



Pennant Walters

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# Mynydd y Glyn Wind Farm

Volume 1: Non-Technical Summary



This report was prepared by WSP Environment & Infrastructure Solutions UK Limited (formerly known as Wood Environment & Infrastructure Solutions UK Limited), company registration number 02190074, which is carrying out these services as a subcontractor and/or agent to Wood Group UK Limited

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## Report for

Pennant Walters

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## Document revisions

No.	Details	Date
1	NTS Draft	03/10/22
2	Final	24/10/22

# 1. Introduction

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## 1.1 Overview

- 1.1.1 Pennant Walters Ltd ('the Applicant') is seeking planning permission for the construction and operation of a wind farm of up to seven turbines ('the Proposed Development') on land at Mynydd y Glyn, Porth ('the Site'). As the installed generating capacity of the Proposed Development would exceed 10 megawatts (MW), it qualifies as a 'Development of National Significance' (DNS) and the application for planning permission will be decided by the Welsh Ministers, with the process administered by Planning and Environment Decisions Wales (PEDW) (or Penderfyniadau Cynllunio ac Amgylchedd Cymru).
- 1.1.2 To accompany the application for planning permission an Environmental Impact Assessment (EIA) has been undertaken. EIA is a process that identifies the environmental effects of a development and identifies ways that these effects can be reduced and/or managed. An EIA is required by law for large developments that have the potential to cause 'significant' environmental effects. The findings of this process are reported in a document called an Environmental Statement (ES).
- 1.1.3 The DNS process requires the Applicant to submit a Draft ES to enable technical stakeholders such as Natural Resources Wales (NRW), Cadw and the local planning authorities, and the public, to develop an informed view of the likely significant effects of the Proposed Development, and comment on the proposals, prior to submission of the application.
- 1.1.4 The Draft ES for the Mynydd y Glyn Wind Farm is a public document available for anyone to inspect and has been prepared in accordance with *The Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017* (the EIA Regulations). It presents the likely environmental effects of the Proposed Development.
- 1.1.5 This document sets out a summary of the findings from the Draft ES in non-technical language.

## 1.2 Purpose of this Non-Technical Summary

- 1.2.1 The aim of the Non-Technical Summary (NTS) is to enable local communities and other stakeholders to understand the likely environmental effects arising from the Proposed Development in a concise manner which is easily understood and accessible by all. Effects are assessed in terms of how 'significant' they would be, and EIA is primarily concerned with 'likely significant effects' and not those unlikely to be significant.
- 1.2.2 This NTS includes a description of the Proposed Development, a summary of the consultation process and the results of the EIA work undertaken to date.

## 2. The wind farm site

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2.1.1 The Site lies within the Rhondda Cynon Taff County Borough Council (RCTCBC) administrative area and its boundary is located approximately 600m from the south-eastern edge of the village of Pant (National Grid Reference: ST 03626 89459).

2.1.2 The Site encompasses an area approximately 182.27 hectares (ha), consisting of upland habitat, mostly improved and semi-improved grassland which has been used for agricultural grazing. The Site of the Proposed Development is located on the summit and upper slopes of Mynydd-y-Glyn to the south of Rhondda River, the Site is absent of distinct field boundaries and tree cover resulting in the Site being open and exposed.

### 2.2 The applicant

2.2.1 Pennant Walters Ltd is a Walters Group company with a focus on renewable energy having obtained consent for and/or developed a wide variety of schemes including onshore wind, solar, small-scale hydro and battery storage. The company now operates six onshore wind farms within South Wales.

## 3. Site selection

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- 3.1.1 In 2019, the Applicant undertook an exercise to identify sites in South Wales potentially suitable for the development of a wind farm. This exercise was guided by the emerging draft of the National Development Framework document *Future Wales: The National Plan 2040* which outlined Pre-Assessed Areas (PAAs) for onshore wind development, which identify areas with a presumption in favour of large-scale wind energy development.
- 3.1.2 South Wales was chosen because it has some of the highest wind speeds within Europe and within the UK. The Applicant's existing presence within South Wales was also a determining factor in this selection process as it has developed and now operates six onshore wind farms within South Wales.
- 3.1.3 The Site identification process picked out broad areas of interest and was followed by a more detailed review to identify specific potential sites within or close to PAAs, and areas that did not have a mean annual average wind speed above 7 metres per second (considered by the Applicant to be the minimum required for a commercially viable scheme). Areas within the Brecon Beacon National Park and any other national landscape designations were also excluded.
- 3.1.4 There are several areas of South Wales with an average wind speed well above 7m/s. Those areas with wind speeds above 7m/s within the Brecon Beacons National Park, and any other national landscape designations were excluded from the search exercise. Those areas within TAN 8 Area F that have already been developed were also excluded. Two areas with good wind resource included a broad area on the eastern limb of PAA 10 and an area to the south of Pontypridd.
- 3.1.5 Discussions with the land agents of relevant land holders in this region indicated that land at Mynydd y Glyn was available to wind farm developers.
- 3.1.6 The original process of choosing possible sites also included a review of technical factors and a high-level assessment of the landscape impact of each development.
- 3.1.7 The Proposed Development site was considered to offer a good combination of the assessment factors:
- excellent wind resource;
  - large usable area;
  - low vulnerability to major accidents and disasters arising from, for example, flooding or sea level rise, due to location;
  - good potential access;
  - available existing electric infrastructure;
  - not common land or any other statutory designations; and
  - likely low impact on ecology, archaeology, geology etc. given the baseline conditions, both from the Proposed Development and from potential major accidents and disasters.
- 3.1.8 In relation to the Site being outside of the PAA, the Applicant considers that the spatial approach to onshore wind set out in Future Wales has significant limitations because of the high-level approach to constraints mapping, an issue consistently set out by the sector / RenewableUK Cymru. RenewableUK Cymru undertook detailed analysis of the

PAA's in Wales and concluded that only ~5% is suitable for onshore wind and are theoretically deliverable once suitable constraints are applied and operational wind farms have been excluded. Therefore, the PAA's are only a starting point for projects greater than 10MW, which is what Policies 17 and 18 of Future Wales articulate.

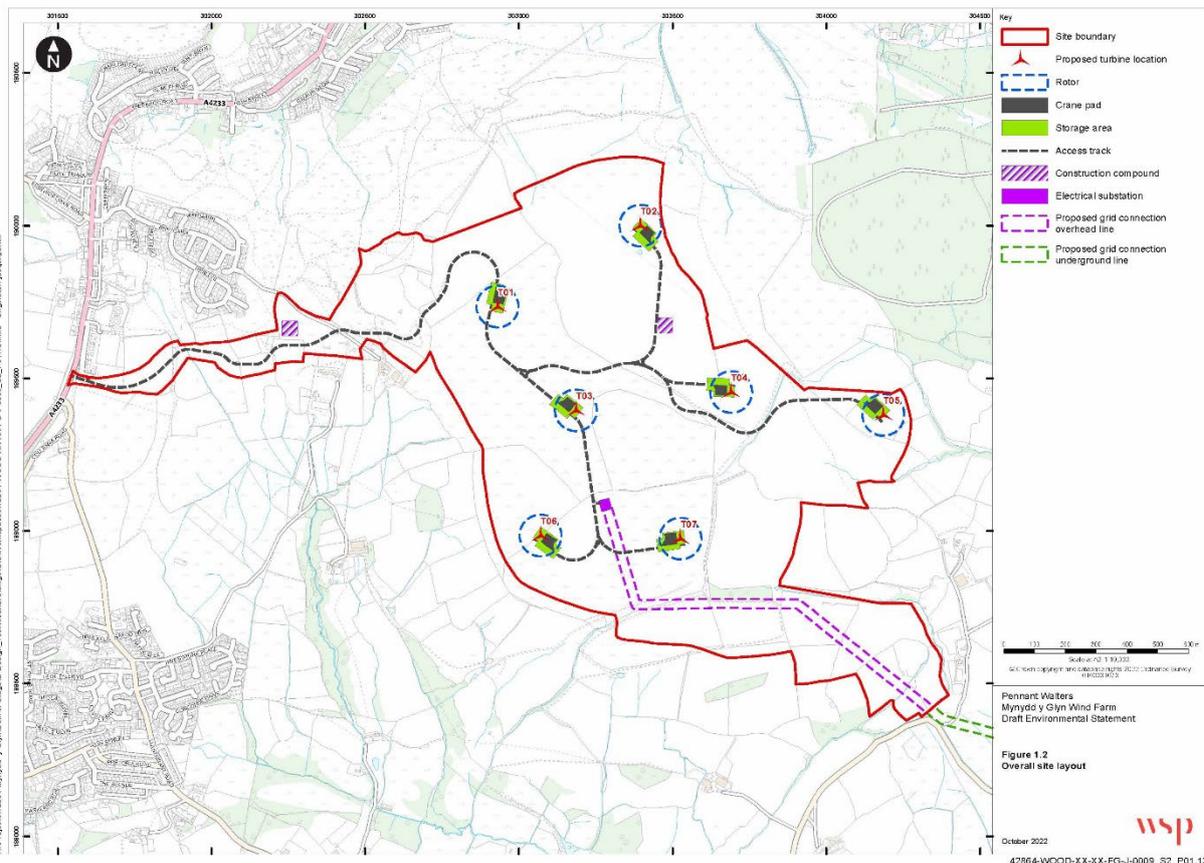
# 4. The Proposed Development

4.1.1 The Mynydd y Glyn Wind Farm ('the Proposed Development') consists of the following elements:

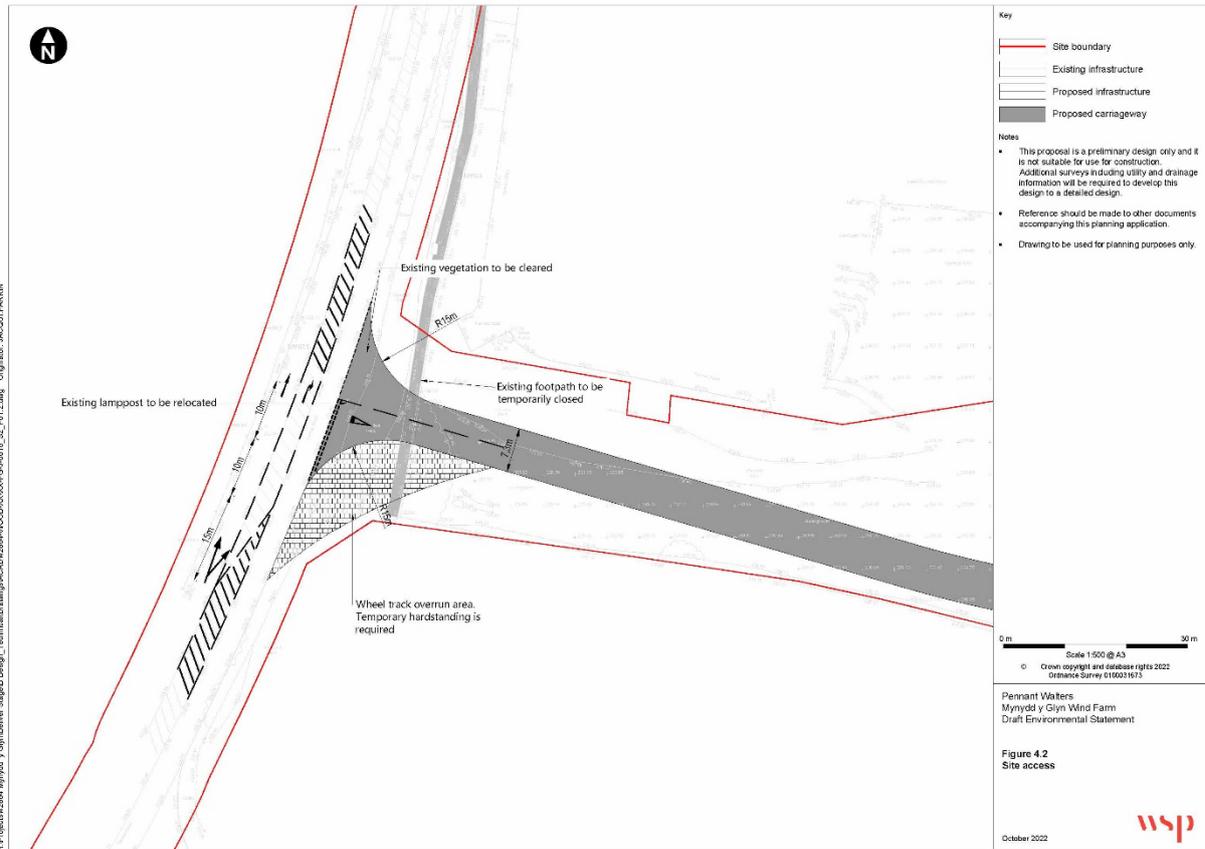
- up to seven wind turbines;
- substation and transformer housing;
- temporary contractor compounds;
- grid connection where included in the Site boundary (see below);
- crane pads and cabling;
- new access and junction off the highway; and
- improvements to existing access tracks.

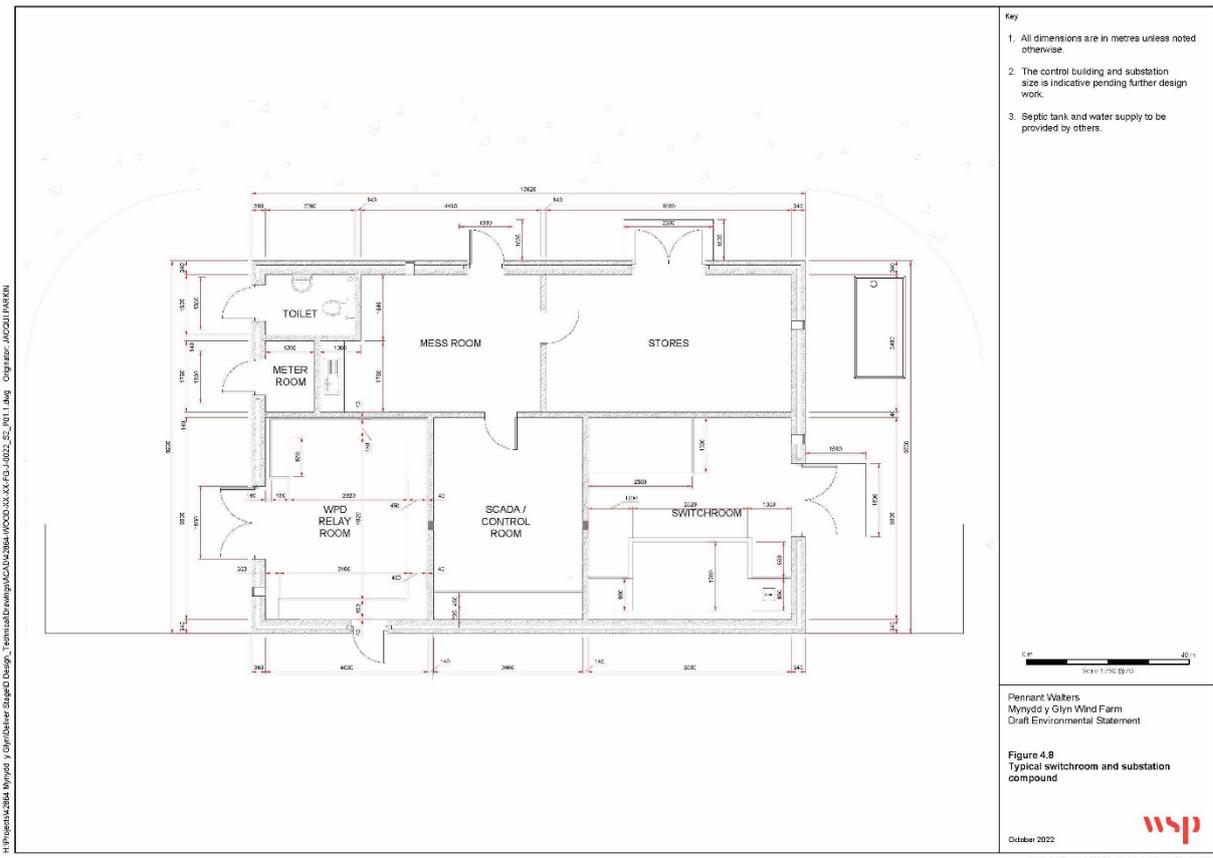
4.1.2 The proposed wind farm is designed with an operational life of 30 years and permission is sought for this period of operation only. After this period the Site can be fully restored or future generations can decide how they want to secure their energy needs.

4.1.3 The proposed layout of the wind farm, is illustrated below. The access point into the Site is from Trebanog Road to the west of the Site.

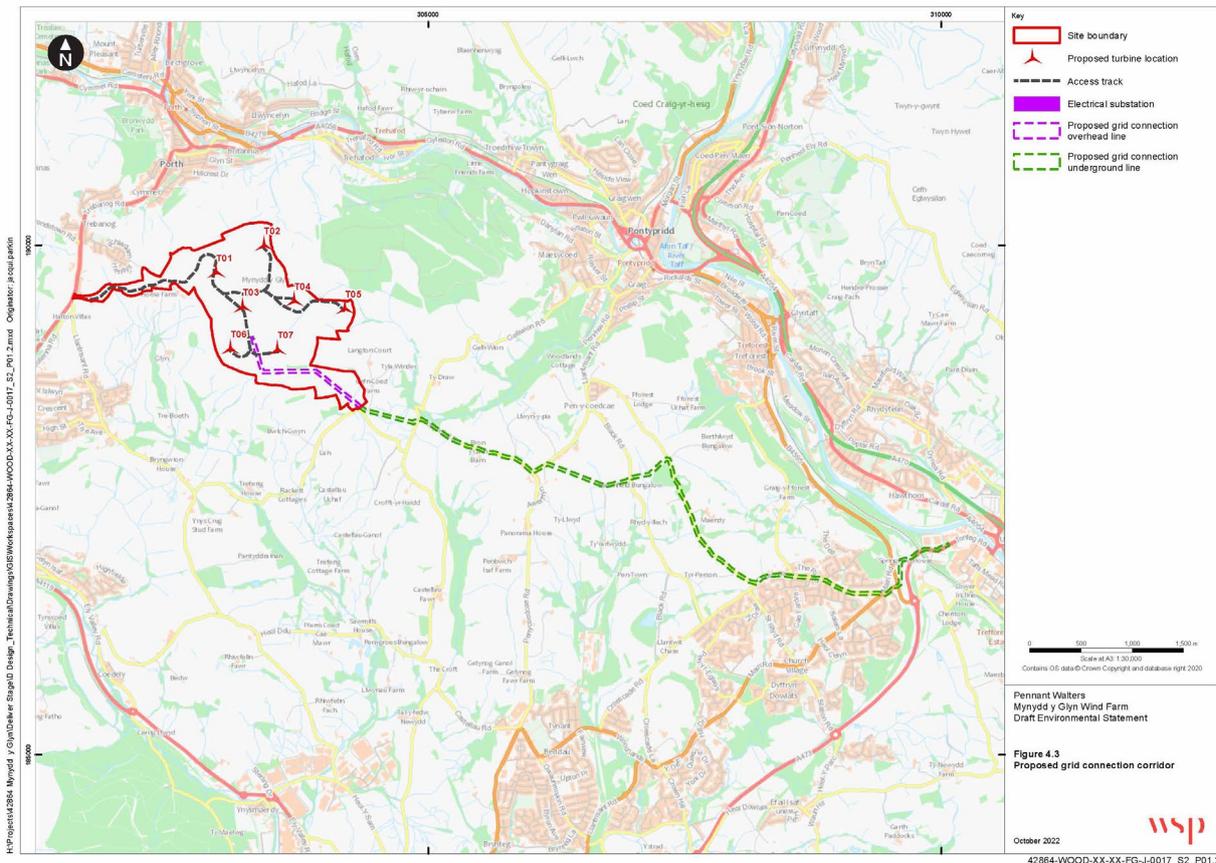


4.1.4 Illustrations of a typical wind turbine, and switchroom and substation compound layout are provided below.





4.1.5 The proposed grid connection corridor is illustrated below. The grid connection is comprised of two components, the first of which is an overhead line (1.4km) from the onsite substation to the south eastern boundary of the Site, subsequently the line will be undergrounded (7.1km) to the SCAD connection point at Upper Boat. The overhead line (OHL) portion of the connection forms part of this application and is located within the Site boundary. The underground connection is assessed as part of this Draft ES, however, it will be delivered by the Distribution Network Operator (DNO), Western Power Distribution (WPD).



- 4.1.6 It is anticipated that the construction period for the Proposed Development would be approximately 24 months in duration. It is anticipated that the Abnormal Indivisible Loads (AILs) [transporting turbine equipment] would travel by road from the Port of Swansea, which is the closest port in the region capable of handling wind turbine equipment. The Port of Swansea has been frequently used for the delivery of wind turbine components in this region.
- 4.1.7 It is anticipated that stone would need to be imported from existing quarries and would be sourced from one or more of the local established sources, such as Tarmac Hendy Quarry.
- 4.1.8 Construction activities would take place between 07:00 to 19:00 hours on weekdays and 07:00 to 13:00 on Saturdays. Quiet on-site working activities such as electrical commissioning have been assumed to extend outside the core working times where required. No working would be undertaken on Sundays.

## Micrositing

- 4.1.9 In carrying out the various surveys that are necessary in advance of construction activities, environmental, geotechnical and health and safety sensitivities, as well as wind-related sensitivities such as turbulence, might be identified that could be avoided if the locations of turbines or tracks are re-sited to a relatively small degree (i.e. ‘microsited’). It is therefore proposed that some flexibility for infrastructure micrositing be retained and that appropriate limits of deviation would be up to 50m for turbines and 100m for internal wind farm tracks and other infrastructure such as the substation and site compound. This mitigation may be restricted further in terms of specific locational hard constraints, for example not micrositing closer to a watercourse if within 50m of a watercourse. Distances will be agreed and secured via planning condition.

## 5. The need for onshore wind power and the policy context

5.1.1 Renewable energy produces energy without burning fossil fuels that release carbon dioxide and contribute to climate change. Renewable energy also provides a new and alternative energy source to tackle energy security issues. Increased use of renewable energy is therefore a key part of European, UK and Welsh energy strategy.

5.1.2 The introduction of the Welsh Government Net Zero Carbon Budget, 2021<sup>1</sup> reports the progress to date which the Welsh Government have set in policy to combat climate change and how they plan to battle climate change over the coming decade:

*“In the last six years, we have laid the legislative foundations for a cleaner, fairer, stronger Wales, including through the Well-being of Future Generations (Wales) Act 2015 and the Environment (Wales) Act 2016. Wales has consistently followed the science, starting in 2016 with a target for an 80% reduction in our emissions by 2050. In 2019 we accepted the CCC’s recommendation to increase our ambition to 95% shortly after the Senedd became the first Parliament in the world to declare a climate emergency in 2019. On accepting the recommendation, we were clear our ambition should be in line with the spirit of the Paris Agreement in which richer, developed nations should set in law a net zero target by the middle of this century”.*

5.1.3 The Climate Change (Wales) Regulations 2021<sup>2</sup> also reiterates as *“climate science continues to demonstrate that human activity is warming the planet and that the resulting effect on weather patterns is having increasingly negative consequences for ecosystems, economies, and people. The Welsh Government is proposing to increase Wales’s climate targets in response to the latest climate science and the recommendations of the Climate Change Committee (CCC)”*. This includes the:

- *“Carbon Budget 2 (2021-2025): an average of 37% below the baseline with a credit (‘offset’) limit of 0%;*
- *Carbon Budget 3 (2026-2030): an average of 58% below the baseline;*
- *2030 target for an emissions reduction of 63% against the baseline;*
- *a 2040 target for an emissions reduction of 89% against the baseline; and*
- *a 2050 target for an emissions reduction of at least 100% against the baseline (‘net zero’)”*<sup>2</sup>.

5.1.4 In 2021, Future Wales: The National Plan 2040 (Future Wales) was introduced as a national development framework to combat the *“climate emergency which is actively changing our environment and directly affecting communities”*. Future Wales aims to help plan new development and manage land use through enhancing the economic, social, environmental, and cultural well-being of Wales. Future Wales builds on the well-being goals set out in the Future Generations (Wales) Act (2015) to create a Prosperous,

<sup>1</sup> Welsh Government (2021). Net Zero Wales Carbon Budget 2 (2021 to 2025). (c. 1), pp. 10. [Online]. Available at: <https://gov.wales/sites/default/files/publications/2021-10/net-zero-wales-carbon-budget-2-2021-25.pdf> [Accessed 28 January 2022].

<sup>2</sup> Welsh Government (2021). The Climate Change (Wales) Regulations 2021: integrated impact assessment. (c1), pp. 3. [Online]. Available from: <https://gov.wales/sites/default/files/pdf-versions/2021/7/5/1625823413/climate-change-wales-regulations-2021-integrated-impact-assessment.pdf> [Accessed 28 January 2022].

Resilient, Healthier, More Equal, Cohesive, Globally Responsible and Vibrant and Thriving Wales.

5.1.5 Future Wales specifies:

*“It is vital that we reduce our emissions to protect our own well-being and to demonstrate our global responsibility. Future Wales together with Planning Policy Wales will ensure the planning system focuses on delivering a decarbonised and resilient Wales through the places we create the energy we generate, the natural resources and materials we use and how we live and travel”.*<sup>3</sup>

5.1.6 Future Wales also maintains *“Wales can become a world leader in renewable energy technologies. Our wind and tidal resources, our potential for solar generation, our support for both large and community scaled projects and our commitment to ensuring the planning system provides a strong lead for renewable energy development, mean we are well placed to support the renewable sector, attract new investment and reduce carbon emissions”.*

5.1.7 The latest version of Planning Policy Wales (Edition 11)<sup>4</sup> (PPW11) acknowledges Wales has been set a 95% net zero target for 2050 by the CCC and how nationally, the intention is to go beyond this to become fully net zero. PPW11 outlines:

*“Climate change is a global challenge, with impacts felt at the local level presenting a significant risk to people, property, infrastructure and natural resources. We need to plan for these impacts, reducing the vulnerability of our natural resources and build an environment which can adapt to climate change. The planning system plays a significant role in managing this risk. Development allowed today will be around for decades to come. The most important decision the planning system makes is to ensure the right developments are built in the right places”.*

5.1.8 There is therefore a demonstrable need to tackle climate change, with renewable energy developments seen as a key element in this.

5.1.9 PPW11<sup>4</sup> states that *“Local authorities should facilitate all forms of renewable and low carbon energy development and should seek cross-department co-operation to achieve this. In doing so, planning authorities should seek to ensure their area’s full potential for renewable and low carbon energy generation is maximised and renewable energy targets are achieved. Planning authorities should seek to maximise the potential of renewable energy by linking the development plan with other local authority strategies, including Local Well-being plans and Economic / Regeneration strategies”.*

5.1.10 Onshore wind power is recognised as being a deliverable, mature technology. Wind power is one of the few energy technologies that is both low in CO<sub>2</sub> emissions, helping to tackle climate change, yet can also be delivered quickly, affordably and is domestically secure thereby addressing the key energy security challenges. It is this critical ability to address both issues that makes wind power a central feature in Welsh Energy policy.

5.1.11 The proposed Mynydd y Glyn Wind Farm could make a meaningful contribution to meeting the renewable energy targets set by the Welsh Government.

<sup>3</sup> Welsh Government (2021). Future Wales the National Plan 2040. (c. 2), pp. 45. [Online]. Available at: <https://gov.wales/sites/default/files/publications/2021-02/future-wales-the-national-plan-2040.pdf> [Accessed 28 January 2022].

<sup>4</sup> Welsh Government (2021). Planning Policy Wales 11<sup>th</sup> Ed. (c. 3), pp. 31. [Online]. Available at: [https://gov.wales/sites/default/files/publications/2021-02/planning-policy-wales-edition-11\\_0.pdf](https://gov.wales/sites/default/files/publications/2021-02/planning-policy-wales-edition-11_0.pdf) [Accessed 28 January 2022].

## 6. Environmental Impact Assessment

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- 6.1.1 EIA is a process by which information about the environmental effects of a proposed development is collected, evaluated, and taken into account in its design. It considers the people and environmental resources (collectively known as 'receptors') that could be affected by the proposed development.
- 6.1.2 If the development is given consent, the EIA process provides a consideration of the most appropriate methods for its construction, operation and decommission.

### 6.2 Scoping and engagement

#### Early engagement

- 6.2.1 Engagement has been undertaken with consultees, stakeholders and other interested organisations.
- 6.2.2 A Scoping Report was submitted to the PEDW in September 2021. The Scoping Report identifies the potentially significant effects requiring assessment, determines the subject matter of the assessment and the methodologies for undertaking the assessment. PEDW subsequently provided a Scoping Direction, which included comments from a range of stakeholders, on behalf of the Welsh Ministers, in December 2021. The Scoping Direction and the statutory consultee responses have subsequently informed the assessment work and further design evolution undertaken to date.

#### Informal consultation and engagement

- 6.2.3 Early engagement with the local planning authority, local community and interested parties took place from October to November 2021 through a series of meetings. Public exhibitions were held at Capel Community Resource Centre on 11 November, and Waun Wen Community Recreation Centre on 13 November. A virtual exhibition was hosted on the project website with all the information that was available to those who attended in person from 11 November.

### 6.3 Potential environmental effects

- 6.3.1 The following sections provide a brief summary of the main findings of the EIA as set out in the technical chapters of the Draft ES. As required by *The Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017*, the ES sets out whether effects on these receptors would be 'significant' or not.
- 6.3.2 Effects which are considered 'significant' are deemed important enough to influence the decision to be taken by the competent authority (Welsh Ministers) as to whether planning permission should be granted based on a balance of the effects.

#### Embedded environmental measures

- 6.3.3 EIA is an iterative process and opportunities for environmental mitigation, referred to as 'embedded environmental measures' have been considered throughout the design development of the Proposed Development and in the assessment undertaken for the

Draft ES where likely significant effects have been identified. Where possible, these measures have been developed with input from key stakeholders together with appropriate technical standards, policies and guidance. These embedded environmental measures include avoidance, best practice and design commitments.

## Topics scoped out of the EIA

6.3.4 There are some aspects for which a detailed assessment has not been undertaken because the potential for significant effects from these topics is unlikely. Where appropriate, this has been agreed with PEDW and other technical stakeholders:

- Climate: The vulnerability of the Proposed Development to climate change and extreme climate events is considered as part of the scope of other relevant environmental topics, and where relevant has been designed so that it is not vulnerable to the effects of Climate Change.
- Major accidents and disasters: Measures will be incorporated into the design and risk assessments implemented during construction to ensure the likelihood of major accidents and disasters is very low. The main accident risk relates to the potential for land subsidence from historic coal mining. A Coal Mining Risk Assessment has been completed and is appended to the Draft ES (as **Annex B** to **Appendix 11A**).
- Population and human health: Such effects are considered as part of the scope of other relevant environmental topics such as Landscape and Visual Impact Assessment, Traffic, Noise, Shadow Flicker and Socio-economics.

# 7. Environmental Assessment

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## 7.1 Introduction

7.1.1 This section provides a summary of the preliminary assessment of likely significant effects to resources and receptors including:

- Landscape and Visual;
- Historic Environment;
- Biodiversity;
- Ornithology;
- Water Environment;
- Ground Conditions;
- Traffic and Transport;
- Noise;
- Aviation and Telecommunications;
- Shadow Flicker;
- People and Business (Socio-economics); and
- Inter-project cumulative effects.

## 7.2 Landscape and Visual

### Landscape

7.2.1 Landscape effects can occur as a result of changes in fabric, character and values attached to the landscape arising from the construction and operation of the Proposed Development. This may include changes to the landscape elements and patterns within the development site and effects upon landscape character (as defined nationally by the LANDMAP system), landscape designations such as the Brecon Beacons National Park and the variety of local landscape designations that exist in this part of South Wales.

7.2.2 Baseline information has been obtained from a desk-based study including review of published landscape character assessments. Computer modelling has generated a Zone of Theoretical Visibility (ZTV) which provides mapping of the areas from where the Proposed Development could be visible. This has been used as part of the process to select viewpoints which were then checked and refined with a field survey.

7.2.3 The topography and elevation of the Site is replicated in the surrounding area except to the south. There are hills and short ridgelines with similar elevations to the west (Mynydd Gilfach and Mynydd Pen-y-graig); to the north-west (Mynydd Dinas and Mynydd y Cymmer); to the north on the northern side of the Rhondda Valley (trig point summit at 356 m AOD east of Ynyshir); and, at a greater separation distance, to the east (Mynydd Meio and Cefn Eglwysilan).

- 7.2.4 The Site's land-use almost entirely consists of a mosaic of improved and semi-improved grazing. There is a single small plantation of deciduous woodland located towards the southern boundary. There is no other tree cover within the site except a few stream-side trees in the south-east and scattered patches of scrub in the north-east. An extensive commercial coniferous plantation woodland is located adjacent to the north-eastern boundary.
- 7.2.5 There is a limited public rights of way (PRoW) network within and close to the Site, principally a PRoW linking Porth in the Rhondda Valley to Langton Court Farm, one of the closest properties to the south-east. A large proportion of the Site on its western and eastern parts is within an extensive tract of Access Land that extends north across all the closest section of the southern side of Rhondda Valley to the edge of the valley bottom settlements.
- 7.2.6 The landscape assessment considered the potential for effects on landscape features and elements, landscape designations and LANDMAP areas within the 24km study area which has been based on the recommended study area for wind turbines of a height of 155m (to blade tip) within published guidance<sup>5</sup>. Of the landscape receptors considered, the assessment concluded that there would be significant landscape effects on the following receptors

#### *Direct Effects*

- Local Landscape Designation : Mynydd y Glyn and Nant Muchudd Basin SLA; and
- Visual and Sensory Aspect Areas (VSAA): Mynydd y Glyn.

#### *Indirect Effects*

- Local Landscape Designation: Mynydd y Cymmer SLA;
- Local Landscape Designation: Mynydd Troed y Rhiw Slopes SLA;
- Local Landscape Designation: Llwynelcn Slopes SLA;
- Local Landscape Designation: Cwm Clydach SLA;
- Local Landscape Designation: Coed-yr-Hendy and Mwyndy;
- Local Landscape Designation: Llanstrain Surrounds SLA;
- Local Landscape Designation: Mynydd Hugh and Llantrisant Forest;
- Local Landscape Designation: Efail Isaf, Garth and Nantgarw Western Slopes SLA;
- Local Landscape Designation: Craig yr Allt SLA;
- Local Landscape Designation: Taff Vale Eastern Slopes SLA;
- Local Landscape Designation: Treforest Western Slopes SLA;
- Local Landscape Designation: Mynydd Egwysilan SLA;
- Local Landscape Designation: Northern Uplands SLA;
- Local Landscape Designation: Mynydd y Gaer SLA;

<sup>5</sup> Natural Resources Wales. (2021). *Using LANDMAP in Landscape and Visual Impact Assessments GN46*. [online]. Available at: <https://naturalresourceswales.gov.uk/guidance-and-advice/business-sectors/planning-and-development/evidence-to-inform-development-planning/using-landmap-in-landscape-and-visual-impact-assessments-gn46/?lang=en>

- Local Landscape Designation: Pontgwaith SLA;
- Local Landscape Designation: Ely Valley and Ridge Slopes SLA;
- Local Landscape Designation: Garth Hill and Pentyrch Ridges SLA;
- Landscape Habitat Aspects Areas (LHAA): CYNONLH089 Unnamed;
- LHAA: CYNONLH094 Unnamed;
- VSAA: CYNONVS436 Mynydd Gaer;
- VSAA: CYNONVS496 Mynydd Maes-Teg;
- VSAA: CYNONVS317 Mynydd Eglwysilon & Mynydd Meio;
- VSAA: MRTHRVS767 Taff/Bargoed Confluence;
- Historic Landscape Aspect Areas (HLAA): CYNONHL649 Nant Castellau and Nant Muchudd; and
- HLAA: CYNONHL378 Rhondda Settlement Corridor.

7.2.7 The Proposed Development has been designed so as to minimise the effects on these local landscape designations through the use of non-reflective pale grey on the rotor blades and upper towers.

7.2.8 There would be no significant effects upon the Brecon Beacons National Park, or any other national landscape designation.

## Visual

7.2.9 The assessment of visual effects is concerned with changes to views available to people and to their visual amenity. The assessment considered potential effects on 84 visual group receptors:

- 23 Settlements;
- 10 Long Distance Footpaths;
- 4 Sustrans cycle routes;
- 13 Outdoor Recreational Facilities;
- 19 prominent elevated locations and viewpoints; and
- 15 Transport Routes.

7.2.10 Of these, the following receptors were assessed as likely to experience some form of significant effect as a result of the Proposed Development:

- Settlements: Trehaford, Porth, Ynyshir, Wattstown, Glyntaff, Rhydyfelin, Tynant and Beddau, Talbot Green, Ynysmaerdy, Tonyrefail, Penrhiwfer, Edmonstown, and Tonypandy;
- Users of long distance recreational routes: Pilgrimage Way, Cistercian Way, Glamorgan Ridgeway Walk / Taff-Ely Ridgeway Walk, Ogwr Ridgeway Walk, Rhymney Valley Ridgeway Walk and Capital Walk – Cardiff;
- Sustrans cycle route: NCN4, NCN881 and NCN47;
- Outdoor Recreation Recepters: Pontypridd Golf Club, Rhondda Golf Course, Open Access land and PRow within 5km, Open Access Land between 5-10km; and

- Transport Routes: A4058, A4233, A4093 and B4278.

- 7.2.11 The majority of the above are related to views from the edge or elevated parts of settlement, or certain sections of recreational routes.
- 7.2.12 A cumulative assessment has also been completed in order to evaluate the effects that could be generated were Mynydd y Glyn Wind Farm to become operational along with some or all of the other wind farms that are either already operational, have been consented or are proposed, in 26km radius cumulative study area. The assessment considers 41 wind energy developments within the cumulative study area. Two scenarios were assessed, Scenario 1 includes only operational wind turbines and those already consented, whilst Scenario 2 included all those within Scenario 1 and those within the planning and scoping process.
- 7.2.13 The assessment illustrated the nature of the interaction between Mynydd y Glyn Wind Farm and other proposed wind energy schemes from receptors where the greatest potential for significant cumulative visual effects to be experienced. It is therefore concluded that the introduction of Mynydd y Glyn Wind Farm into this scenario would not result in significant visual effects where these would not arise in relation to either Mynydd y Glyn or one of the other wind farm schemes alone.
- 7.2.14 With regards the potential grid connection, the worst-case scenario of an overhead line on wooden poles and underground connection would be too small in scale to give rise to any significant effects on landscape or visual receptors.

## 7.3 Historic Environment

- 7.3.1 The assessment within **Chapter 7** of the Draft ES) considered the likely significant effects of the Proposed Development on the historic environment, which includes archaeological remains, historic buildings and historic landscapes.
- 7.3.2 Information on the existing historic environment was based on the results of a site walkover and a desk study, which involved the collation of data from Glamorgan Gwent Archaeological Trust Historic Environment Record and information on designated historic assets from Cadw.
- 7.3.3 There are no designated historic assets located within the Site boundary. There are five listed buildings within 1km of the Site boundary. These are located to the north of the Site, at a distance of over 800m. No scheduled monuments or registered park and gardens, conservation areas, or World Heritage Sites are located within 1km of the Site boundary.
- 7.3.4 There are three records of non-designated historic assets located within the Site boundary. These non-designated assets include the Hafod Rhiwgarn (GGAT01740m) a medieval long hut in a ruinous, damaged condition, the intact modern Trig Pillar (TP5050) Mynydd-Y-Glyn (GGAT08528m) listed within the HER of local significance and the destroyed Trig Pillar (TP10087) Mynydd-Y-Glyn (GGAT08529m). To reduce potential archaeological impacts and mitigation, the design of the Proposed Development has avoided the locations of the post-medieval cairns, field boundary walls and all non-designated assets known within the Site boundary.
- 7.3.5 The assessment of effects has concluded that there would be no impacts on the heritage significance of designated heritage assets during the construction phase for the wind farm or grid connection and no effects would arise.
- 7.3.6 There would be no impact or a negligible magnitude of impact to the identified historic assets and as such the significance of effects is deemed to be non-significant.

7.3.7 A cumulative assessment has been undertaken to consider potential effects with other consented and proposed wind farms within 5km of the Proposed Development. For those assets where it was determined that there was no change, or that the effect of the Proposed Development would be negligible, have not been considered within the cumulative assessment, as significant cumulative effects are unlikely to occur.

## 7.4 Biodiversity

- 7.4.1 **Chapter 8** of the Draft ES has considered the likely significant effects of the Proposed Development on biodiversity features (designated wildlife sites, habitats and species) within the area that the Mynydd y Glyn Wind Farm and proposed grid connection could affect. This area, known as the Zone of Influence (Zoi), differs depending on the type of ecological feature considered and the nature of the potential environmental change that may arise.
- 7.4.2 The assessment methodology has been aligned with the standard industry guidance provided by the Chartered Institute of Ecology and Environmental Management.
- 7.4.3 Information on the existing biodiversity features has come from a variety of sources including historical records of flora and fauna, descriptions of wildlife sites gained through desk study, and extensive field surveys.
- 7.4.4 Two statutory designated biodiversity sites of international importance are located within 10km of the Site boundary: Blackmill Woodlands Special Area of Conservation (SAC) and Cardiff Beach Woodlands SAC. Two statutory designated biodiversity sites of national importance were identified within 2km: Nant Gelliwion Woodland SSSI and Rhos Tonyrefail SSSI.
- 7.4.5 There are eight non-statutory nature conservation sites within the study area, two of which are located within the Site boundary. These include the Mynydd y Glyn Site of Importance for Nature Conservation (SINC), Mynydd Gelliwion and Gelliwion Slopes SINC, and Trebanog Slopes SINC.
- 7.4.6 The following surveys, as agreed with the local Biodiversity officer and NRW, have been undertaken between 2020 and 2022:
- Phase 1 habitat survey– used to classify and map habitats within the Site boundary and a buffer up to 250m from it;
  - Badger surveys;
  - Otter surveys;
  - Bat activity and roost surveys;
  - Reptiles presence/absence surveys;
  - Great crested newt (GCN) 'environmental DNA' (eDNA) presence / absence surveys;
  - Dormice;
  - Terrestrial invertebrates;
  - Marsh Fritillary butterfly; and
  - Section 7 Priority Species.
- 7.4.7 The Site supports a range of habitats with a heavily sheep grazed plateau dominated by semi-improved acid grassland and poor semi-improved grassland to the southeast. These areas are frequently intersected by dry-stone walls and fencing for livestock control, with

wet heath/acid grassland mosaic and blanket bog also present in the centre of the Site. Dense and scattered bracken was recorded in a large continuous block to the east of the Site and frequently along the access route to the west. There is a small block of continuous scrub to the south and a parcel of scattered scrub at the start of the proposed access route to the west of the Site.

7.4.8 The species surveys identified the following:

- at least seven species of bat were confirmed to be using the bat survey area, with one roost identified within the bat survey area;
- no evidence of badger setts or activity was recorded on site or within 250m of the Site boundary;
- no evidence of otter was recorded at the Site;
- surveys identified low populations of slow worm and grass snake, and a good population of common lizard;
- eDNA surveys for GCN returned no evidence of this species at the Site;
- surveys found no signs of water vole. The watercourses identified on Site had limited suitability for water vole;
- dormouse surveys of suitable habitat within the Site recorded no evidence of their presence, with much of the Site unsuitable for dormouse;
- of the notable plant species identified in the desk study, only dog violet was recorded during the extended Phase 1 habitat survey; and
- surveys for Marsh Fritillary butterfly identified that much of the Site is unsuitable for this species, with no devil's bit scabious or field scabious, the main food plant for the species present.

7.4.9 A range of environmental measures which relate to Biodiversity are embedded as part of the Proposed Development to avoid or reduce significant environmental effects as far as possible. Standard best practice environmental measures would be employed such as the adoption of pollution prevention and dust control techniques, and measures to avoid the spread of invasive species such as Japanese knotweed. Good practice measures are detailed in the Draft Construction Environmental Management Plan (CEMP) which accompanies the Draft ES.

- habitats which would be subject to temporary loss, will be re-vegetated and reinstated as soon as possible after construction;
- site lighting will be controlled to prevent incidental spillage on to features that may be used by nocturnal species;
- removal of habitat or features that could support reptiles (e.g. scrub, dense tussocky grassland, rocks) will be kept to a minimum, and excavations in these areas will take place outside the hibernation period;
- any trees with moderate or high bat roosting potential which require felling will be subject to appropriate updated roost surveys to ensure that roosting bats will not be affected;
- turbines have been located to maintain a minimum 50m blade-tip stand-off from features that are known to be favoured by bats (e.g. woodland edges and key waterbodies); and

- collision and barotrauma risk to bats will be reduced by pitching the blades out of the wind (“feathering”) to reduce rotation speeds below ~2 rpm while idling at all eight turbines.

7.4.10 Although small areas of habitat designated as a SINC would be lost to project infrastructure, an Outline Habitat Management Plan (oHMP) will be devised which will include measures that compensate and enhance the SINC impacted by proposals and produce a net gain in nature conservation across the Site by designing in wildlife, and ensuring any avoidable impacts are appropriately mitigated.

7.4.11 The final assessment of likely significant effects will be reported in the Final ES, further work includes updated desk study exercises, Phase II NVC Assessments, final bat automated detector surveys and additional fungus surveys.

## 7.5 Ornithology

7.5.1 **Chapter 9** of the Draft ES reports the findings of a provisional assessment of effects on Ornithology.

7.5.2 Considerable data gathering and a range of surveys were undertaken from 2020 to 2022 to assess how the proposed Mynydd y Glyn Wind Farm site is used by birds.

7.5.3 There are two internationally designated sites within 20km of the Site which are designated for ornithological features; the Severn Estuary Special Protection Area and Severn Estuary Ramsar Site. These overlapping sites are designated for a range of overwintering and passage wildfowl and waders.

7.5.4 A breeding bird survey was undertaken in 2020 and twenty-eight species were recorded as breeding within the woodland and adjacent scrub habitats on the Site, of which seven are Section 7 listed species, four are BoCCW3 red-listed and seven are BoCC5 red-listed. Additionally, a breeding raptor survey was undertaken to identify any Schedule 1 breeding birds within / in proximity to the proposed Site, this recorded Goshawk breeding on Site.

7.5.5 A total of 52 species were recorded during non-breeding bird surveys, there was no significant use of the Site by over wintering or passage migrants, other than Golden Plover, with the majority of target species records consisting of notable residential species such as common crossbill, goshawk, reed bunting, dunnock and song thrush.

7.5.6 Golden Plover were recorded during the non-breeding survey, with a peak flock size of 322 recorded. Provisional analysis predicts a Medium-High significant effect on the county population as a result of the Proposed Development. Further work is proposed to further assess this effect and develop a mitigation approach which is expected to reduce potential effects. This will be reported in the Final ES.

7.5.7 A collision risk modelling (CRM) exercise has been undertaken to understand the risk of birds colliding with turbine blades once operational. Analysis using CRM suggests that the number of birds that would collide with operational turbines represents a very small increase of annual mortality rates for Goshawk and Red Kite.

7.5.8 The CRM analysis identified a very high predicted increase in collisions for Golden Plover. A survey approach has been developed to understand in greater detail how non-breeding golden plover interact with the Proposed Development site and the wider area. Surveys will encompass multiple surveyors working in tandem to survey the Proposed Development Site and wider area simultaneously to understand if there are any observable movements of golden plover between areas of suitable habitat within 10km. The results of these surveys will be used to update CRM estimates for golden plover.

- 9.1.1 The results of this additional work will also be used to develop any additional measures required to reduce effects on golden plover. This has the potential to include:
- recommendations for habitat management approaches within the Proposed Development to discourage golden plover from roosting or feeding in certain locations;
  - creation or enhancement of alternative suitable habitat in nearby areas;
  - operational approaches and access management to reduce risk of disturbance and/or collision; and
  - monitoring approaches to inform reactive management of the operational windfarm and surrounding land in response to the presence or absence of golden plover.

## 7.6 Water Environment

- 7.6.1 The assessment provided in **Chapter 10** of the Draft ES has considered the likely significant effects of the Proposed Development on the Water Environment, including the aquatic environment, surface water resources and flood risk. The effects on water quality, river flows, physical changes to rivers, lakes and other water features have been considered. This approach will enable a Water Framework Directive (WFD) assessment to be integrated into the Final ES. The assessment is accompanied by a Flood Consequences Assessment (FCA) within **Appendix 10A**.
- 7.6.2 Information on the existing Water Environment is based on a site walkover and a desk study, which involved the collation of data from a range of sources including NRW, the Sustainable Drainage (SuDS) Approval Body (SAB) at Rhondda Cynon Taf County Borough Council.
- 7.6.3 Eight tributaries are located within the Wind Farm development area of the Site, six of the Afon Rhondda Fawr issue within the northern and western edges of the Wind Farm development site and two tributaries of Nant Muchudd issue within the southern edge. Five springs issuing within the southern and eastern parts of the Wind Farm development area. The southern springs drain south to the Nant Muchudd, whilst the eastern springs drain east to the Nant Gelliwion.
- 7.6.4 The Grid Connection Corridor extends over four hydrological catchments, the OHL section draining to the Nant Muchudd and the underground cable section draining (from west to east) to Afon Rhondda Fawr, Nant Clun and Afon Taf. Tributaries of Nant Gelliwion, Nant Muchudd and Nant Ty'rarlwydd cross the proposed underground cable route.
- 7.6.5 These watercourses could be affected by the Proposed Development, particularly during the construction phase. Changes in flow or water level, water quality, the form of the channel and / or the volume of sediment in the water could in turn affect the aquatic environment dependent on these watercourses, the water resources that are drawn from them, and the risk of flooding posed to people, property and infrastructure, on-site and elsewhere.
- 7.6.6 There are seven locally designated sites within the Site which support water dependent habitats and species, relating to the ponds on the Site.
- 9.1.2 The Site and grid connection (both overhead and underground) overlay a 'Secondary A' aquifer – defined as permeable layers of rock capable of supporting water supplies at a local rather than strategic scale. According to the data provided by NRW and RCTCBC, there are no licensed groundwater and surface water abstractions within the Wind Farm Site, but there are a number of present within the wider study area.

- 7.6.7 A range of environmental measures which relate to the Water Environment are embedded as part of the design of the Proposed Development to avoid or reduce significant environmental effects as far as possible. Examples of these measures include the following:
- Adherence to Pollution Prevention Guidance Notes (PPGs) and Guidance for Pollution Prevention Notes (GPPs) to ensure that the risk of accidental release of pollutants into the water environment is minimised;
  - Implementation of a Water Management Plan to minimise runoff from the Site. Discharges would be minimised to 'greenfield' rates such as those from the current undeveloped site;
  - Excavated materials during construction works will be segregated and stored or re-used on-Site;
  - No works would be undertaken within 20m of any watercourse; and
  - Areas of construction compounds that are used for fuel storage, plant maintenance and refuelling will be surfaced with fully impermeable materials to prevent any infiltration of contaminated runoff and contain bunding.
- 7.6.8 The construction, operation and decommissioning of the Proposed Development is not expected to result in any significant effects on the water environment, provided that all recommended mitigation measures are put in place. No cumulative effects with other developments are anticipated.
- 7.6.9 All potential sources of flooding have been considered, with surface water runoff originating from the Proposed Development, due to increased areas of hardstanding, posing the greatest potential flood risk.
- 7.6.10 The Flood Consequence Assessment (FCA) concludes that the Proposed Development, together with the proposed flood risk management measures above, would not be subject to an unacceptable level of risk, nor would there be potential increased flood risk elsewhere.
- 7.6.11 The Water Framework Directive (WFD) Assessment concludes that the significance of effects on the WFD status of watercourses would not be significant.

## 7.7 Ground Conditions

- 7.7.1 The assessment within **Chapter** 11 of the Draft ES has considered the likely significant effects of the Proposed Development on the Ground Conditions, including agricultural land, soils, land contamination and ground instability receptors (for example human health). This assessment is based on risk assessments that consider whether the construction, operation or decommissioning of the Proposed Development could disturb areas of old contaminated ground, introduce new soil contamination, or cause gas to move out of the ground and affect human health.
- 7.7.2 The study area for Ground Conditions for contaminated land receptors includes the Proposed Development Site and a 250m buffer area beyond the boundary. This is based upon the potential for contaminants to migrate from the site to offsite receptors through the soil or in groundwater, or to migrate onto the site through soil or in groundwater from offsite sources.
- 7.7.3 Baseline conditions were identified through site visits and a desk study, informed by a number of sources. Information on previous land uses has been obtained from historical mapping. Information on geological and soil conditions has been obtained from maps and

other data sets provided by the British Geological Survey (BGS) and Natural Soil Resources Institute (in electronic format). Mapping data related to peat and agricultural land classification has been obtained from NRW and the Welsh Government. Information of historic coal mining workings, and coal outcrops and fissures has been obtained from the Coal Authority.

- 7.7.4 The agricultural classification for the Proposed Development Site, including the Wind Farm development site and the Grid Connection is assumed to be Grade 4, as such the agricultural land sensitivity is Low.
- 7.7.5 The 2021 Phase 1 Peat Survey of the Scoping Boundary found that peat was only present in localised areas within this area, predominantly on relatively flat ground to the west of the summit of Mynydd y Glyn. The survey indicated that the site is generally not underlain by peat. However, a localised peat bog is present to the west of the summit of Mynydd y Glyn with peat depths ranging from 2.4m below ground level (bgl) to a maximum surveyed depth of at least 4.10m bgl.
- 7.7.6 Several coal seam outcrops are shown beneath the Wind Farm development site, with the outcrop pattern defined by the topography, amended by faulting. The Brithdir Rider seam is the shallowest named seam, outcropping beneath the southern area of the Wind Farm development site. The underlying Brithdir seam is shown to outcrop in the southern area and also in the northern and central areas around the summits of Mynydd y Glyn. The No 1 Rhondda Rider and No 1 Rhondda seams outcrop beneath the western area and around the valley sides. The No 2 Rhondda seam outcrops outside the Site boundary.
- 7.7.7 The Phase 1 Geo-environmental desk study (Wood, 2022) identifies one historical mine entry to be present in the southeast area of the Wind Farm development site. The associated seam is also considered to underlie the southern area, which is crossed by the Grid Connection Corridor. A large number of mine entries are noted on the lower valley slopes around the Wind Farm development site. Suspected mine entries have been identified in the north-western area of the Wind Farm development site based on aerial imagery.
- 7.7.8 The review of historical mapping in the Phase 1 Geo-environmental desk study (Wood 2022) did not identify potentially significant sources of contamination. Despite the area's history of mining, no spoils heaps were identified on historical mapping and no evidence of spoil was observed during the site reconnaissance. Nevertheless, it is possible that localised small areas of spoil, potentially associated with trial excavations, are present.
- 7.7.9 A range of environmental measures which relate to the Ground Conditions are embedded as part of the design of the Proposed Development to remove or reduce significant environmental effects as far as possible. Examples of these measures include the following:
- adoption of industry standard methods for the handling and storage of soils; based on Defra's current good practice guidelines which describe standard working methods and techniques to protect soil resources;
  - measures to avoid soil compaction to avoid damage to soil, and the reuse of permanently displaced soil within the Proposed Development boundary;
  - any temporary onsite storage of excavated materials suspected or confirmed to be contaminated will be placed on impermeable sheeting, covered over and with adequate leachate / runoff drainage to prevent migration of contaminants from the stockpile; and
  - intrusive geo-environmental ground investigation will be completed during the pre-construction phase, including soil sampling and chemical testing, to confirm the ground conditions. Deeper soil testing will be carried out as needed to inform the

detailed (post consent) design of the Proposed Development in relation to infrastructure, including foundations, within former landfill, former colliery tip areas or other areas of suspected made ground.

- 7.7.10 The construction, operation and decommissioning of the Proposed Development is not expected to result in any significant effects on the Ground Conditions, provided that all recommended mitigation measures identified in the Draft ES and detailed further in the Draft CEMP are put in place. No cumulative effects with other developments are anticipated.
- 7.7.11 The Final ES will be informed by an additional peat survey to include Phase 1 Peat Survey (based on 100 x 100m grid spacing) for areas within the Wind Farm development site that were not previously surveyed, and a delineation survey (at 10m x 10m grid spacing) to delineate the peat bog features identified within the Wind Farm development site during the previous Phase 1 Peat Survey.

## 7.8 Traffic and Transport

- 7.8.1 An assessment has been completed of the likely effects of construction traffic on the local transport network and on road users. This has included a calculation of the likely number of movements of Heavy Goods Vehicles (HGVs) and AILs in and out of the development site over the anticipated 24-month construction period. This has been compared to the forecast background traffic numbers for the anticipated year of construction of 2024 when development-related traffic movements would be greatest, based on traffic growth models designed by the Department for Transport.
- 7.8.2 The proposed point of access into the Site would be from a newly proposed construction vehicle access on the A4233. The proposed route for Abnormal Indivisible Loads (AILs) - a type of load that cannot be divided into two or more loads for transportation by road - carrying the wind turbine components is as follows:
- Swansea Docks – Baldwins Crescent – A483 - A483/Ffordd Amazon/Ashleigh Terrace Roundabout - A483- A483/M4 - M4 Eastbound – Junction 34, A4119 - A4119 Northbound – A4233 – Site.
- 7.8.3 Based on the construction program the construction traffic results in a peak of 42 HGV movements two-way during a 12-hour weekday. This peak is predicted to occur during month 13 (April 2026) and therefore only for 4 weeks of the total 101-week construction programme.
- 7.8.4 Taking account of the environmental considerations of severance, driver and pedestrian delay, pedestrian amenity and intimidation, this increase in traffic during construction would not result in a significant effect. However, it is appropriate to consider some additional management in the form of a Construction Traffic Management Plan (CTMP) to reduce the potential for effects as far as reasonably possible. A Draft CTMP has therefore been provided as part of the submission documents and will be considered by Rhondda Cynon Taf County Borough Council.
- 7.8.5 During operation of the wind farm, maintenance traffic will be minor and will be carried out using a 4x4 van. Turbines would be typically maintained at 6 monthly internals, with each service requiring on average two technicians over two days per turbine. If unscheduled repairs are required there may be the need for an HGV / crane however, this is not anticipated and if it occurred it would be very infrequent.

## 7.9 Noise

- 7.9.1 An initial baseline noise survey, using a 10m anemometer mast to measure wind speed data at the site, has been undertaken to provide an understanding of the existing noise environment in the absence of the Proposed Development. A second baseline noise survey, using a full-size mast, will be undertaken prior to the submission of the Final ES.
- 7.9.2 The most notable existing noise sources are traffic on the A5058 (approximately 1km north of the Proposed Development boundary) and A4233 (west of the Proposed Development boundary). Background noise monitoring was undertaken at four locations surrounding the Proposed Development:
- Glyn, northeast of Tonyrefail;
  - 4 Bedw Farm Estate, Porth;
  - Langton Court Farm; and
  - 950m east of Glyn.
- 7.9.3 Noise from construction and decommissioning of the Proposed Development would be minimal. The implementation of general good-practice noise control measures, such as the use of silencers, mufflers and/or acoustic hoods on machinery during construction and decommissioning will ensure no significant effects on receptors. Although it is not yet confirmed whether it will be required, potential noise effects from foundation piling have been assessed.
- 7.9.4 A preliminary assessment of noise effects has been undertaken in accordance with the ETSU-R-97 Guidance 'The Assessment and Rating of Noise from Windfarms' and 'A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise' by the Institute of Acoustics.
- 7.9.5 The assessment concluded that the noise effects from construction piling (if required) would not be significant at any of the identified receptors, largely due to distance from the piling operations.
- 7.9.6 Operational noise levels from the wind farm would lie within the noise limits set by the ETSU Guidance in night-time at all receptors, and during daytime at all receptors apart from:
- R2 (Receptor 2) Home Farm, east of Trebanog;
  - R3 Glyn, northeast of Tonyrefail;
  - R4 Lan, north of Castellau Uchaf;
  - R6 Tyla-winder Farm;
  - R8 Henllys, Trebanog;
  - R10 Concorde Drive, Tonyrefail;
  - R12 Plas-Rhiwinder, adjacent to Bryngwion House; and
  - R13 Tre-boeth Farm.
- 7.9.7 The majority of daytime exceedances are at single dwellings (except R8 and R10, where exceedances are up to 1.0 to 2.4 dB, respectively) and are generally below +3 dB, except at R2, R3 and R6 where exceedances are up to +6.3 dB, +5.1 dB and +3.4 dB, respectively.

- 7.9.8 A cumulative assessment of the potential noise effects arising from the Proposed Development in combination with other existing and proposed wind farm developments in the area has also been undertaken. This assessment also identified exceedances at R2 and R3, where exceedances of between 0.6 to 1.8 dB are predicted at all wind speeds. During the night-time, compliance is predicted at all receptors.
- 7.9.9 It should be noted that there is likely to be an element of directivity in the turbine operation. Often the receptor at R2 (Home Farm) and R3 (Glyn) are not going to be downwind of all the assessment wind farm sites at the same time and so the noise levels are likely to be lower than predicted in this assessment.
- 7.9.10 Should there be a remaining exceedances at Home Farm and Glyn after taking these considerations into account, the noise levels will be able to be further reduced using low noise modes of the candidate turbine. It is therefore considered at this stage that the Proposed Development, such mitigated, would not result in a significant noise effect.

## 7.10 Aviation and Telecoms

- 7.10.1 Aviation radar, microwave and other electromagnetic signals are transmitted throughout the country by a wide range of operators. There is potential for interference to affect the transmission of these signals from any large structure, including wind turbines. A desk-based assessment, and consultation with authorities and companies working in this field in Wales, has been undertaken to identify any telecommunications or aviation interests that may be affected by the Proposed Development.
- 7.10.2 The desk study and consultation exercise identified a number of microwave links in the wider area, including two links operated by Ofcom and links operated by Arqiva. The National Air Traffic Service (NATS) / Cardiff Airport indicated that the Proposed Development would be visible to the Cardiff Airports radar.

### Aviation

- 7.10.3 The site is located in an area identified by the Ministry of Defence as being within a zone that is deemed to be "*Low priority military low flying areas less likely to raise concerns*". There may be a requirement to install aviation safety lighting on turbines to ensure visibility to aircraft.
- 7.10.4 An Airport Technical and Operational Assessment was undertaken by NATS to ascertain potential impacts from the Proposed Development. The assessment concluded potential technical impacts on radar at Cardiff Airport. A subsequent review by independent aviation consultants has identified that there are mitigation options available, such as upgrades to radar equipment, that would enable operation of wind farms without radar interference. Further consultation is being undertaken with NATS and Cardiff Airport to agree measures that will be adopted and how these will be secured, most likely via a condition on any planning consent should this be forthcoming.

### Telecommunications

- 7.10.5 Ofcom identified two links crossing the Site which may be affected by the Proposed Development. If a reduction in television reception quality occurs in the surrounding area, it is most likely to be noticed when the proposed wind farm becomes operational. Should planning permission be granted and to mitigate any problems with reception arising, the developer would assess current television signals in advance of development and mitigate post-development problems to television reception arising where effects are attributable to the proposed wind farm. Consultation suggests adverse effects may not occur and that in

the unlikely event that interference does occur, this would be localised. This could be controlled by planning condition.

- 7.10.6 Viewing quality can be improved by considering each or a combination of the following mitigation techniques:
- replace or upgrade the receiving aerials (e.g. with directional receiving aerials) for affected households;
  - re-tune the television receivers at affected households;
  - re-align the television aerial to an alternative transmitter and re-tune the receiver at affected households; and
  - provision of a bespoke 'self-help' solution (this could comprise a new low powered transmitter, a cable network, a satellite receiver, or a combination of these measures).
- 7.10.7 In relation to Arqiva consultation response, further discussions are being held to understand potential technical solutions to mitigate impacts as a result of the wind farm. The Applicant is committed to adopting measures to ensure no significant effects on Aviation or Telecommunications arise as a result of the Proposed Development.

## 7.11 Shadow Flicker

- 7.11.1 Shadow flicker is the flickering effect caused when rotating wind turbine blades periodically cast shadows through constrained openings such as the windows of properties.
- 7.11.2 A study has been undertaken to identify whether shadow flicker is likely to occur at residential properties in the vicinity of the Proposed Development. Modelling has been carried out to predict the duration of potential shadow flicker effects and the times of day and year when it could occur.
- 7.11.3 Up to 24 properties have been identified which have the potential to experience some level of shadow flicker as a result of the operation of the wind farm.
- 7.11.4 The effect of shadow flicker can be resolved using standard mitigation measures such as a turbine control module which consists of bespoke software, a clock, a timer, a switch, a wind direction sensor and a light sensor. The module can control a specific turbine (or turbines) which would be programmed to shut down on specific dates at specific times when the sun is bright enough, there is sufficient wind to rotate the blades and the wind direction is such that nuisance shadow flicker could occur.
- 7.11.5 The Applicant will commit to installing a shadow flicker impact module, prior to operation, to fully mitigate any unacceptable shadow flicker on nearby properties. With this measure in place there will be no residual shadow flicker effects arising from the Proposed Development.

## 7.12 People and Business (Socio-economics)

- 7.12.1 The assessment has considered the likely significant effects of the Proposed Development on tourism and recreational and economic receptors at both the construction and operational stages.
- 7.12.2 The study area for baseline data covered the Site boundary and grid connection corridor, together with the wider county borough, regional and national context. Sources of information included the following:

- Department of Business, Energy and Industrial Strategy (BEIS) for the installed capacity of renewable energy for Rhondda Cynon Taf County Borough Council;
- The Welsh Government for data relating to deprivation, national renewable energy generation statistics and data for spend and visitor trips by region and local authority area; and
- The Nomisweb and StatsWales websites for data related to demography, occupations, employment/unemployment, out-of-benefits for Rhondda Cynon Taf County Borough and at ward level.

7.12.3 The number of people economically active in four of the six wards nearby to the Proposed Development (Cymmer 65.8%, Tonyrefail East 69.9%, Pontypridd West 71.8%, and Ton-Teg (74.4%) is lower than the Rhondda Cynon average (77%). The area has a higher number of people who are unemployed (3.3%) and also claiming Department of Work and Pensions (DWP) benefits than the average for Wales (3.5%). The rates of employment are substantially higher in all wards than the County Borough average.

7.12.4 The study revealed that earnings within Rhondda Cynon Taf (£520.20) are lower than the Welsh national average (£562.80). With regards to hourly pay, Rhondda Cynon Taf (£14.01) is slightly below the national average (£14.19).

7.12.5 The Welsh Index of Multiple Deprivation (WIMD, 2019<sup>Error! Bookmark not defined.</sup>) is an official Welsh Government measure of deprivation in Wales. The WIMD includes a number of different measures in small geographic areas called Lower Super Output Areas (LSOA). The WIMD is designed to allow comparison of deprivation across the country with LSOAs ranked from 1 (most deprived) to 1,909 (least deprived). The Proposed Development is located across four LSOA (Cymmer 1, Cymmer 3, Cymmer 4, Tonyrefail East 2). There are variations in terms of deprivation within these wards. Cymmer 3 and Cymmer 4 are within the 10% most deprived LSOAs in Wales based on the overall measure of deprivation whilst Cymmer 1 and Tonyrefail East 2 are within the 30-50% most deprived. Overall, 27 of the 154 LSOAs in the Rhondda Cynon Taf (8.1% are within 10% most deprived LSOAs in Wales reflecting pockets of deprivation within the County Borough

7.12.6 The study indicated that Rhondda Cynon Taf has had a similar number of domestic overnight trips in recent years compared to the start of the reporting period (122,000 in 2017-19 compared to 125,000 in 2011-13).

9.1.3 The following Public Rights of Way (PRoWs) footpaths cross the Site:

- the access to the Site crosses a PRoW footpath (Route number RH|ANT|75/1) near the A4233;
- the proposed access crosses three footpaths RH|ANT|998/1, RH|ANT|94/2, RH|CYM|999/1 east of the western construction compound;
- a footpath (Route number RH|ANT|181/1) in the east of the site between T4 and T5;
- a footpath (Route number RH|ANT|95/1) in the south of the site, south of T6 and T7;
- a footpath (Route number 331/75/1) in the north of the Site close to T2; and
- a footpath in the south of the Site (Route number 331/112/1, 331/113/1) close to T5.

7.12.7 A number of measures will be implemented in relation to these PRoWs, including (where necessary) temporary closure and diversion, during both construction and operation. A number of health and safety signs will also be put in place through construction and operation. It is anticipated that PRoWs will remain open, where possible, during construction and that alternative permissive paths will be made available so as to allow continued use by the public during construction and operation.

## 7.13 Inter-related cumulative effects

- 7.13.1 Inter-related cumulative effects consider whether any of the individual environmental topic effects resulting from the Proposed Development could combine to create effects that are significant.
- 7.13.2 The most likely types of receptors where topic effects are likely to combine are those pertaining to the amenity of the relevant human population, for example noise, visual, shadow flicker and traffic. Consideration has also been given to the potential for cumulative effects on other environmental receptors.
- 7.13.3 The assessment focused on those receptors where potential significant effects have been predicted in at least two or more topics and/or where the technical assessments have shown that potential individual effects are nearing the thresholds of established national criteria. No receptors were identified as resulting in inter-related cumulative effects.

## 8. Looking forward

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### 8.1 What happens next?

- 8.1.1 Following the end of the Statutory Consultation period (09 December 2022), Pennant Walters will consider all comments that have been received as part of the consultation process. Where appropriate, these consultation responses will inform further design refinements and proposals for environmental measures to reduce impacts from the Proposed Development.
- 8.1.2 Based on consultation responses, any design refinements and additional information that becomes available from site visits and surveys, the environmental assessment will be reviewed and updated for the Final ES. It is expected that the Final ES to accompany the DNS application will be submitted in Spring 2023.

### 8.2 What if I would like further information?

- 8.2.1 This document is a non-technical summary of the Draft ES for the proposed Mynydd y Glyn Wind Farm project. The full Draft ES, which provides more detailed and technical information, is available to view on the following link: <https://mynydd-y-glyn.co.uk/>. Further information can also be obtained:
- via email: [consultation@mynydd-y-glyn.co.uk](mailto:consultation@mynydd-y-glyn.co.uk); and
  - telephone: 01443 548032.
- 8.2.2 Public consultation events will also take place as follows:
- The Factor, Jenkin Street, Porth, CF39 9PP. 3pm – 7pm, Tuesday 08 November;
  - St John's Church, Graig St, Graig, Pontypridd, CF37 1NF. 3pm – 7pm, Wednesday 09 November; and
  - Tonyrefail Community Centre, Prichard St, Tonyrefail, CF39 1NF. 10am – 2pm, Saturday 12 November.

### 8.3 How can I have my say?

- 8.3.1 We want to hear your views on the Proposed Development. You can get in touch in the following ways:
- Completing the feedback questionnaire online via the Project website: <https://mynydd-y-glyn.co.uk/>;
  - Providing feedback by email ([consultation@mynydd-y-glyn.co.uk](mailto:consultation@mynydd-y-glyn.co.uk)) or in writing (Freepost GRASSHOPPER CONSULT); and
  - Completing a hard-copy feedback form, which can be provided on request by calling or emailing using the contact details above or in person at the face-to-face events. The feedback form can be returned free-of-charge using the Freepost address: Freepost GRASSHOPPER CONSULT (please write this in capitals, you do not need a stamp).
- 8.3.2 Consultation responses received via any other method than those listed above, such as through social media, will not be formally recorded as part of the consultation.

- 8.3.3 Responses given orally, such as via telephone (01443 548032) or via a meeting, will be recorded and issues raised will be included in the Consultation Report.
- 8.3.4 All responses must be received by 09 December 2022 at 11:59pm. Feedback submissions sent via post will be accepted for up-to five working days after this date

