Survey, Assessment and Mitigation, Jan 2019](#)

We welcome that surveys will be done at height using a static detector attached to a met mast and we would welcome clarification of the height that these will achieve, and whether the met masts will be located in areas of open habitat and/or above forested areas.

Great Crested Newts

It's unclear from the wording within the SR whether eDNA of ponds would only be undertaken on those six ponds classified as 'below average', 'average' or 'good' using HSI methodology, or if eDNA would be undertaken of all nine ponds. NRW advises that an assigned HSI classification of 'poor' should not, on its own, justify restricting application of the survey method to ponds with a better classification. There may be other reasons justifying the approach to the application of the eDNA survey methodology and, if so, these should be documented in the ES.

Water Voles

We advise that surveys for water voles are undertaken in the period mid-April to end of June, and July to September with at least 2 months apart between visits. A second visit may not be needed where the effects on water voles can be made on a precautionary basis based on the observations of the first visit.

Impact Assessment

Should protected species be found during the surveys, information must be provided identifying the species specific impacts in the short, medium and long term together with any mitigation and compensation measures proposed to offset the impacts identified.

Where proposals concern protected species, which are also notified features of designated sites (e.g. Special Areas of Conservation (SAC), Sites of Special Scientific Interest (SSSI)), we advise that the EIA considers the impacts on those species from both perspectives.

We advise that the EIA sets out how the long term site security of any mitigation or compensation will be assured, including management and monitoring information and long term financial and management responsibility. Where the potential for significant impacts on protected species is identified, we advocate that a Conservation Plan is prepared for the relevant species and included as an Annex to the EIA.

European Protected Species (EPS) Licence

Where a European Protected Species is identified and the development proposal will contravene the legal protection they are afforded, a licence should be sought from NRW. The EIA must include consideration of the requirements for a licence and set out how the works will satisfy the three requirements as set out in the Conservation of Habitats and Species Regulations 2017 (as amended). One of these requires that the development authorised will 'not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status (FCS) in their natural range'. These requirements are also translated into planning policy through Planning Policy Wales (PPW) December 2018, section 6.4.22 and 6.4.23 and Technical Advice Note (TAN) 5, Nature Conservation and Planning (September 2009).

Local Biodiversity Interests

We recommend that the developer consults the Local Planning Authority's (LPA) Ecologist on the scope of the work to ensure that regional and local biodiversity issues are adequately considered, particularly those habitats and species listed in the relevant Local Biodiversity Action Plan, and those that are considered important for the conservation of biological diversity in Wales. For example, we note that as detailed in section 10.7.4, common herpetile species are proposed to be scoped out of the EIA, with a working method statement proposed. This section however acknowledges that they are highly likely to be present and in the absence of specialised survey work, it is unclear if the site is important in a local/regional context (upland areas are often under recorded) and what the impact of the development on these species will be. Additionally, there are also areas of very rich bryophyte assemblages on the Welsh Government Woodland Estate in this area, both on the ground and arboreal, such as hypo-oceanic species, e.g. Irish daltonia, as well as some species-rich native forest ground layers beneath Larch and Pine plantations. We therefore advise consultation with the LPA's Ecologist to agree on whether they should be scoped in and if so, the assessments and information required to be provided in the EIA.

NRW would expect the developer to contact other relevant people/organisations for biological information/records relevant to the site and its surroundings. These include the relevant Local Records Centre and any local ecological interest groups (e.g. bat groups, mammal groups).

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

Please see our comments above.

Q6: Do consultees consider the proposed baseline survey methodologies appropriate?

Please see our comments above.

Q7: 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?

Please see our comments above. We will comment on mitigation measures once the survey work is complete and the impacts/receptors have been fully identified and assessed.

Chapter 11 – Ornithology

Q8: Are consultees satisfied with the coverage provided by the vantage point locations?

We have concerns regarding the relatively large proportion of the site that is currently not covered by the vantage point (VP) surveys as shown on Figure 11.1. The EIA will need to address this by explaining the reasoning over lack of coverage, provide justification or compensate for the restrictions in the coverage. For example, a correction factor could be applied using data from similar habitat covered to be used as a proxy, however this needs to be acknowledged as a constraint.

Q9: 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)?

Although the duration of survey at many of the VPs falls short of the recommended guidance (33 hours rather than 36 hours), we understand that 2020 has been a challenging year and agree, given the circumstances, it is sufficient. Please however refer to our comments above to Q8. We advise however that the shortfall is addressed, e.g. by applying a correction factor for the Collision Risk Modelling. A second year of breeding bird survey is required to be carried out to capture inter-annual variation. Additionally, we note that year 1 of breeding bird surveys commenced in May, missing an earlier part of the season and possibly early breeding activity by some species e.g. waders. A second year of breeding bird surveys should therefore commence from the end of March, following best practice guidelines with an even spread of surveys throughout the season.

Q10: Do consultees agree with those ornithological features that have been highlighted for assessment within EIA and those that have been 'scoped out'?

We will wait for the results of both years' surveys before coming to a conclusion on this.

Q11: Are there any other key ornithological features that consultees believe should be considered that have not been discussed above?

Target species list should also draw on Section 7 species (under the Environment Act (Wales) 2016) and species listed on the Amber list for Birds of Conservation Concern (BoCC).

Q12: Do consultees consider any Natura 2000 not discussed above as requiring consideration as part of screening for AA?

All relevant Special Protection Areas (SPAs) appear to have been identified based on the search criteria.

Q13: Do consultees see value to any particular mitigation and/or enhancement measures for any local or regional species, whether referred to above or otherwise?

We will comment on mitigation measures once the survey work is complete and the impacts/receptors have been fully identified and assessed.

Chapter 12 - Landscape and Visual Impact Assessment (LVIA)

Our advice on this chapter relates to the potential impacts on the Gower Area of Outstanding Natural Beauty (AONB) and Brecon Beacons National Park (BBNP).

LANDMAP

Section 12.2 'Guidance' and 12.3.5 refers to LANDMAP Guidance Note 3. Please note that this guidance has recently been updated under 'Using LANDMAP in Landscape and Visual Impact Assessments GN46' which is available on NRW's website at: [Natural Resources Wales / Using LANDMAP in Landscape and Visual Impact Assessments GN46](https://www.naturalresourceswales.gov.uk/using-landmap-in-landscape-and-visual-impact-assessments-gn46).

Reference should be made to the respective Management Plans of the Gower AONB and Brecon Beacons National Park including their special qualities, when assessing impacts on these landscapes.

Additionally, a seascape assessment should be included in the EIA as the proposal could impact on the seascape to the south. A local seascape character assessment has been produced for Carmarthen Bay, Gower and Swansea Bay which may aid your assessment. This is available at: [Swansea - Carmarthen Bay, Gower & Swansea Bay Local Seascape Character Assessment](https://www.naturalresourceswales.gov.uk/swansea-carmarthen-bay-gower-swansea-bay-local-seascape-character-assessment).

Section 12.3.2 - We advise that changes to landscape character and the way the landscape is experienced also includes the scenic qualities of views from a landscape at a distance from a development and impacts on perceptual qualities such as tranquillity, wildness and remoteness.

Section 12.3.6 - Cadw and the Glamorgan Gwent Archaeological Trusts (GGAT) should be consulted with regard to Historic Landscapes on the Register of Historic Landscapes in Wales, of which there are several in the Study Area.

Section 12.3.17 - We note that aviation lighting will be required for turbines of this scale, as confirmed in section 20.2.12. Night-time photographs/photomontages would therefore be required in this case and acknowledge that section 12.4.13 states that key night-time visualisations would be produced.

Section 12.4.10 – The Melincourt windfarm, Resolven, which was approved in 2014 under Neath Port Talbot County Borough Council planning reference P2014/0883 should also be included in *Table 12.8: Cumulative Wind Farms*.

Q14: Do consultees agree that assessing the maximum hub height available for the tip height in question is appropriate?

We suggest that the combination of maximum blade tip and hub height need to be assessed for the worst case scenario. It is the overall scale of the turbines, including the height and swept area of the blades and scale of hub/column that affects visual impact. The maximum size of turbine potentially to be used should be assessed.

Q15: Do you agree with the proposed size of the study area?

The proposed study area is considered acceptable.

Q16: 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?

We advise that a photograph, wireline and photomontage from viewpoints in the Gower AONB and BBNP should be included in the assessment, given the scale of the development and sensitivities of these areas. We suggest an additional viewpoint from the Y Mynydd Du area of the BBNP to cover potential impacts on this part of the area.

Q17: Do consultees agree with the methodology used to determine which wind farms are to be included within the cumulative assessment and also agree with the list provided in Table 12.8?

We consider the methodology generally sound, subject to the above comments. Section 12.4.13 states that the intention is to produce photomontages from only 10 viewpoints. This seems a small number considering the scale of development and likely to require reconsideration following stakeholder comments.

Q18: Do the consultees agree with the proposed approach to assess the effects on landscape character and visual amenity?

We note the proposals under section 12.4.14 and advise that changes to forestry as shown on the Forest Design Plans need to be presented on drawings overlaid with the wind farm proposals and forestry proposals associated with the development, as well as being described, to allow a detailed picture to be analysed. It may be that annotated photographs would be required in some instances.

Q19: Do consultees see value to any particular enhancement measures?

There would potentially be value in landscape enhancement measures on the site itself and immediate locality and these should be considered.

Chapter 13 - Hydrology, Geology and Hydrogeology

Water Resources

Activities related to wind turbine construction such as foundations and borrow pits can result in risks to groundwater and surface water from instances such as pollution/turbidity, risk of mobilising contamination and physically disturbing aquifers. It should therefore be ensured that any works will not result in contamination or affect water resources. We advise that firstly a water feature survey should be carried out which identifies all water features which could be affected by the proposed operations.

The developer should therefore undertake a preliminary site assessment for a water feature surveys which should include the following:

- Identification of all water features both surface and groundwater (ponds, springs, ditches, culverts etc.) within a 300 metres radius of the site;
- Use made of any of these water features. This should include the construction details of wells and boreholes and details of the lithology into which they are installed;
- An indication of the flow regime in the spring or surface water feature, for example whether or not the water feature flows throughout the year or dries up during summer months;
- Accessibility to the spring/well;
- This information should be identified on a suitably scaled map (i.e. 1:10,000), tabulated and submitted to Natural Resources Wales. It would be useful for the developer to photograph each of the identified water features during the survey.

Based on the results of the survey the applicant must assess the likely impacts from the development on both quantity and quality of the surface water and groundwater. This should take into consideration both the preferred methods of construction and the assumed hydrogeology in the vicinity of the development.

We may require identified groundwater features to be monitored during the proposed workings. We would therefore recommend that the survey be undertaken as soon as possible to enable the developer to carry out suitable baseline monitoring prior to the commencement of any workings at the site.

These water features should be assessed to identify any mitigation measures required to prevent pollution and to safeguard water resources. Further advice on pollution prevention is provided below.

Dewatering of excavations (i.e. borrow pits) may lower groundwater levels locally and may derogate nearby domestic and licensed groundwater sources. Certain private and small water supplies do not require a licence; therefore, we are not necessarily aware of their existence. The locations of private domestic sources are held by the local authority and the details presented in the water feature survey.

If dewatering is proposed as part of these works an abstraction licence from NRW may be required. The granting of planning permission does not guarantee an abstraction licence under the Water Resources Act 1991. A permit under the Environmental Permitting (England and Wales) Regulations 2016 may be required if the works involve the use of drilling fluids, foams or grouts.

Pollution Prevention Measures

We welcome that a site specific Construction Environmental Management Plan (CEMP) will be produced, as outlined in section 13.5.13. The plan should be produced to address pollution prevention and control measures, to be deployed across the whole project area. The CEMP should include:

- Construction methods: details of materials, how waste generated will be managed; to include all infrastructure including turbine foundations, crane hardstandings; construction laydown areas; mineral borrow pits to include location, volume of rock to be removed from each location, reinstatement plan; construction of electrical substation and battery storage
- General Site Management: details of the construction programme including timetable, details of site clearance; details of site construction drainage, containments areas, appropriately sized buffer zones between storage areas (of spoil, oils, fuels, concrete mixing and washing areas) and any watercourse or surface drain;
- Biodiversity Management: details of tree and hedgerow protection; invasive species management; species and habitats protection, avoidance and mitigation measures (Please note that depending on the results of the ecological survey work, this information may need to be provided in a separate standalone document).
- Soil Management: details of topsoil strip, storage and amelioration for re-use.
- De-watering of excavations (further advice on dewatering provided above)
- Culverting and headwall details including improvements/upgrading; to include material types and backfill;

- An assessment of the location of buried cables on the site to assess the accessibility of the forest. Where restrictions are limited, crossing points (concrete slab) should be constructed to allow access.
- CEMP Masterplan: details of the extent and phasing of development; location of landscape and environmental resources; design proposals and objectives for integration and mitigation measures.
- Control of Nuisances: details of restrictions to be applied during construction including timing, duration and frequency of works; details of measures to minimise noise and vibration from piling activities, for example acoustic barriers; details of dust control measures; measures to control light spill and the conservation of dark skies.
- Resource Management: details of waste generation and its management; details of water consumption, wastewater and energy use; procedure for handling and producing cement based products such as concrete and grout, storage and use of polluting substances such as fuels, oils and chemicals, soil and peat storage methods to include soil handling methods during site restoration;
- Traffic Management: details of site deliveries, plant on site, wheel wash facilities
- Pollution Prevention: demonstrate how relevant Guidelines for Pollution Prevention and best practice will be implemented, including details of emergency spill procedures and incident response plan.
- Details of the persons and bodies responsible for activities associated with the CEMP and emergency contact details.

We encourage the developer to commit a dedicated resource to the installation and ongoing maintenance of the pollution prevention mitigation deployed across the development. For example, the measures deployed along the access tracks should be inspected daily, the effectiveness of water treatment methods should also be subject to regular review. Furthermore, the frequency of inspection and maintenance should be increased during and following periods of rain. In our experience the type of stone used to surface the access tracks is critical; mudstone and gritstone tend to breakdown easily and produce a slurry which places additional pressures on the surface water drainage treatment system. We would expect that the pollution prevention measures would be deployed in advance of the commencement of construction activities with deployment along: access tracks, construction compound and around turbine locations being prioritised to safeguard watercourses.

The use of articulated dump trucks (ADT) on access tracks has proven to be extremely destructive to road surface quality which has resulted in server pressure being borne on the road surface water drainage and treatment system. Due to the pressures which ADT's exert on such road systems, we encourage alternative and less damaging means of transportation to be used. Furthermore, we advise the access tracks are not used during certain weather conditions, such as during prolonged or intensive periods of rainfall.

A soil management plan should be produced in conjunction with a peat management plan (peat is further discussed below). We would expect phased soil stripping to be undertaken during construction, together with the adoption of soil conservation and storage techniques in accordance with best practice guidance (Construction Code of Practice for the Sustainable Use of Soils on Construction Sites, DEFRA).

Table 13.2: Baseline Information Sources - NRW has not been cited as a source of information for potential abstractors in the development area and wider hydrologically linked catchments. The applicant should seek to obtain relevant information from NRW so that a full assessment can be undertaken.

Section 13.4.13 - Construction activities such as access track widening, reinforcement of culverts over watercourses, reducing the severity of track bends by increasing the length and width of the existing track, reducing gradients of certain sections of track are all likely to be required in order to facilitate the transportation of the turbine components to their chosen locations. The developer should consider the adoption of a one-way traffic management system during the construction phase of the development which may help reduce the physical impact which the above activities may have on the water environment.

Fish habitat improvements should be incorporated into the designs for the reinforcement of existing access track culverts or any new culverts proposed. NRW can assist with assessing the feasibility of the requirements and provide technical fisheries advice on the mitigation measures required at the design phase.

Infrastructure assessment should also include cable routes as excavating long sections of cable trenches without backfilling promptly can create pathways which may enable contaminated run off to enter local watercourses. Such pollution risks may be compounded by the type of aggregate used to surround and protect the cable. The developer should consider installing water stops within the trench sectional design particularly in areas where ground conditions are poor or where steep and long gradients are encountered. We recommend that pollution prevention controls mitigating against the effects of soil erosion be deployed during surface restoration of any cable route required.

Section 13.4.15 – We note the applicant would seek to complement the objectives of the Natural Flood Management pilot project through the infrastructure design of the wind farm. NRW are currently reviewing these pilot projects and pending the outcome, may welcome further engagement in relation to this matter. The NRW point of contact is the NRW Neath Port Talbot Environment Team, who can be contacted on:

13.4.28 'Geology' – Due to the presence of South Wales Middle Coal Measures Formation, with Pennant Sandstone formations in the area, the developer may be likely to encounter historical workings and tips within their work area (for both coal and stone). More information on the coal mining features can be sought from the Coal Authority, though it should be noted that their records are incomplete due to the age of some of the workings in this area (pre-record). The risk posed to controlled waters from historic coal mining activities should therefore be considered.

The whole area is designated as Secondary 2A Aquifer (Minor); this is generally permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. Within the footprint for the site the Groundwater Vulnerability designation varies, the majority being 'High', though there are some areas of 'Medium'. This may need to be considered when preparing the turbine

base sites, as this often involves undertaking drilling, piling and/or ground stabilisation activities. We advise that this is particularly important where cementitious grouts or additives are proposed to be used.

Section 13.4.33 'Water Resources' – Please note there is a reservoir on site owned by Welsh Water within the Bryn forest block.

Section 13.5.9 - We welcome that a 50m buffer is proposed however we would require clarification on the proposed buffer zone for all unmapped watercourses following the site surveys.

Consideration should also be given to the restocking of areas in line with the approved Forestry Resource Plans which will help to mitigate against the effects of surface water run-off, soil erosion and increases in ground water.

Section 13.5.12 'Drainage' – Please refer to our comments above regarding likely pollution sources. The guidance listed in Table 13.1 is imperative for correct design of any pollution prevention methods and strategies.

Section 13.5.12 'Welfare Facilities' – We assume that the proposals are referring to a septic tank or package treatment plant discharge when referring to "soakaway". If a soakaway or package treatment plant is required for welfare facilities, the applicant may be required to apply for the correct permit to discharge from NRW. Any discharge to ground requires an appropriately designed and built drainage field (not soakaway). Further information is available here: [Natural Resources Wales / Water discharges and septic tanks](#).

Section 13.5.12 'Cement and Concrete' – We note that Pollution Prevention Guide (PPG) 6 'Working at construction and demolition sites' has been highlighted as guidance and best practice to follow in Table 13.1. We advise that Section 7 of this document should be referred to when planning all activities involving cement, concrete and grout. We would welcome further details on how the applicant intends to carefully control the use of wet concrete in and around watercourses, as specified in this section of the SR. The likely volume of cement and concrete required for this development will be considerable. The applicant is encouraged to carefully consider how water will be provided for the production and if any permits are required for this (e.g. abstraction licence for borehole). Further detail on permits can be found on our website at: [Natural Resources Wales / Permits and permissions](#).

Section 13.5.12 'Monitoring Plan' – We require a monitoring/inspection strategy/plan covering watercourses and any discharges from treated surface water areas to local watercourses. This will be especially relevant during rainfall.

Section 13.5.12 'Contingency Plans' - We welcome further dialogue with the applicant with regard to the formulation of this plan. The NRW point of contact is the NRW Neath Port Talbot Environment Team, who can be contacted on:

Section 13.5.12 'Training' - This must include impacts of common pollutants to watercourses.

Water Framework Directive (WFD)

The SR touches upon the Water Framework Directive in Chapters 10 and 13. We advise that due consideration must be given to the Water Framework Directive (WFD) and therefore we recommend a section on WFD is incorporated into the EIA. The section on WFD should reference the waterbodies hydrologically linked to the development, their current status (2021 data will be released in the first quarter of 2021), how this development is likely to affect WFD classification and provide appropriate mitigation if required. Further information on WFD classification can be found on our website at: [Cyfoeth Naturiol Cymru \(naturalresourceswales.gov.uk\)](https://www.naturalresourceswales.gov.uk).

Flood Risk

All watercourses within the site boundary are classified as ordinary watercourses (rather than main rivers) and therefore any culverting/crossings or works to these rivers would be subject to consent from the relevant Lead Local Flood Authority.

Our flood risk map confirms a small section of the Nant Cwmwernderi (stream) is located within flood zone C2 of the Development Advice Map (DAM) contained in Technical Advice Note (TAN)15. Section 13.5.9 states that a 50m buffer will be implemented for all identified mapped hydrological features and infrastructure will be located outside this buffer except where access necessitates. We therefore advise that any works proposed within 8m of the identified floodplain may require a Flood Risk Activity Permit (FRAP) from NRW. We will be able to provide further information on this when greater detail of the scheme is provided. Further information on FRAPs is available on our website at: [Natural Resources Wales / Flood risk activity permits](https://www.naturalresourceswales.gov.uk).

Land Contamination

The SR does not mention the potential for land contamination from historical uses and whether this will be investigated. Given the location of the site within the South Wales coal fields there is the potential for land contamination and as a minimum a Preliminary Risk Assessment (PRA) should be completed.

We therefore advise the developer:

1. Follows the risk management framework provided in CLR11, Model Procedures for the Management of Land Contamination, when dealing with land affected by contamination.
2. Refer to the Environment Agency's '[Guiding Principles for Land Contamination](https://www.naturalresourceswales.gov.uk)' for the type of information that we require in order to assess risks to controlled waters from the site. The Local Authority can advise on risk to other receptors, such as human health.
3. Refer to the [Environment Agency's \(2018\) 'Approach to Groundwater Protection'](https://www.naturalresourceswales.gov.uk)

Peat

We note the sources of information list provided in *Table 13.2: Baseline Information Sources*, used to carry out the desk based study of this chapter. We advise that the 'Unified peat layer' dataset resource, which was created by NRW and the Welsh Government, is also accessed for baseline information. This data is available by accessing the Lle Portal via NRW's website: [Natural Resources Wales / Maps](https://www.naturalresourceswales.gov.uk)

We note the proposals to carry out Phase 1 peat survey, which will be used to inform a more detailed phase 2 peat survey, as outlined in sections 13.4.25 – 13.4.27. In relation to survey methodology, probing to determine peat depth is an acceptable methodology, however this should be calibrated periodically with hand-augering to confirm what feels like peat actually is peat. Locations of depth probing and augering should be recorded using a GPS.

Peat depth data should be presented either as open (i.e. contours only) or closed colour shaded peat depth contour maps (with assessment points marked) or (more usually) as coloured circles indicating specific depth classes according to the suggested scheme below.

Depth range (cm)	Colour codes
0 – 50	Blue or green
> 50 – 100	Yellow
>100 – 150	Orange
> 150 - 300	Red
>300	Purple

The analytical method employed to produce contoured representations of peat depth should be clearly stated, and raw peat depth data provided in an Annex with NGRs to at least 8 but preferably 10 figures (excluding 100 km identifier).

To broadly determine where deep peat occurs on a site, an initial 100m x 100m peat probe grid should be carried out to cover all areas of forestry. If deep peat is encountered, peat probes should be carried out every 20 metres in all directions until deep peat is not encountered (<30cm) to accurately determine the edge of the peat body. Areas of obvious bog and mire viewed on aerial photography that are missed by the grid should be visited and peat depths ascertained, and the extent of the peat body determined as above. Checks should also be made with existing soil maps and the aforementioned unified peat layer to check for omissions especially in areas of forestry where bog vegetation will not alert applicants to the presence of deep peat.

Within peatland habitats, probing will nominally be conducted on a 10m grid. This density may be amended in the field using a case by case professional judgement, where there is little peat present or little variability in the depths. Probing will also seek to explore and define features. NRW require a minimum of 1 peat core per 10 peat probes.

Once an accurate peat map has been produced, infrastructure layouts can then be informed to avoid all areas of deep peat where necessary. The presence of deep peat may require the re-siting or removal of infrastructure if alternative routes avoiding the peat resource

cannot be determined. We note that a Peat Management Plan will be produced, following the survey work. Contingency plans should be made in the plan in the event that greater peat reserves be uncovered during the construction phase than were originally anticipated.

When assessing the appropriateness of any peat depth mapping undertaken in relation to the resource and any impacts, we advise that the EIA needs to demonstrate that impacts on peat have been avoided or minimised through the peat surveys. It is unlikely this can be achieved if measurements are only provided for the immediate vicinity of proposed windfarm infrastructure. For this reason, sufficient peat depth data should be collected to provide an understanding of the overall distribution of peat within the application site.

We advise that 'Section 13.5.1 - Methodology' is updated to read "*Effects on integrity of peat bodies and their hydrological flow pathways.*"

Q20: Are consultees in agreement with the methodologies proposed and the topics to be scoped out?

Please see our comments on the sections above.

From a designated sites perspective, we note that Eglwys Nunydd SSSI will be scoped in and that the remaining listed sites under section 13.4.7 will be scoped out in terms of hydrology due to the reasons provided.

Q21: Do consultees see value to any particular mitigation and/or enhancement measures for any local or regional receptors, whether referred to above or otherwise?

Please refer to our comments on pollution prevention above.

Chapter 15 – Traffic and Transport

We note that transport within the forestry areas and its impacts has not been considered under this chapter, however we do note that sections 11.6.4 refers to forestry infrastructure being assessed, and we have set out our requirements regarding roads/infrastructure in relation to protection of the environment under comments on Chapter 13.

Chapter 17 – Forestry

Section 17.1.2 – Please note that the open ground areas referred to are felled areas. Open ground created by the felling programme is in the process of being restocked or due to be restocked.

Section 17.1.4 – This also includes Low Impact Silvicultural Systems (LISS) stands of trees managed through continuous cover forestry.

Section 17.1.5 – Please can it be clarified what is meant by minimum intervention practices.

Section 17.2.1 – Please note that NRW is the only consultee regarding WGWE.

Section 17.2.2 – Turbine locations should be sited at locations that minimise impacts on habitats, felling (deforestation) and impacts on the overall trees crops (stability).

Q28: Are consultees in agreement that this provides sufficient guidance for the forestry elements of this wind farm proposal?

Q29: Are consultees in agreement with the proposed methodology and approach for forestry?

Please see our comments above to both questions; we may have additional advice once further information is available.

Chapter 20.3 – Other Existing Infrastructure

Section 20.3.4 – There are a number of illegal unauthorised mountain bike trails within the Bryn forestry block which will need to be identified and considered. This will have to be managed during the construction and operational phase of the proposed development.

Q33: Do consultees agree with the proposal to scope in aviation, Public Rights of Way and scope out impacts on impact on TV and microwave fixed links, gas, water and power lines?

Consideration should be given for all recreational needs, not just Public Rights Of Ways. The Bryn is dedicated CROW Act land which needs to be considered and managed as part of the proposal. Similarly, NRW allow permissive access for horse riding, cycling and general recreation (trail running).

Other Matters

Our comments above only relate specifically to matters included on our checklist, *Development Planning Advisory Service: Consultation Topics* (September 2018), which is published on our [website](#). We have not considered potential effects on other matters and do not rule out the potential for the proposed development to affect other interests.

We advise the applicant that, in addition to planning permission, it is their responsibility to ensure they secure all other permits/consents/licences relevant to their development. Please refer to our [website](#) for further details.

If you have any queries on the above, please do not hesitate to contact us.

Yn gywir / Yours faithfully

Hannah Roberts

Cynghorydd - Cynllunio Datblygu / Advisor - Development Planning
Cyfoeth Naturiol Cymru / Natural Resources Wales

From:
Sent: 15 January 2021 17:06
To: dns.wales
Cc:
Subject: RE: DNS 3264571- Y Bryn Wind Farm - Scoping Consultation

Dear Giulia

Thank you for your letter of the 15 January asking for comments on the scope of the environmental statement for the above development. I am responding in relation to airfield and technical site safeguarding. The sites identified in the applicant's scoping report appear reasonable. In respect of the methodology, the key issue will be ensuring the site operators have the opportunity to contribute to the preparation of the statement given the technical nature of the assessment and the unique potential impacts for each site. The general approach is therefore satisfactory.

Yours sincerely

Hywel Butts

Pennaeth y Gangen Rheoli Datblygu / Head of Development Management Branch
Y Gyfarwyddiaeth Gynllunio / Planning Directorate
Llywodraeth Cymru / Welsh Government

From: NSIP Applications
Sent: 20 January 2021 10:38
To: Bazzoni Abbiati, Giulia
Cc: NSIP Applications
Subject: RE: HPE CM: DNS 3264571- Y Bryn Wind Farm

Dear Giulia

Thank you for your email dated 15 January 2021 consulting HSE on the pre-application for the proposed Y Bryn Wind Farm development of National Significance (DNS). Please find HSE's advice below.

HSE's land use planning advice

Will the proposed development fall within any of HSE's consultation distances?

With reference to Plan (**DNS-3264571-000042-Y Bryn Forestry 17.1 v3 Land use within the Study Area**, Date 13-11-2020, Draft A1 V3), the proposed project/development does **not** currently fall within the consultation distances of any Major Hazard Installation(s) or Major Accident Hazard Pipeline(s).

However, if prior to the granting of a development consent order for this proposed development, Hazardous Substances Consent is granted for a Major Hazard Installation or there is notification of a Major Accident Hazard Pipeline within or in the vicinity of the development, the HSE reserves the right to revise its advice.

Would Hazardous Substances Consent be needed?

The presence of hazardous substances on, over or under land at or above set threshold quantities (Controlled Quantities) may require Hazardous Substances Consent (HSC) under the Planning (Hazardous Substances) Act 1990 as amended. The substances, alone or when aggregated with others, for which HSC is required, and the associated Controlled Quantities, are set out in The Planning (Hazardous Substances) Regulations 2015.

Hazardous Substances Consent would be required if the site is intending to store or use any of the Named Hazardous Substances or Categories of Substances and Preparations at or above the controlled quantities set out in schedule 1 of these Regulations.

Further information on HSC should be sought from the relevant Hazardous Substances Authority.

Explosives sites

There are no licensed explosive sites in the vicinity so HSE has no comment to make in this regard.

Regards

Monica

Monica Langton
Divisional Support Team
CEMHD
1.2 Redgrave Court
Bootle

From: [REDACTED]
To: [REDACTED]
Subject: FW: Y Bryn Wind Farm
Date: 08 March 2021 11:25:20

From: Marks, John D [REDACTED]
Sent: 08 March 2021
To: dns.wale [REDACTED]
Subject: Y Bryn Wind Farm

The above application has recently been brought to my attention.

While the proposal is unlikely to have a major impact upon the Vale of Glamorgan, having considered the Landscape and Visual Impact Assessment and the Zone of Theoretical Visibility (Figure 12.1 Scoping Report) it appears that the development could possibly be visible from significant parts of Glamorgan Heritage Coast which covers an extensive element of the Vale of Glamorgan coastline.

While one of the viewpoints (No.11) included is located at Ogmere by Sea and has been included to represent users of Public Footpath (Wales Coast Path) and Residents of Ogmere-by-Sea, the more natural elements and open areas of the Glamorgan Heritage Coast have not been represented as possibly other viewpoints (20 Bridgend Circular Walk, Bryncoch and 21 Sam Helen, Aberdulais) have been.

In this regard, you may wish to consider extending the viewpoints within the ZTV to represent the potential impact on the Glamorgan Heritage Coast designation and a view from Nash Point may be helpful.

Thanking you for your consideration on this matter.
Regards

John Marks
Senior Planner / Uwch Gynllunydd
Regeneration and Planning / Adfywio a Chynllunio
Vale of Glamorgan Council / Cyngor Bro Morgannwg
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Correspondence is welcomed in Welsh or English / Croesewir Gohebiaeth yn y Gymraeg neu yn Saesneg.