

## 5 LANDSCAPE AND VISUAL

### 5.1 Executive Summary

- 5.1.1 The proposed wind farm would comprise 13 wind turbines with a maximum blade tip height of 149.9 m, site access tracks, hardstandings, a substation, on-site underground cabling, up to three borrow pits, a temporary construction compound and off-site roadworks along the access track to the west to facilitate delivery of wind turbine abnormal indivisible loads.
- 5.1.2 The site straddles the administrative boundaries of Caerphilly County Borough Council and Torfaen County Borough Council and is located approximately 690 m to the west of Cwmbran and approximately 1.3 km to the south-west of Pontypool. The nearest main highways are the A472, located approximately 500 m to the north between Blackwood and Pontypool, the A467 that passes approximately 2.1 km to the west (of the main part of the site) and the A4042 approximately 3.6 km to the east.
- 5.1.3 The design of the proposed wind farm is the result of a considered iterative process which has sought to minimise landscape and visual effects whilst achieving the technical and commercial requirements to ensure project viability without public subsidy. Appropriate offsets from all properties and settlements have been maintained to ensure that no property would experience an overbearing visual impact. Furthermore, all the proposed turbines and infrastructure would be located within Pre-Assessed Area 10 as defined under Policy 17 of Future Wales: The National Plan 2040.
- 5.1.4 This Landscape and Visual Impact Assessment (LVIA) identifies the likely significant effects arising from the proposed wind farm on landscape character and visual amenity. It would result in direct and significant effects on the Visual and Sensory Aspect Areas within which it is located and indirect significant effects on Visual and Sensory Aspect Areas extending to approximately 5 km north.
- 5.1.5 In relation to visual effects, it is accepted that the proposed wind farm would be visible from some nearby properties, settlements as well as the surrounding road and footpath network. Significant visual effects would be experienced at 14 of 37 viewpoints. All properties or groups of properties located within 2 km of a proposed turbine have been assessed in detail within the Residential Visual Amenity Study in Technical Appendix 5.6 and illustrated in Figure 1 of Technical Appendix 5.6. This found that 19 properties or groups of properties would experience a significant visual effect but none would experience such an overbearing or overwhelming effect on their visual amenity that their properties would become unattractive places in which to live.
- 5.1.6 The assessment found that residents in the settlements of Pantygasseg and parts of Cwmbran, Pontypool, Panside, Swffryd and Brynithel would experience significant visual effects. Walkers would experience significant visual effects on short intermittent parts of the Cambrian Way, the Cistercian Way, the Torfaen Trail, the Sirhowy Valley Walk and National Cycle Route 423. Road users travelling on the minor road at Pantygasseg would experience significant visual effects.
- 5.1.7 In relation to cumulative effects, the assessment found that when the consented scheme at Mynydd Carn Y Cefn Wind Farm is added into the baseline, significant cumulative effects would arise in the intervening landscape between the proposed wind farms. The assessment found that the addition of the in planning stage schemes would add a notable presence of wind energy across the landscape to the north of the site, of which the proposed wind farm would be the most southerly element.
- 5.1.8 Localised significant effects on landscape character and visual amenity are inevitable as a result of commercial wind energy development anywhere in the UK. Whilst the LVIA identified some significant landscape and visual effects it is considered that the landscape has the capacity to accommodate the effects identified, especially given that it is located within an area that has been assessed by the Welsh Government as being capable of accommodating wind energy.

- 5.1.9 There are no definitive quantifiable thresholds of acceptability in landscape and visual impact assessment. The identified effects on landscape character and visual amenity therefore need to be balanced against the other benefits of the proposed wind farm and the planning context.

## 5.2 Introduction

- 5.2.1 This chapter presents a Landscape and Visual Impact Assessment (LVIA) of the Proposed wind farm. The purpose of an LVIA when undertaken in the context of an Environmental Impact Assessment (EIA) is to identify any likely significant landscape and visual effects arising as a result of the Proposed wind farm. An LVIA must consider both:

- effects on the landscape as a resource in its own right (the landscape effects); and
- effects on specific views and visual amenity more generally (the visual effects).

- 5.2.2 Therefore, this LVIA considers the potential effects of the Proposed wind farm upon:

- individual landscape features and elements;
- landscape character;
- specific views; and
- people who view the landscape.

- 5.2.3 In this chapter, landscape and visual effects are assessed separately although the procedure for assessing each of these is closely linked and follows The Guidelines for Landscape and Visual Impact Assessment, 3rd Edition (GLVIA3) (Landscape Institute and the Institute for Environmental Management and Assessment, 2013).

- 5.2.4 The main objectives of the landscape assessment can be summarised as follows:

- to identify, evaluate and describe the baseline landscape character of the site and its surroundings and also any notable individual landscape features within the site;
- to determine the nature of the landscape receptor (i.e. the sensitivity of the landscape) through a consideration of its susceptibility to the type of development proposed and any values associated with it;
- to identify and describe any impacts of the Proposed wind farm in so far as they affect the landscape resource;
- to evaluate the nature of the landscape effects (i.e. the magnitude, duration and reversibility of the effect);
- to identify and describe mitigation measures that have been adopted to avoid, reduce and compensate for landscape effects;
- to evaluate the relative significance of residual landscape effects; and
- to determine which landscapes effects, if any, are significant.

- 5.2.5 The main objectives of the visual assessment are similar and can be summarised as follows:

- to identify, evaluate and describe the baseline visual context of the site and its surroundings with a focus on both specific views and the more general visual amenity experienced by people who have views of the site;
- to determine the nature of the visual receptor (i.e. the sensitivity of the viewpoint or person whose visual amenity is affected) through a consideration of the susceptibility of the viewpoint/person to the type of development proposed and any values associated with either the viewpoint or visual amenity experienced;

- to identify and describe any impacts of the development in so far as they affect a viewpoint or views experienced;
  - to evaluate the nature of the visual effects (i.e. the magnitude, duration and reversibility of the effect);
  - to identify and describe mitigation measures that have been adopted to avoid, reduce and compensate for visual effects;
  - to evaluate the relative significance of residual visual effects; and
  - to determine which visual effects, if any, are significant.
- 5.2.6 The LVIA also considers any cumulative landscape and visual effects which may arise as a result of the Proposed wind farm in conjunction with other wind farm developments.
- 5.2.7 The main LVIA presented in this chapter is supported by figures and visualisations in Volume 3 and technical appendices in Volume 4.
- 5.2.8 The location of the Proposed wind farm and the overall 35 km study area for the LVIA is illustrated in Figure 5.1: Site Location and Initial LVIA Study Area 35 km (measured from the outermost turbine). For reference, other operational, consented and proposed wind farms referred to throughout this chapter are illustrated in Figure 5.29: Other Wind Farms within 35 km and Figure 5.30: Other Wind Farms within 24 km within the detailed study area, agreed at Scoping stage. Refer to the Cumulative Effects assessment in section 5.7 for further explanation on the study area for the cumulative landscape and visual assessment.
- 5.2.9 This chapter is structured as follows:
- Scope and Methodology;
  - Consultation Undertaken;
  - Statutory and Planning Context;
  - Existing Landscape and Visual Context;
  - Predicted Impacts;
  - Mitigation;
  - Summary of Effects; and
  - References.

### 5.3 Legislation & Planning Policy

#### *European Landscape Convention, Adopted 2000*

- 5.3.2 The European Landscape Convention (ELC) is the first international convention to focus specifically on the landscape as a resource in its own right. The convention promotes landscape protection, management and planning, as well as European co-operation on landscape issues. Signed by the UK Government in February 2006, the ELC became binding from March 2007. It applies to all landscapes, towns and villages, as well as open countryside; the coast and inland areas; and ordinary or even degraded landscapes, as well as those that are afforded protection.
- 5.3.3 The UK Government has stated that it considers the UK to be compliant with the ELC's requirements and in effect the principal requirements of the ELC are already enshrined in the existing suite of national policies and guidance on the assessment of landscape and visual effects.
- 5.3.4 The ELC defines landscape as:

*'An area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors.'* (Council of Europe 2000)

- 5.3.5 It is important to recognise that the ELC does not require the preservation of all landscapes although landscape protection is one of the core themes of the convention. Equally important though is the requirement to manage and plan future landscape change.
- 5.3.6 The ELC highlights the importance of developing landscape policies dedicated to the protection, management and planning of landscapes. Natural Resources Wales (NRW) is guided by the ELC within the context of the sustainable management of natural resources by the Environment (Wales) Act 2016 and within the context of well-being by the Well-being of Future Generations Act (Wales) 2015.

#### **National Planning Policy**

- 5.3.7 National Policy Statements (NPSs) are the main policy documents to consider when determining an application for nationally significant energy infrastructure and form the basis for determination of decisions. In the case of renewable energy projects the following NPSs must be considered:
- Overarching National Policy Statement for Energy (EN-1); and
  - National Policy Statement for Renewable Energy Infrastructure (EN-3).

- 5.3.8 Paragraphs 2.7.48-51 of EN-3 state:

*“Modern onshore wind turbines that are used in commercial wind farms are large structures and there will always be significant landscape and visual effects from their construction and operation for a number of kilometres around a site. The arrangement of wind turbines should be carefully designed within a site to minimise effects on the landscape and visual amenity while meeting technical and operational siting requirements and other constraints”.*

- 5.3.9 The design of the wind farm is discussed in Chapter 2 Design Evolution.

#### **Planning Policy Wales (PPW) Edition 11, (February 2021)**

- 5.3.10 Planning Policy Wales (PPW) sets out the land use planning policies of the Welsh Government. It is supplemented by a series of Technical Advice Notes (TANs), Welsh Government Circulars, and policy clarification letters, which together with PPW provide the national planning policy framework for Wales. PPW, the TANs, MTANs and policy clarification letters comprise national planning policy.
- 5.3.11 The key objective of PPW is to ensure that the planning system contributes towards the delivery of sustainable development and improves the social, economic, environmental and cultural well-being of Wales. PPW also recognises the rich and varied landscapes of Wales, covered by a hierarchy of statutory and non-statutory designations, including National Parks, National Landscapes (formerly AONBs) and non-statutory designations such as Special Landscape Areas (SLA). PPW also recognises the Natural Resources Wales (NRW) LANDMAP Information System as an important information resource to inform planning for the sustainable management of natural resources in an area.

#### **Future Wales: The National Plan 2040 (February 2021)**

- 5.3.12 Future Wales provides a national spatial strategy, setting out where Wales should focus development to address key national priorities through the planning system until 2040. It provides the statutory development plan for developments of national significance (DNS) and sets the direction for strategic and local development plans (LDPs), as well as complementing PPW with a shared commitment to placemaking, and towards national ambitions and well-being goals.
- 5.3.13 Policy 17 and 18 are concerned with renewable and low carbon energy. In particular, Policy 17 states that: *“In determining planning applications for renewable and low carbon energy development, decision-makers must give significant weight to the need to meet Wales’ international commitments and our target to generate 70% of consumed electricity by renewable means by 2030 in order to combat the climate emergency.”*

5.3.14 It goes on to state that:

*“In Pre-Assessed Areas for Wind Energy the Welsh Government has already modelled the likely impact on the landscape and has found them to be capable of accommodating development in an acceptable way. There is a presumption in favour of large-scale wind energy development (including repowering) in these areas, subject to the criteria in policy 18.” (LVIA author’s emphasis).*

5.3.15 Policy 18 sets out the additional criteria against which proposals will be assessed. The criteria relevant to this chapter are:

1. *outside of the Pre-Assessed Areas for wind developments and everywhere for all other technologies, 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);*

2. *there are no unacceptable adverse visual impacts on nearby communities and individual dwellings;*

*The cumulative impacts of existing and consented renewable energy schemes should also be considered.*

5.3.16 Pre-Assessed Area (PAA) 10 extends across the majority of the site and all of the proposed turbines and associated infrastructure are located within it.

#### **Local Planning Policy**

5.3.17 The proposed wind farm straddles the local authority boundaries of Caerphilly County Borough Council (CCBC) and Torfaen County Borough Council (TCBC). The study area for the LVIA extends across a number of Local Planning Authorities (LPA) including the neighbouring authorities of:

- Blaenau Gwent County Borough Council (BGCBC);
- Newport City Council (NCC);
- Monmouthshire County Council; and
- Bannau Brycheiniog National Park Authority (BBNPA).

5.3.18 With the exception of the BBNPA, the LPAs identify Special Landscape Areas (SLA) that are protected by development plan policies. Table 5.1 below sets out the policies relevant to this LVIA:

**Table 5.1 - RELEVANT LOCAL PLANNING POLICIES**

<b>Local Authority</b>	<b>Planning Policy</b>
Caerphilly County Borough Council (CCBC)	<u>Caerphilly County Borough Local Development Plan up to 2021. Adopted in November 2010</u> <ul style="list-style-type: none"> <li>• Policy NH1 Special Landscape Areas; and</li> <li>• Policy NH2 Visually Important Local Landscapes (VILLs).</li> </ul>
Torfaen County Borough Council (TCBC)	<u>Torfaen County Borough Council Local Development Plan (to 2021). Adopted December 2013)</u> <ul style="list-style-type: none"> <li>• Policy C2 Special Landscape Areas</li> </ul>
Blaenau Gwent County Borough Council (BGCBC)	<u>Blaenau Gwent County Borough Council Local Development Plan up to 2021. Adopted November 2012</u> <ul style="list-style-type: none"> <li>• Policy ENV2 Special Landscape Areas</li> </ul>

Newport City Council (NCC)	<u>Newport Local Development Plan 2011-26. Adopted January 2015</u> <ul style="list-style-type: none"> <li>• Policy SP8 Special Landscape Areas</li> </ul>
Monmouthshire County Council (MCC)	<u>Monmouthshire County Council Adopted Local Development Plan. Adopted February 2014</u> <ul style="list-style-type: none"> <li>• Policy LC2 Blaenavon Industrial Landscape World Heritage Site</li> <li>• Policy LC3 Brecon Beacons National Park</li> <li>• Policy LC4 Wye Valley National Landscape</li> <li>• Policy LC5 Landscape Character</li> </ul>
Bannau Brycheiniog National Park Authority (BBNPA)	<u>Bannau Brycheiniog National Park Authority Local Development Plan 2007-2022. Adopted</u> <ul style="list-style-type: none"> <li>• Policy SP3 Environmental Protection</li> <li>• Technical Appendix 2: Special Qualities of the National Park</li> </ul>

5.3.19 A full and detailed consideration of national and local planning policy is contained in Chapter 4: The Statutory and Policy Framework of this Environmental Statement and in the accompanying Planning Statement.

#### 5.4 Scope and Methodology

5.4.1 The primary source of best practice for LVIA in the UK is “The Guidelines for Landscape and Visual Impact Assessment, 3rd Edition (GLVIA3) (Landscape Institute and the Institute for Environmental Management and Assessment, 2013).”

5.4.2 The LVIA presented in this chapter has been undertaken in accordance with the principles established in GLVIA3. It must however be acknowledged that GLVIA3 establishes guidelines not a specific methodology. The preface to GLVIA3 recognises that:

*“This edition concentrates on principles and processes. It does not provide a detailed or formulaic ‘recipe’ that can be followed in every situation - it remains the responsibility of the professional to ensure that the approach and methodology adopted are appropriate to the task in hand.”*

5.4.3 The methodology for this assessment has therefore been developed specifically for this LVIA to ensure that it is proportionate and fit for purpose.

5.4.4 Consideration has also been given to the following documents:

- Guidelines for Landscape and Visual Impact Assessment, Third Edition. Landscape Institute with the Institute of Environmental Management and Assessment (IEMA) (2013);
- Assessing the Cumulative Impact of Onshore Wind Energy Developments, NatureScot, (March 2021);
- Siting and Designing Wind Farms in the Landscape, Version 3, Scottish National Heritage (SNH) (2017);
- Natural Resources Wales (NRW) Guidance Note 046, 'Using LANDMAP in Landscape and Visual Impact Assessments, (LVIA),' January 2021;
- Visual Representation of Wind Farms, Version 2.2, SNH (February 2017);



- Visual Representation of Development Proposals - Technical Advice Note 06/19, Landscape Institute (September 2019), including supporting Technical Information Notes 07/19, 08/19 and 09/19;
- NRW Evidence Report No. 80, NRW (November 2015), Strategic Assessment and Guidance, Stage 1- Ready Reckoner of Visual Effects Related to Turbine Size, Report no. 315, NRW (March 2019);
- An Approach to Landscape Sensitivity Assessment - To Inform Spatial Planning and Land Management, Natural England (June 2019);
- Assessing Landscape Value Outside National Designations - Technical Guidance Note 02/21, Landscape Institute (2021); and
- Residential Visual Amenity Assessment (RVAA). Technical Guidance Note 2/19. Landscape Institute (2019).

### *Effects Scoped in to the Assessment*

- 5.4.5 The LVIA assesses both the long-term effects relating to the operational lifetime and the short-term temporary effects associated with the construction of the Proposed wind farm.
- 5.4.6 The LVIA considers both direct and indirect landscape and visual effects. It not only assesses the impacts associated with the turbines but also any related impacts resulting from the construction compound, borrow pits, underground cabling, site tracks, substation, energy storage facility, and access roads.
- 5.4.7 Consideration has been given to seasonal variations when assessing the visibility of the proposed wind farm.
- 5.4.8 The LVIA also considers any cumulative effects arising in conjunction with other wind farm schemes in the study area, as defined below. Best practice guidelines identify two principal types of cumulative visual impact:
- combined visibility - where the observer is able to see two or more developments from one viewpoint; and
  - sequential visibility - where two or more sites are not visible at one location but would be seen as the observer moves along a linear route, for example, a road or public right of way.
- 5.4.9 The guidelines state that ‘combined visibility’ may either be ‘in combination’ (where two or more sites are visible from a fixed viewpoint in the same arc of view) or ‘in succession’ (where two or more sites are visible from a fixed viewpoint, but the observer is required to turn to see the different sites). Both types are discussed in this LVIA. The published GLVIA3 also indicates a difference in emphasis between sequential effects that are frequent and those which are occasional. The LVIA also includes a further consideration of the overall totality of the effect when the Proposed wind farm is considered alongside the other operational or proposed schemes across the study area.
- 5.4.10 In relation to both the effects of the Proposed wind farm alone and the cumulative effects with other wind farm schemes in the study area, both beneficial (positive) and adverse (negative) effects are considered. Wind farms give rise to a wide spectrum of opinions, ranging from strongly negative to strongly positive, with a wide range of opinions lying somewhere between these two positions. Some people view wind turbines as incongruous or industrial structures whilst others view them as aesthetically pleasing, elegant structures and a positive response to climate change. This spectrum of opinion has come to be referred to in relation to wind farms as the concept of valency. For the avoidance of doubt, in considering the effects of the proposed wind farm, a precautionary approach to the assessment has been adopted and it is assumed that, unless specifically stated otherwise, the effects of the proposal would be adverse in nature even though it is acknowledged that, for some people, the impacts could be considered to be beneficial.

### *Effects Scoped Out of the Assessment*

5.4.11 Based on the desk study, field work, the professional judgement of the LVIA team and experience of delivering other onshore wind energy projects, the following elements have been scoped out of detailed assessment:

- Effects on receptors located outside of the zone of theoretical visibility (ZTV);
- Effects of decommissioning the wind farm at the end of its operational life as effects would be very similar in nature to those experienced during the construction, except in reverse;
- Effects on receptors located on private land;
- Effects on LANDMAP aspect areas outside of the study areas as defined in LANDMAP Guidance Note 46 (NRW, 2023), where it is judged that potential significant effects are unlikely to occur; and
- Effects of visible aviation. Air Navigation Order Article 2222 requires turbines exceeding a tip height of 150 m to display aviation lighting to indicate their presence. As the turbines proposed as part of this development have a maximum blade tip height of 149.9 m there is no requirement for aviation lighting.

#### Study Area

5.4.12 The LVIA chapter of the Mynydd Maen Scoping Report (November 2021, paragraph 5.12) identified an initial 45 km study area from the outermost wind turbines of the proposed wind farm. NatureScot guidance on the Visual Representation of Wind Farms suggests a recommended initial ZTV distance 40 km for turbines with a blade tip height of between 131 and 150 m (table on page 12).

5.4.13 The Scoping Direction (January 2022) included various study area distance recommendations. In their response, Caerphilly County Borough Council (one of the two host planning authorities) stated *“The study area should be clearly defined at 30 km and cumulative ZTVs should also be carried out at a more detailed study area of 15 km radius on a 1:25,000 OS scale plan.”* and that the study area for the assessment of residential visual amenity should be 2 km.

5.4.14 Torfaen County Borough Council made no comment on the extent of the study area.

5.4.15 National Resources Wales’ (NRW) response referred to NRW Guidance Note 46 which recommends a 23 to 26 km Search Area and a 20 to 24 km Study Area for turbines 146 to 175 m in height and that it is usual to include occasional high sensitivity receptors just beyond the Search Area.

5.4.16 Planning and Environment Decisions Wales (PEDW) in Table 1 (ID.23) stated that the ES should follow NRW guidance and employ a search area of 26 km and at study area of 24 km.

5.4.17 Having reviewed the scoping responses and based on the professional judgement of the authors of the LVIA and their extensive experience of similar onshore wind energy projects across the UK, the study areas have been determined as follows:

- Initial LVIA study area - 35 km from the outermost turbines;
- Detailed LVIA study area - 24 km from the outermost turbines;
- Detailed cumulative landscape and visual study area - 24 km from the outermost turbines; and
- Residential Visual Amenity Study Area - 2 km from the outermost turbines.

#### Landscape Assessment Methodology

5.4.18 A baseline landscape assessment was carried out to determine the current features and character of the landscape within and surrounding the site.

5.4.19 The baseline landscape assessment involved firstly a review of desk material including:

- Ordnance Survey maps at 1:250,000; 1:50,000; 1:25,000 and 1:10,000 scales;



- Aerial photographs of the site and surrounding area;
- Topography;
- Current & historical land use;
- Geology and soil maps;
- Historic Parks and Designated Landscapes;
- LANDMAP Aspect Areas;
- Relevant planning policy;
- Relevant landscape sensitivity/capacity studies;
- Relevant landscape character assessments; and
- Relevant Historic Landscape Character Assessments.

5.4.20 Field visits have been conducted in a variety of weather conditions and at different times of the year during the pre-application stage.

5.4.21 The baseline assessment identified the existing landscape features on the site, and in the immediate vicinity, and how these elements combine to give the area a sense of landscape character. Plans and construction details of the Proposed wind farm were used to determine the impacts of the scheme on landscape features and character.

5.4.22 The LVIA firstly assesses how the Proposed wind farm would impact directly on any existing landscape features or elements (e.g. removal of trees etc.).

5.4.23 The LVIA then considers impacts on landscape character with reference to landscape character areas/types identified in published landscape character documents. Further details of the assessment criteria that underpins this LVIA are set out in Technical Appendix 5.1.

#### *Visual Assessment Methodology*

5.4.24 Potential visual receptors of the Proposed wind farm were identified by interpretation of digitally generated ZTVs (see Table 5.2 for an explanation of ZTVs and how they were produced).

**Table 5.2 - PRODUCTION OF ZTVs**

<b>Production of Zone of Theoretical Visibility (ZTV) Maps</b>
<p>A Zone of Theoretical Visibility (ZTV) illustrates the extents from which a feature would theoretically be visible within a defined study area.</p> <p>ZTVs are generated assuming a 'bare ground' terrain model. This means that the ZTVs presented within this LVIA have been generated from topographical data only and they do not take any account of vegetation or the built environment which may screen views of the development. It is, as such, a 'worst case' zone of visual influence and considerably over-emphasises the actual visibility of the proposed scheme. In reality trees, hedges and buildings may restrict views of the development from many of the areas rendered as within the ZTV.</p> <p>A further assumption of the ZTV is that climatic visibility is 100 % (i.e. visibility is not impeded by moisture or pollution in the air). In reality, such atmospheric conditions are relatively rare in this part of the country. Mist, fog, rain and snow are all common weather occurrences, which would regularly restrict visibility of the development from some of the areas within the ZTV; this being an incrementally more significant factor with distance from the site. Atmospheric pollution is not as significant as it is in other parts of the country but is still present and would also restrict actual visibility on some occasions, again more so with distance from the site.</p> <p>The ZTVs were generated using GIS. The programme used topographical height data (OS Terrain 5) to build a terrain model. The programme then renders the model using a square grid to illustrate</p>

whether the turbines would be visible in each 50 m x 50 m square on the grid for a specified distance in every direction from the site.

Digital ZTVs have been prepared to illustrate the theoretical visibility of the turbine for a radius of 35 km around the site. Three sets of ZTVs have been produced, the first shows visibility of the turbines to blade tip when the blade is at its highest possible position, the second, the visibility of the turbines at hub height and the final set shows the visibility of the turbines proposed to be lit with visible aviation lights. Enlargements of the ZTVs have also been produced.

Cumulative ZTVs have been produced to show locations where the ZTVs of two or more operational, consented or proposed wind turbine sites overlap (in certain cases a number of wind farms which are at the same stage in development have been grouped together). In the cumulative ZTVs one colour has been used to illustrate the theoretical visibility of the Proposed wind farm and a second colour to illustrate the visibility of a second site. Where the ZTVs of the two sites overlap a third colour has been used to illustrate this potential cumulative visual influence.

It should be noted that there are several limitations to the use of ZTVs. For a discussion of these limitations please refer to Visual Representation of Wind farms - Version 2.2 (NatureScot). In particular, it should be noted that the ZTV plans simply illustrate theoretical visibility and do not imply or assign any level of significance to those areas identified as being within the ZTV. The ZTVs are a tool to assist the Landscape Architect to identify where the site would potentially be visible from. The assessment of landscape and visual effects in this chapter does not rely solely on the accuracy of the ZTVs. The ZTVs have been ground proofed and professional judgement has been used to evaluate the significance of effects.

- 5.4.25 A selection of viewpoints was identified and agreed with statutory consultees to represent a range of views and viewer types as discussed in Visual Representation of Wind farms - Version 2.2 (NatureScot) and in paragraphs 6.16-6.20 of GLVIA3.
- 5.4.26 The viewpoints cover a variety of different character areas, are in different directions from the site and are at varying elevations. Some of the viewpoints are intended to be representative of the visual experience in a general location whereas other viewpoints illustrate the view from a specific or important vantage point. The viewpoints are located at a range of distances from the Proposed wind farm to illustrate the varying magnitude of visual impacts.
- 5.4.27 Visualisations were produced for each of the viewpoints; these are presented in Volume 3. An explanation of how they were produced and information to be read in conjunction with the visualisations is provided in Technical Appendix 5.2.
- 5.4.28 Each of the representative viewpoints was visited to gain an understanding of the sensitivity of the viewpoint receptors and to make professional judgements on the likely visual effects arising from the Proposed wind farm.
- 5.4.29 The viewpoints were used as the starting point for considering the effects on visual receptors within the entire study area. The visual assessment does not rely solely on the viewpoint assessments to determine the significance of effects on different visual receptor groups throughout the study area. It should be recognised that the viewpoints illustrated in the LVIA simply represent a series of snapshots from a small selection of the locations within the study area from where the proposed wind farm would be visible. Following the viewpoint assessment, the LVIA considers the effect on visual amenity throughout the study area with reference to different visual receptor groups at varying distances from the site.

#### *Assessment Criteria*

- 5.4.30 The purpose of an LVIA when produced in the context of an EIA is to identify any significant landscape and visual effects within the study area to assist the determining authority in deciding the acceptability of the scheme under consideration.
- 5.4.31 The detailed assessment criteria used to determine landscape and visual sensitivity, magnitude of change and significance of effect are set out in Technical Appendix 5.1.

5.4.32 Professional judgement is then employed to determine whether the effect is significant or not. Those effects described as major, moderate major and in some cases moderate may be regarded as significant.

### *Residual Effects*

5.4.33 Best practice for EIA in general terms requires that the significance of potential effects be assessed, mitigation proposals identified (if a significant effect is identified) and the residual effect (with mitigation in place) then re-assessed to demonstrate the effectiveness of the mitigation proposed.

5.4.34 In the case of LVIA for wind farms this presents two interrelated problems:

- Potential effects cannot be meaningfully assessed in the absence of an assumed layout; and
- Landscape and visual mitigation principally focuses on refinement of the site layout ('mitigation by design').

5.4.35 The approach taken in this study has therefore been to build landscape and visual mitigation into the final layout (refer to Chapter 2). Mitigation has been considered as part of the iterative design process but as this mitigation is integral to the final layout, there is no difference between the assessed effects reported in the main body of this chapter and the residual effects.

### *Limitations to the Assessment*

5.4.36 The assessment of effects within this LVIA has been derived through the use of publicly available information only. Within such a large study area it is unfeasible to visit every single location from which the Proposed wind farm might be visible as illustrated on the ZTVs. The authors of the LVIA have, however, spent a considerable length of time 'in the field' and visited all important viewpoints and locations within the study area.

5.4.37 Limitations to the use of ZTVs are set out in Table 5.2 above and the limitations in relation to photography, wireframes and photomontages are also set out in Technical Appendix 5.2.

## **5.5 Consultation**

5.5.1 Throughout the scoping exercise, and subsequently during the ongoing EIA, relevant organisations were contacted with regards to the Proposed wind farm. Table 5.3 below outlines the consultation responses received in relation to landscape and visual matters.

**Table 5.3 - CONSULTATION RESPONSES**

<b>Consultee</b>	<b>Date and Summary of Response</b>
Caerphilly County Borough Council (CCBC)	<p><u>22/12/2021</u></p> <ul style="list-style-type: none"> <li>• Identifies non-statutory local landscape designation, Visually Important Local Landscape (VILL) - NH2.3 Abercarn falls within the site;</li> <li>• Agrees with the approach to the LVIA set out in the Scoping Report at Chapter 5;</li> <li>• Request for a more detailed ZTV covering a 15 km study area to assist with their review of the proposed viewpoints - which was subsequently provided.</li> <li>• The assessment will also need to consider the sequential effects experienced by users of public rights of way, long distance walking and cycle routes;</li> <li>• It is important that the most significant cumulative effects are addressed as clearly and robustly as possible. Particular regard must be had to existing and consented wind turbines at closer distances and in proximity</li> </ul>

	<p>to one another and instances where receptors view wind turbines from more than one aspect;</p> <ul style="list-style-type: none"> <li>• The study area should be clearly defined at 30 km and cumulative ZTVs should also be carried out at a more detailed study area of 15km radius on a 1:25,000 OS scale plan;</li> <li>• The cumulative assessment should include wind turbines that are operational, consented and in the planning system;</li> <li>• The recently submitted DNS wind farm proposals at Mynydd Llanhilleth, Mynydd Abertillery, Mynydd Carn y Cefn and Manmoel should be included within the cumulative assessment;</li> <li>• Other large scale energy infrastructure, such as solar parks, should also be considered for inclusion in the cumulative assessment, where appropriate;</li> <li>• It is recommended that a draft cumulative ZTV is provided at an early stage in the planning process to allow dialogue and agreement on the number and location of viewpoints, along with accompanying visualisations that will be required;</li> <li>• A separate residential visual amenity assessment is required, which must be in accordance with The Landscape Institute Technical Guidance Note 2/19 (2019). A study area of 2 km will be required as residents are likely to experience potentially significant visual effects within this distance;</li> <li>• Suitably scaled plans showing the wind farm layout, including the location and details of the wind turbines and all ancillary infrastructure; and scaled detailed plans showing the typical wind turbine footprint, scale, form and appearance and lighting, if necessary;</li> </ul>
Torfaen County Borough Council (TCBC)	<p><u>22/12/2021</u></p> <ul style="list-style-type: none"> <li>• Positive response to the scope of the LVIA as set out in the Scoping report;</li> <li>• Assess cumulative impacts of other developments already in the DNS process but not yet consented;</li> <li>• Suggest the following schemes need to be considered in the cumulative assessment: <ul style="list-style-type: none"> <li>○ DNS 3278009 Abertillery Wind Farm 7 x 180 metre turbines (north of site)</li> <li>○ DNS 3273368 Mynydd Llanhilleth Wind Farm 12 x 180 metre turbines (north of site)</li> <li>○ DNS 3270299 Mynydd Carn Y Cefn Wind Farm 8 x 180 metre turbines (west of site)</li> </ul> </li> </ul>
Blaenau Gwent County Borough Council (BGCBC)	<p><u>10/12/2021</u></p> <ul style="list-style-type: none"> <li>• The scope of the assessment is considered acceptable in principle;</li> <li>• Consideration of all other renewable proposals and existing developments must also be included in a cumulative impact assessment.</li> </ul>
Newport City Council (NCC)	<p><u>22/12/2021</u></p> <ul style="list-style-type: none"> <li>• No comments provided at Scoping.</li> </ul>
Monmouthshire County Council (MCC)	<p><u>21/12/2021</u></p> <ul style="list-style-type: none"> <li>• LVIAs for wind turbine development should include a consideration of cumulative landscape and visual impacts;</li> <li>• A radius of 45 km for the initial ZTV from a Monmouthshire perspective would be acceptable;</li> <li>• Disagree that significant effects are unlikely to occur beyond 20 km and would expect the ZTV to consider location just beyond including</li> </ul>

	<p>ridgelines to the east of the county, relevant prominent location and relevant viewpoints, highly sensitive LCAs, Sites on the register of landscapes of outstanding and special interest in Wales, registered parks and gardens, national trails and settlements inclusive of roads, footpaths and POS.</p> <ul style="list-style-type: none"> <li>• LVIA should include the location and number of visualisations, photomontages and wirelines</li> <li>• Where cumulative impact is considered a cumulative ZTV should be provided;</li> <li>• Cumulative wirelines and photomontages must be accompanied by a photograph of the existing landscape;</li> <li>• Viewpoints indicated are insufficient and would not adequately provide a sound baseline from which to undertake a comprehensive LVIA;</li> <li>• Suggest that one viewpoint within the BILWHS is insufficient to be able to fully assess the impact.</li> </ul>
<p>Bannau Brycheiniog National Park Authority (BBNPA)</p>	<p><u>07/01/2022</u></p> <ul style="list-style-type: none"> <li>• Require consideration of cumulative effects;</li> <li>• Request for one or two photomontages from within the BBNP</li> <li>• Consideration of the Special Qualities of the BBNP.</li> </ul>
<p>Natural Resources Wales (NRW)</p>	<p><u>14/12/2021</u></p> <ul style="list-style-type: none"> <li>• The proposal lies within a Pre-Assessed Areas for Wind Energy (Area 10), as defined under Policy 17 of Future Wales: The National Plan 2040;</li> <li>• Reference is made to the National Landscape Character Area (37 South Wales Valleys), LANDMAP, BBNP and Wye Valley AONB. Reference should also be made to the BBNP Management Plan and Special Qualities and to the BBNP Landscape Character Assessment and Supplementary Planning Guidance;</li> <li>• NRW Guidance Note 46 (GN46) recommends a 23-26 km Search Area and 20-24 km Study Area for turbines of 146-175m. It is usual to include occasional high sensitivity receptors just beyond the Search Area in an assessment e.g. viewers at Pen y Fan, 30+km away;</li> <li>• GN46 advises a filtering process to assess effects on the different LANDMAP Aspect Areas;</li> <li>• Three viewpoints from within the BBNP are proposed....We advise that additional viewpoints within the BBNP should be included, given the sensitivities;</li> <li>• Cefn y Ystrad Trig lies approximately 23 km, away, Mynydd Llangatwg Trig approximately 18 km away, Mynydd Garn summit approximately 7 km away and the war memorial in Pontypool Park approximately 6 km away. These first three viewpoints are within open access land with nearby public footpaths and the war memorial is a viewpoint within a public park (Registered Historic Park);</li> <li>• Cumulative assessment should be carried out in accordance with Guidelines for Landscape and Visual Impact Assessment 3 (GLVIA3) and SNH Guidance: Assessing the Cumulative Impact of Onshore Wind Farm Developments;</li> <li>• The Cumulative Landscape and Visual Impact Assessment Search Area should be slightly larger than the LVIA Study Area, to include large wind turbine developments;</li> <li>• Wirelines and photomontages should be produced in line with Landscape Institute Technical Guidance Note (TGN) 06/19 and SNH Visual representation of wind farms (2017). We advise that, in accordance with Landscape Institute TGN 06/19 Visual Representation of Development Proposals;</li> </ul>

	<ul style="list-style-type: none"> <li>• Type 4 representations with photomontages should be provided for viewpoints within the BBNP, given the sensitivities;</li> <li>• Cumulative photomontages/wirelines should also be produced illustrating cumulative effects on the BBNP.</li> </ul>
<p>Planning and Environment Decisions Wales (PEDW)</p>	<p><u>20/01/2022</u></p> <ul style="list-style-type: none"> <li>• PEDW agrees with NRW that the ES should employ a search area of 26 km and a study area of 24 km, based on NRW's LANDMAP Guidance Note 46;</li> <li>• Photomontages are to be produced in accordance with Landscape Institute Technical Guidance Note (TGN) 06/19 and SNH (now NatureScot) Visual Representation of Wind Farms (2017) and that photomontages should consider the cumulative effects as far as possible;</li> <li>• Advised to monitor progress of significant number of other renewable energy schemes at various stages of the consenting process;</li> <li>• The LVIA should address the potential for wind turbines to give rise to a potential night-time visual impact due to anti-collision lights and need to consider BBNP's status as a Dark Sky Reserve.</li> </ul>



## 5.6 Baseline Conditions

- 5.6.1 For the avoidance of doubt all distances are approximate and have been measured from the asset to the nearest proposed turbine unless otherwise stated.

### *Site Location*

- 5.6.2 The site straddles the administrative boundaries of Caerphilly County Borough Council and Torfaen County Borough Council. The site is centred approximately at British National Grid (BNG) 325565, 197597. The closest main settlements are Pontypool, located approximately 1.3 km to the north-east (approximately 2.2 km from the nearest turbine), Cwmbran located approximately 690 m to the east (approximately 1.4 km from the nearest turbine), Risca located approximately 4.5 km to the south, Blackwood located approximately 5.4 km to the west and Abercarn located approximately 3 km to the south-west. The city of Newport is also located over 7 km south-east of the site.
- 5.6.3 The nearest main highways are the A472 approximately 500 m to the north between Blackwood and Pontypool, the A467 that passes approximately 2.1 km to the west (of the main part of the site) and the A4042 approximately 3.6 km to the east.
- 5.6.4 The location of the proposed wind farm is illustrated in Figure 5.1: Site Location and Initial Study Area 35 km.

### *Landscape Designations*

- 5.6.5 Landscape designations are illustrated in Figures 5.7: Landscape Designations within 35 km, 5.8: Landscape Designations within 24 km and overlaid with the blade tip ZTV in Figure 5.9: Landscape Designations within 24 km with Blade Tip ZTV.

#### **International Landscape Designations**

- 5.6.6 There are no international or national landscape designations covering the site or the immediate surroundings.
- 5.6.7 Blaenavon Industrial Landscape World Heritage Site is located 7.1 km to the north of the proposed wind farm. It is designated for its international importance in iron making and coal mining in the late 18<sup>th</sup> and early 19<sup>th</sup> centuries. Effects are considered in the cultural heritage Chapter 8.

#### **National Landscape Designations**

##### *Bannau Brycheiniog National Park*

- 5.6.8 The Bannau Brycheiniog National Park (BBNP) is located approximately 4.1 km to the north-east of the proposed wind farm at its closest point. The ten Special Qualities of the BBNP are set out in the BBNP Management Plan 2023 - 2028 and are grouped around landscape, community experiences and wildlife. They are defined as:

##### **Special Landscapes**

- Sweeping grandeur & outstanding natural beauty; and
- Contrasting patterns, colours and textures.

##### **Special communities**

- A sense of place & cultural identity; and
- An intimate sense of community.

##### **Special experiences**

- Enjoyable and accessible;
- Sounds, sights, smells & tastes;

- Sense of discovery; and
- Peace, tranquillity & darkness

#### Special nature

- Mosaic of diversity; and
- Living landscape.

5.6.9 Given the proximity of the proposed wind farm to the National Park, the effects on it and its Special Qualities (SQ) are considered further within the assessment in Section 5.7.

#### *National Landscape*

5.6.10 The Wye Valley National Landscape (NL) overlaps the eastern edge of the 24 km detailed study area and is situated over 21 km from the proposed wind farm at its closest point.

5.6.11 The Wye Valley NL Management Plan 2021-2026 section 2 Statement of Significance and Vision states the NL is regarded as one of the finest lowland landscapes in Britain and defines its Special Qualities as:

##### *1. Overall Landscape*

*of 16 Landscape Management Zones (see Table 1 & Map 2 - at rear) with key features and links to the other Special Qualities*

##### *Biodiversity*

##### *2. Woodlands*

##### *3. The river & tributaries*

*4. Species-rich grassland, including small field pattern of un/semi-improved grassland, often bounded by drystone walls or old hedges*

*5. Boundary habitat diversity & connectivity, e.g. between grassland & woodland, farmland & heathland, tidal river & ASNW, hedges &/or drystone walls, lanes, banks, verges and fields & woods*

##### *Geological*

##### *6. Silurian Rocks*

##### *7. Lower Devonian Old Red Sandstone*

##### *8. Quartz Conglomerate 9. Carboniferous Limestone*

##### *10. Riverine geomorphology*

##### *Visual and Sensory*

*11. Picturesque, extensive & dramatic views.*

*12. Overall sense of tranquillity, sense of remoteness and naturalness / wildness*

##### *Historic Environment*

*13. Prehistoric sites from Palaeolithic to Iron Age*

*14. Roman and early Medieval sites including Offa's Dyke*

*15. Mediaeval Defensive and Ecclesiastical sites and associated landscapes*

*16. Post-medieval industrial sites and associated landscapes*

*17. Railway heritage*

*18. Ancient and veteran trees*

*19. Historic / registered parks and gardens*

*20. Vernacular architecture: Farmsteads, Commoners cottages, Estate houses*

*Language*

21. *Welsh language & accent; Forest of Dean & South Herefordshire dialects & accents*

*Access and Recreation*

22. *Old tracks: often in sunken ways &/or bounded by drystone walls*

23. *Offa's Dyke Path*

24. *Wye Valley Walk*

25. *Access land*

26. *Small commons; largest are Coppet Hill, Broadmoor, Staunton Meend, Whitelye, The Hudnalls*

*Other*

27. *Orchards*

5.6.12 With reference to Figure 5.9: Landscape Designations within 24 km with Blade Tip ZTV, there is theoretical visibility from parts of the western fringes of the NL and from limited areas of higher ground within the central and eastern parts of the NL, beyond the 24 km detailed study area. However, actual visibility would be further reduced by existing field hedgerows and tree cover. From any locations where clear open views are available at distances in excess of 21 km any effects would be very limited and would not be considered significant. As such effects on the Wye Valley NL are not considered further within the assessment.

**Historic Landscapes**

5.6.13 A number of Historic Landscapes lie within the 24 km detailed study area comprising:

- Blaenavon - situated approximately 7.9 km to the north;
- Clydach Gorge - situated approximately 13.6 km to the north beyond Blaenavon;
- Gelli-gaer Common - situated approximately 10.6 km to the west;
- Merthyr Tydfil - situated approximately 17 km to the north-west;
- The Rhondha - overlapping the western edge of the 24 km detailed study area and approximately 21.1 km to the west; and
- Gwent Levels - situated approximately 12 km to the south.

5.6.14 Relevant Historic Landscapes are discussed in detail in Chapter 8 Cultural Heritage.

**Local Landscape Designations**

5.6.15 Special Landscape Areas (SLA) have been identified by all LPA whose administrative boundaries overlap the 24 km detailed study area, with a total of 65 SLAs within the detailed study area.

5.6.16 An initial review has been undertaken to determine which SLAs would have the potential for significant effects to arise and would therefore require detailed consideration in this chapter (see Technical Appendix 5.3). The intention has been to ensure that the level of attention given to each SLA is proportionate to the likelihood of significant effects arising.

5.6.17 The review identified the potential for significant effects to occur on the following SLA:

**Table 5.4 - SPECIAL LANDSCAPE AREAS WHERE SIGNIFICANT EFFECTS MAY OCCUR**

SPECIAL LANDSCAPE AREA	Local Planning Authority (LPA)	Distance (km)
South West Uplands	Torfaen	Overlaps part of the site
St Illtyd Plateau & Ebbw Eastern Sides	Blaenau Gwent	2.3 km
Southern Lowlands	Torfaen	2.5 km
Eastern Ridge & Mynydd James	Blaenau Gwent	2.8 km
Western Uplands	Torfaen	3.7 km
South Eastern Lowlands	Torfaen	4.3 km

5.6.19 Part of the south-eastern corner of the site overlaps with the South West Uplands SLA as identified by TCBC. However, only the access track leading between T9 and T10 crosses through the north western corner of the SLA. No other infrastructure would be located within the SLA. No infrastructure is proposed to be located in any of the other SLAs where significant effects have the potential to occur.

#### *Published Landscape Character Descriptions*

5.6.20 A review has been undertaken of the following published sources of information regarding regional and local landscape character, landscape value and landscape sensitivity:

- Natural Resources Wales (NRW) National Landscape Character Areas (NLCA);
- Heads of the Valleys Smaller Scale Wind Turbine Development Landscape Sensitivity and Capacity Study (2015) (covers northern parts of Torfaen, Caerphilly, Blaenau Gwent, Merthyr Tydfil, Rhonda Cynon Taf LPA);
- Gwent Levels Landscape Character Assessment (April 2017) (covers parts of Cardiff, Newport and Monmouthshire);
- Cardiff Review of Landscape Character Areas (2007);
- Monmouthshire County Council. Landscape Supplementary Guidance. Volume 2: Landscape Types;
- Powys County Council. Local Landscape Character Assessment for the Powys Local Development Plan Area. Landscape Character Assessment Report (2022); and
- Bannau Brycheiniog National Park Authority. LDP Supplementary Planning Guidance: Landscape Character. Draft (2012).

5.6.21 At this point, for clarity, it is necessary to distinguish between two terms that are frequently used in published guidance and this chapter. They originate from the ‘Guidelines for Landscape Character Assessment’ (Countryside Agency and NatureScot, 2002):-

- Landscape Character Types (LCTs) are defined as tracts of landscape, which have a generic unity of character due to the particular combinations of landform, land cover, pattern and elements. The same landscape character type can occur at several different locations throughout a study area; and
- Landscape Character Areas (LCAs) are defined as discrete geographical areas of a particular landscape character type and can only occur at a single location.

5.6.22 Also it is important to note that recent NatureScot landscape sensitivity assessment guidance advises that reference to ‘capacity’ should be removed. The guidance also notes that “a finding of ‘high sensitivity’ does not necessarily mean that there is no ability to accommodate development and ‘low’ sensitivity does not necessarily mean there is definitely potential for development”.

5.6.23 It is also important to acknowledge that landscape and visual effects arising from a proposed wind farm are one factor weighed in the overall planning balance, set against the current renewable energy and planning policy context applicable at the time.

#### **National Landscape Character Areas (NLCA)**

5.6.24 At the national level, the site and all of the proposed turbines and infrastructure are located within NLCA 37 South Wales Valleys. Its key characteristics are identified as:

- Extensive Upland plateaux;
- Numerous steep-sided valleys;
- Ribbon urban and industrial areas in valleys;
- Extensive remains of heavy industry;
- Contrast of urban valley activity next to quiet uplands;
- Large blocks of coniferous plantation and deciduous woodland fringes;
- Heather, rough grassland and steep bracken slopes;
- Improved pastures on some lower valley sides;
- Field boundaries;
- Transport routes restricted to valleys; and
- Iconic cultural identify.

5.6.25 The site is also located close to NLCA 35 Cardiff, Barry and Newport and NLCA 31 Central Monmouthshire.

#### **Local Landscape Character (LLCA)**

5.6.26 At the regional and local level, the site sits to the south of the study area of the Heads of the Valleys Smaller Scale Wind Turbine Development Landscape Sensitivity and Capacity Study. The BBNP overlaps the northern part of the 24 km detailed LVIA study area. The landscape character of the BBNP is set out in the Bannau Brycheiniog National Park Landscape Character Assessment (August 2012).

#### ***Bannau Brycheiniog National Park Landscape Character Assessment***

5.6.27 The following landscape character areas (LCA) overlap the study area:

- LCA 8 - Talybont and Taff Reservoir Valleys;
- LCA 9 - Mynyddoedd Llangatwg and Llangynidr;
- LCA 10 - Clydach Gorge;
- LCA 11 - Eastern Usk Valley;
- LCA 12 - Skirrid and Sugar Loaf;
- LCA 13 - The Black Mountains; and
- LCA 15 - Bloreng Summit and Slopes.

5.6.28 With reference to the blade tip ZTV in Figure 5.3: Blade Tip ZTV to 35 km with Viewpoints, theoretical visibility is only predicted from LCAs 9, 12 and 15. Therefore, the other LCAs are not considered further within the assessment. The key characteristics of the LCAs taken forward into the assessment are set out in the report at paragraphs 5.7.129 - 143.

### *Landscape Baseline*

- 5.6.29 LANDMAP is the formally adopted five-tiered landscape evaluation baseline tool developed by NRW. It comprises five nationally consistent spatial datasets, referred to as Aspect Layers:
- Geological Landscape;
  - Landscape Habitats;
  - Visual and Sensory;
  - Historic Landscape; and
  - Cultural Landscape Services.
- 5.6.30 These five aspect layers are divided into Aspect Areas that have been assessed by a NRW assessor. The Overall Evaluation of the Aspect Area is key to understanding its value in terms of sensitivity, rarity or importance.
- 5.6.31 The Overall Evaluation is:
- Low - little or no importance;
  - Moderate - of some local importance;
  - High - of regional or county importance; and
  - Outstanding - of national or international importance.
- 5.6.32 The Aspect Areas have been mapped and are presented in Figures 5.10: LANDMAP Geological Landscape Classification to 5.18: LANDMAP Cultural Landscape Classification within 10 km and have been overlaid with the ZTV.

#### **Geological Landscape**

- 5.6.33 Geological Landscape Aspect Areas overlapping the site are illustrated in Figure 5.10: LANDMAP Geological Landscape Classification and overlaid with the blade tip ZTV in Figure 5.11: LANDMAP Geological Landscape Evaluation with Blade Tip ZTV.
- 5.6.34 The proposed wind farm overlaps the following Geological Landscape Aspect Areas:
- CYNONGL001 - Upper Ebbw valley;
  - CYNONGL002 - Nant Gwyddon;
  - TRFNGL003 - Cwm y Glyn;
  - TRFNGL002 - Mynydd Maen; and
  - TRFNGL004 - Cwm Lickey.

#### ***CYNONGL001 - Upper Ebbw valley***

- 5.6.35 This aspect area covers the north-western and south-western parts of the site. Turbines 5, 6 and 7 and their associated access tracks and hardstandings are located within the eastern part of this aspect area.
- 5.6.36 It is classified as glacial mountain valley and described as a steep-sided U-shaped valley in Westphalian (Upper Carboniferous) South Wales Pennant Formation (Upper Pennant Measures) sandstones, with no dominant physical features with boulder clay in the valley floor, alluvium in flood plain & river terrace with disused sandstone quarries, closed colliery shafts and waste tips. The area has an overall evaluation of high.

#### ***CYNONGL002 - Nant Gwyddon***

- 5.6.37 This aspect area covers the western part of the site. Turbines 4, 10, 11, 12 and 13, their access tracks and hardstandings are located within north-eastern part of this aspect area. It is classified as glacial mountain valley and described as a steep-sided symmetrical V-shaped



valley dissected in upland plateau of north and west dipping, South Wales Pennant Formation sandstones (Upper Carboniferous). Upper Pennant sandstones form the valley sides, & lower Pennant siltstones the valley floor. The area has an overall evaluation of moderate.

#### ***TRFNGL003 - Cwm y Glyn***

- 5.6.38 This aspect area covers the north-eastern corner of the site. Turbines 2, 8 and 9, their access tracks and hardstandings are located within western edge of this aspect area. It is classified as glacial mountain valley and described as a steep-sided, straight, U-shaped, essentially dry valley, cut into high-level plateau of west-dipping South Wales Pennant formation. Valley controlled by north-east to south-west Glyn Fault. To the north-east, the valley floor is eroded in Productive Coal formation and floored by extensive head. Patches of alluvium from local drainage in valley. Disused quarries and closed coal mines and waste tips. The area has an overall evaluation of high.

#### ***TRFNGL002 - Mynydd Maen***

- 5.6.39 This aspect area covers the eastern part of the site. Turbines 8, 9 and 2 are located within this area along with their associated access tracks and hardstandings. It is classified as upland escarpment and described as a south-east facing scarp slope, rising to the edge of plateau in the west-dipping South Wales Pennant formations at the southeast edge of the South Wales coalfield. Valleys dissecting the scarp and plateau are steep-sided and U-shaped, with no drift present and disused sandstone quarries. The area has an overall evaluation of moderate.

#### ***TRFNGL004 - Cwm Lickey***

- 5.6.40 This aspect area overlaps the eastern boundary of the site. However, no infrastructure would be located within it. It is classified as upland valley slope and described as a north-east to south-west strike valley, floored by moderately north-west-dipping Productive Coal Formation bounded by Carboniferous Limestone dip slope to the south-east and South Wales Pennant formation sandstone scarp to the north-west... Lithologically controlled sides and floor to valley... Widespread head present... Disused quarries, mine shafts and waste tips... Small-scale landslips... The area has an overall evaluation of moderate.
- 5.6.41 The proposed wind farm would be likely to result in direct effects to these Geological Landscape Aspect Areas, with the exception of Aspect Area TRFNGL004 as the site overlaps these areas.

#### **Landscape Habitats**

- 5.6.42 Landscape Habitats Aspect Areas overlapping the site are illustrated in Figure 5.12: LANDMAP Landscape Habitat Classification and overlaid with the blade tip ZTV in Figure 5.13: LANDMAP Landscape Habitat Evaluation with Blade Tip ZTV.
- 5.6.43 The proposed wind farm overlaps the following Landscape Habitats Aspect Areas:
- CYNONLH149;
  - CYNONLH150;
  - TRFNLH038;
  - TRFNLH009;
  - TRFNLH020; and
  - TRFNLH021
- 5.6.44 The access track to the proposed wind farm crosses Aspect Area CYNONLH149 which is classified as improved grassland and is assessed as having low value. The access track crosses into Aspect Area CYNONLH150 and turbines 5, 6, 7 and 10 to 13 inclusive and their associated access tracks and hard standing are also located within it. This Aspect Area is assessed as having high value as it contains valuable habitat that is declining that supports Great Crested Newts and other key species.

- 5.6.45 Turbines 1 to 4, their access tracks and associated hardstandings are located within Aspect Area TRFNLH020 which is assessed as also having high value on account of it containing upland dry heath, bracken and acid grassland which supports priority species.
- 5.6.46 Turbine 8 and its access track and hardstanding are located on the boundary between TRFNLH038 and TRFNLH021. TRFNLH038 is classified as Mosaic and is considered to be of high value as the upland heath is an important Biodiversity Action Plan (BAP) habitat and part of an upland complex.
- 5.6.47 Turbine 9 and its associated access track and hardstanding are located within TRFNLH021 which is also classified as Mosaic and is considered to be of high value.
- 5.6.48 The proposed wind farm would be likely to result in direct effects to these Landscape Habitats Aspect Areas as the site overlaps these areas.

#### **Visual and Sensory**

- 5.6.49 Visual and Sensory Aspect Areas within 10 km of the site are illustrated in Figure 5.14: LANDMAP Visual and Sensory Classification within 10 km and overlaid with the blade tip ZTV in Figure 5.15: LANDMAP Visual and Sensory Overall Evaluation with Blade Tip ZTV.
- 5.6.50 The proposed wind farm overlaps the following Visual and Sensory Aspect Areas:
- CYNONVS372 - Mynydd Maen;
  - CYNONVS214 - Mynydd Llwyd and Mynydd Maen;
  - TRFNVS024; and
  - TRFNVS036

#### ***CYNONVS372 - Mynydd Maen***

- 5.6.51 This aspect area is an upland area of medium scale, comprising ridges and valleys with a mix of conifer and deciduous woodland that provides enclosure. The elevated open ridges afford views across the adjacent wooded valleys and urban areas, with vertical elements such as overhead powerlines and telecoms mast forming visual detractors that interrupt landscape pattern. None of the proposed turbines are located within this area, with only the access track passing through it. The area is assessed as having moderate overall evaluation.

#### ***CYNONVS214 - Mynydd Llwyd and Mynydd Maen***

- 5.6.52 This aspect area features upland areas of medium scale, comprising both heath and grassland on the western slopes of Mynydd Maen and Mynydd Llwyd, flanked by coniferous plantation woodland with more open areas to the east, with westerly areas in valleys having a smaller field pattern. The upland areas afford some views to adjacent uplands and to the urban area of Newbridge in the valley to the west. Turbines 4 to 7 and 10 to 13 and their associated access tracks and hardstandings are located within this area. The area is assessed as having moderate overall evaluation.

#### ***TRFNVS024***

- 5.6.53 This aspect area is described as an upland area ranging from approximately 400m to 550mAOD with land cover dominated by open grazed hill tops of rough grassland and heath that is exposed with panoramic views over upland areas and over valleys. The area has a strong sense of place resulting from the available views and its simple defining characteristics that are generally unspoilt. Turbines 1 to 3, 8 and 9 and their associated access tracks and hardstandings are located within this area. The area is assessed as having a high overall evaluation.

#### ***TRFNVS036***

5.6.54 This aspect area is an open, upland valley with a mosaic pattern of fields and wooded areas but with no single notable quality, with an overall moderate evaluation. None of the proposed infrastructure is located within this aspect area.

#### **Historic Landscape**

5.6.55 Historic Landscape Aspect Areas within 10 km of the site are illustrated in Figure 5.16: LANDMAP Historic Landscape Classification within 10 km and overlaid with the blade tip ZTV in Figure 5.17: LANDMAP Historic Landscape Overall Evaluation with Blade Tip ZTV.

5.6.56 The proposed wind farm overlaps the following Historic Landscape Aspect Areas:

- CYNONHL724 - Nant Gawni and Hafod-fach;
- CYNONHL816 - Mynydd Maen and Mynydd Llwyd; and
- TRFNHL008 - HL008 Mynydd Henlllys and Mynydd Maen.

#### ***CYNONHL724 - Nant Gawni and Hafod-fach***

5.6.57 This aspect area is described as an extensive irregular fieldscape with scattered, isolated farmsteads of post-medieval origin, which has survived largely intact in spite of limited encroachment by 20th century quarrying activity and housing development along the southern and western periphery of the aspect area, respectively. None of the proposed turbines are located within this area, with only the access track passing through it. The area is assessed as having a moderate value, reflecting the relatively limited scope of the archaeological record.

#### ***CYNONHL816 - Mynydd Maen and Mynydd Llwyd***

5.6.58 The aspect area is described as having largely remained as open unenclosed moorland with some evidence of Bronze Age activity, with some sheepfolds on the unenclosed moorland representing post-medieval agricultural activity within the area. The coherence of this upland landscape has been partially reduced by the expansion of forestry plantation during the second half of the 20th century. Turbines 4 to 7 and 10 to 13 and their associated access tracks and hardstandings are located within this area. The area is assessed as having moderate overall value.

#### ***TRFNHL008 - HL008 Mynydd Henlllys and Mynydd Maen***

5.6.59 The aspect area is described as open upland ridge, common land with minor industrial incursion in the form of quarries with. Partly former monastic grange, with surviving traditional boundaries. Turbines 1 to 3, 8 and 9 and their associated access tracks and hardstandings are located within this area. The area is assessed as having moderate overall value.

#### **Cultural Landscape Services**

5.6.60 Cultural Landscape Aspect Areas in the detailed 24 km study area are illustrated in Figure 5.18: LANDMAP Cultural Landscape Classification within 10 km.

5.6.61 The proposed wind farm overlaps the following Cultural Landscape Services Aspect Areas:

- CYNONCLS050 - Mynydd Maen;
- CYNONCLS026 - Mynydd Maen and Mynydd Llwyd;
- TRFNCLS020; and
- TRFNCLS034.

#### ***CYNONCLS050 - Mynydd Maen***

- 5.6.62 The aspect area is noted as affording attractive views to and from it and having a moderate sense of place/local distinctiveness.

***CYNONCLS026 - Mynydd Maen and Mynydd Llwyd***

- 5.6.63 The aspect area is noted as affording attractive views to and from it and having a moderate sense of place/local distinctiveness.

***TRFNCLS020***

- 5.6.64 The aspect area is noted as affording attractive views to and from it and having a strong sense of place/local distinctiveness.

***TRFNCLS034***

- 5.6.65 The aspect area is noted as affording attractive views to and from it and having a moderate sense of place/local distinctiveness.

***Local Landscape Description and Character Appraisal***

- 5.6.66 The following discussion provides an overview of the physical and perceptual characteristics of the site and the surrounding landscape without particular reference to published landscape character types.

**Topography**

- 5.6.67 The site extends across several upland ridges comprising Mynydd Llwyd approximately 460 m above ordnance datum (AOD) orientated south-west to north-east, Mynydd Maen (approximately 458 m AOD) running north to south from a central high point of 472 m AOD between the two ridges and Mynydd Twyn glas that extends north-eastwards before sloping down towards the valley to the east.
- 5.6.68 Beyond the site, the topography of the detailed 24 km study area is varied. To the north-west and north of the site, landform comprises a series of upland ridges above narrow, deeply incised valleys. The valleys comprising the Rhondda, Cynon Vale, Taff, Rhymney, Sirhowy, Ebbw Vale and Lwyd extend in a broadly north north-west to south south-east direction from the high ground to the north-west at Mynydd Llangynidr and Mynydd Llangatwg within the Bannau Brycheiniog National Park.
- 5.6.69 The western edge of the study area fringes the Rhondda, with lower-lying valleys to the east. In the southern part of the study area landform lowers in elevation and is more gently undulating, reducing in elevation towards the Severn Estuary. In the eastern part of the study area landform is generally more gently undulating and lower in elevation compared to the north-western part of the study area, interspersed with some areas of higher ground.

**Watercourses and Drainage**

- 5.6.70 Within the detailed 24 km study area there is an extensive network of rivers and watercourses flowing from the higher ground to the north-west through the narrow valleys and lower-lying southern parts of the study area in a broadly north north-west to south south-east direction towards the Severn Estuary.

**Vegetation**

- 5.6.71 The site comprises elevated open, grassland and heathland and an absence of tree cover which occurs on the ridge slopes to the north and south of the site.
- 5.6.72 Within the surrounding landscape there is extensive tree cover on the ridge side slopes and along valley floors. Within the eastern and southern parts of the study area fields there is extensive tree and hedgerow cover along field boundaries and roads crossing through the undulating low farmland.

**Built Infrastructure**

- 5.6.73 An overhead pylon crosses west to east through the northern part of the site and Mynydd Llwyd before continuing in a south-easterly direction across Mynydd Maen and descending towards Cwmbran. Two telecom masts and compounds are located within the northern part of the site, while a disused mast and compound is located within to the east of the site on Mynydd Twyn-glas. A gravel track also crosses west to east through the northern part of the site.
- 5.6.74 Beyond the site, there are extensive areas of urban development at Pontypool and Cwmbran to the east, Blackwood to the west and Merthyr Tydfil to the north-west. In the southern part of the study area are the extensive urban areas of Newport and Cardiff.
- 5.6.75 There are a number of operational wind turbines within the 24 km detailed LVIA study area. The two large operational wind turbines at Oakdale Business Park are located approximately 5.7 km to the north-west of the nearest turbine. The operational Pen Bryn Oer Wind Farm is located approximately 16.5 km to the north-west near Tredegar and two operational Rassau Industrial wind turbines are located approximately 16.8 km to the north-west.
- 5.6.76 At Newport to the south-east, there are several operational wind turbines at ANP Newport, Solutia UK Ltd and at the Tesco distribution centre at Magor.

#### **Sensory and Perceptual Characteristics**

- 5.6.77 The site is perceived as an open, exposed upland ridge comprising grassland and heath. It is open access land close to nearby urban areas and provides opportunities for recreation and appreciation of the landscape. Its elevation affords long-range views across the surrounding landscape and valleys.
- 5.6.78 Its upland location provides a perception of exposure and remoteness which is in contrast to the enclosure of the surrounding valleys and urban areas below. However, this is influenced by the presence of existing man-made vertical structures in the form of the overhead pylon line and telecoms masts present within the site.

#### **Forces for Future Change in the Landscape**

- 5.6.79 In the absence of the proposed wind farm it is highly likely that another proposal for a wind farm would come forward in this location, given its upland location and it being located in a Pre-assessed Area for Wind Energy as set out in Policy 17 of the Future Wales national spatial strategy.
- 5.6.80 Within the surrounding landscape there are several other consented or 'in-planning' wind farm projects, most notably the consented Mynydd Carn Y Cefn Wind Farm located 6.3 km to the north-west of the site. There are also several other proposed wind farms that are in planning. These include Mynydd Llanhilleth located approximately 2 km to the north, Manmoel Wind Farm located 10.9 km to the north-west, Pen March located 19.9 km to the north-west, Twyn Hywel located 13.1 km to the south-west and Mynydd Y Glyn located 22.6 km to the south-west.
- 5.6.81 Besides these proposed wind farms, there is also likely to be further change to the landscape resulting from solar developments with several already present south-west of Abercarn.
- 5.6.82 Further change is also likely to occur due to the continued need to meet demand for new housing. As such nearby urban areas may also see further development.
- 5.6.83 It is widely recognised that climate change will have an impact on the future character of the Welsh landscape through changes to weather conditions that will in turn result in changes to vegetation that will affect the intrinsic character of the landscape which may lead to changes in land management practices.

#### **Visual Receptors**

- 5.6.84 With reference to the blade tip ZTV in Figure 5.3: Blade Tip ZTV to 35 km with Viewpoints, despite the height of the proposed turbines (13 no. turbines with a blade tip height of 149.9 m to blade tip) theoretical visibility even within 5 km of the proposed wind farm is varied with

several notable areas where no visibility is predicted and extensive areas where views of a reduced number of turbines would be available in theory.

- 5.6.85 This is due to the varied nature of the topography of the surrounding landscape, as illustrated in Figure 5.19: Topography Plan to 24 km with visibility generally limited to areas of high ground on adjacent ridges to the west and north-west or longer-range views over lower, undulating terrain to the east.
- 5.6.86 This restricts the principal area of theoretical visibility to an area extending approximately 13 km to the north, 15 km to the south, west and east. Although it is acknowledged that theoretical visibility is predicted at greater distances, it does become patchier and more intermittent and limited to elevated parts of the surrounding landscape.
- 5.6.87 Beyond these distances, it was determined that there would be no potential for the proposed wind farm to result in significant visual effects and furthermore, that with distance from the site, the likelihood of significant visual effects occurring incrementally decreases. Therefore, whilst the detailed study area for this LVIA extends out to 24 km as illustrated on the accompanying figures, sensitive visual receptors are identified with a decreasing level of detail with distance from the site.
- 5.6.88 Interpretation of the ZTVs in Figures 5.3: Blade Tip ZTV to 35 km with Viewpoints through to 5.6: Hub Height ZTV to 24 km with Viewpoints and figures 5.21: Blade Tip ZTV to 24 km (NW Quadrant) with Viewpoints to 5.28: Hub Height ZTV to 24 km (SE Quadrant) and Viewpoints assisted identifying potentially sensitive visual receptors of the proposed wind farm. Principal visual receptors within the surrounding landscape are illustrated in Figure 5.20: Principal Visual Receptors to 24 km with Blade Tip ZTV and Viewpoints and are identified below.

#### **Residential Receptors within 2 km**

- 5.6.89 Effects on individual properties outside of settlements are considered further in the Residential Visual Amenity Assessment in Technical Appendix 5.6. The location of these properties is illustrated in Figure 1 of Technical Appendix 5.6.

#### ***Settlements within 2 to 5 km***

- 5.6.90 The following settlements are located between 2 and 5 km from the proposed wind farm:
- Pantygasseg - located approximately 1 km to the north.
  - Cwmbran - located approximately 1.4 km to the south-east;
  - Pontypool - located approximately 2.3 km to the north-east;
  - Pantside - location approximately 2.6 km to the west;
  - Crumlin - located approximately 2.6 km to the west;
  - Llanhilleth/Brynithel - located approximately 3.2 km to the north-west;
  - Newbridge - located approximately 3.4 km to the west; and
  - Abercarn - located approximately 3.5 km to the south-west.

#### ***Settlements within 5 to 10 km***

- 5.6.91 The following main settlements are located between 5 and 10 km from the proposed wind farm:
- Blaenavon - located approximately 9.4 km to the north;
  - Caerleon - located approximately 8.2 km to the south-east;
  - Bettws/Malpas - located approximately 6.3 km to the south-east;
  - Risca - located approximately 4.5 km to the south;
  - Pontllanfraith/Blackwood - located approximately 5.4 km to the west;



- Oakdale - located approximately 5 km to the west;
- Aberbargoed - located approximately 8.7 km to the west; and
- Abertillery - located approximately 5 km to the north.

### **Settlements 10 to 15 km**

- 5.6.92 Although there are several main settlements located within this distance, including Ebbw Vale, Usk, Newport and Caerphilly, they either do not experience any or very limited theoretical visibility, apart from Newport. However, given the extensive urban development in the city at such distance any effects would be limited and would not be considered significant.
- 5.6.93 An initial filtering exercise has been undertaken of settlements beyond 2 km from the proposed wind farm to determine which have the potential for significant effects to arise and would therefore require detailed consideration in this chapter. The intention has been to ensure that the level of attention given is proportionate to the likelihood of significant effects arising. The findings of the initial filtering exercise are presented in Table 5.4.1 of Technical Appendix 5.4.
- 5.6.94 This exercise identified that the following settlements have the potential to be significantly affected by the proposed wind farm:
- Pantygasseg;
  - Cwmbran;
  - Pontypool;
  - Panside;
  - Brynithel;
  - Oakdale;
  - Bettws/Malpas;
  - Pontllanfraith/Blackwood; and
  - Caerleon.
- 5.6.95 The effects on these settlements are considered further at Section 5.7.

### **National Trails**

- 5.6.96 Offas Dyke National Trail passes through the north-eastern part of the 24 km detailed study area at a distance of over 20 km from the proposed wind farm. With reference to the ZTV. Theoretical visibility is available from several short sections near Llantilio Crossenny. Given the distance from the proposed wind farm and the presence of intervening trees and field boundaries, any effects would be very minimal and would not be considered significant. As such effects on this national trail are not considered further in the assessment.

### **Long Distance Walking Routes**

- 5.6.97 There are a number of long-distance footpaths that pass through the 24 km detailed study area comprising:
- Coed Morgannwg Way
  - Cistercian Way (Wales)
  - Sirhowy Valley Walk
  - Taff Ely Ridgeway Walk (Ffordd y Bryniau)
  - Valeways Millennium Heritage Trail
  - Brecon Beacons Traverse

- Usk Valley Walk
- Glamorgan Ridgeway Walk
- Capital Walk - Cardiff
- Taff Trail
- Rhymney Valley Ridgeway Walk
- Three Castles Walk
- Torfaen Trail
- Beacons Way
- Offa's Dyke Path
- Cambrian Way

5.6.98 These are illustrated in Figure 5.20: Principal Visual Receptors to 24 km with Blade Tip ZTV and Viewpoints.

5.6.99 Beyond 15 km theoretical visibility from the routes is very limited with the majority experiencing no visibility or very limited theoretical visibility from short sections of the route. Therefore, the assessment has focussed on those walking routes within 15 km from the proposed wind farm.

5.6.100 An initial filtering exercise has been undertaken to determine which have the potential for significant effects to arise and would therefore require detailed consideration in this chapter. The intention has been to ensure that the level of attention given to each long-distance path is proportionate to the likelihood of significant effects arising. The findings of the initial filtering exercise are presented in Table 5.4.2 of Technical Appendix 5.4.

5.6.101 This exercise identified that the following routes have the potential to be significantly affected by the proposed wind farm:

- Cambrian Way;
- Cistercian Way;
- Torfaen Trail;
- Rhymney Valley Ridgeway Walk; and
- Sirhowy Valley Walk.

5.6.102 The effects on these routes are considered further at Section 5.7.

#### **Public Rights of Way**

5.6.103 There is an extensive network of public rights of way within the surrounding landscape. However, the approach taken has been to focus the assessment on promoted walking routes.

#### **Cycle Routes**

5.6.104 There is an extensive network of cycle routes within the detailed 24 km LVIA study area. In total there are 22 national cycle route main routes and a number of link routes.

5.6.105 Beyond 15 km theoretical visibility from the cycle routes is very limited with the majority experiencing limited theoretical visibility from short sections of the route. Given the increased distance from the proposed wind farm and the limited theoretical visibility, with actual visibility further reduced by intervening built development, particularly from routes in the southern part of the study area around Newport, any effects would be limited and would not be considered significant. Therefore, the assessment has focussed on those cycle routes within 15 km from the proposed wind farm.

5.6.106 An initial filtering exercise has been undertaken to determine which cycle routes have the potential for receptors to experience significant effects from and would therefore require

detailed consideration in this chapter. The intention has been to ensure that the level of attention given to each route is proportionate to the likelihood of significant effects arising. The findings of the initial filtering exercise are presented in Table 5.4.3 of Technical Appendix 5.4.

5.6.107 This filtering exercise identified that the following routes have the potential to be significantly affected by the proposed wind farm:

- NCN 466 - within 5 km to the north of the site;
- NCN 49; and
- NCN 423 - within 10 km of the site.

5.6.108 The effects on these routes are considered further at Section 5.7.

### **Roads and Railways**

5.6.109 An extensive network of major and minor roads traverses through the landscape within the detailed 24 km study area.

5.6.110 Beyond 15 km theoretical visibility from the key routes is very limited with the majority experiencing limited theoretical visibility from short sections of the route or no visibility at all due to the key routes generally following the lower-lying valleys where no theoretical visibility is predicted. Given the increased distance from the proposed wind farm and the limited theoretical visibility and intervening built development and vegetation that would further restrict actual visibility, any effects would be limited and would not be considered significant. Therefore, the approach has been to focus the assessment on those routes within 10 km with predicted visibility of the proposed wind farm.

5.6.111 An initial filtering exercise has been undertaken to determine which roads and railways have the potential for receptors to experience significant effects from and would therefore require detailed consideration in this chapter. The intention has been to ensure that the level of attention given to each route is proportionate to the likelihood of significant effects arising. The findings of the initial filtering exercise are presented in Table 5.4.4 of Technical Appendix 5.4.

5.6.112 This filtering exercise identified that the following key roads have the potential to be significantly affected by the proposed wind farm:

- Minor road Pantygasseg; and
- A472.

5.6.113 The effects on these routes are considered further at Section 5.7.

5.6.114 In addition to the key roads passing through the study area there are a number of railway lines passing through the wider landscape. These include the North Wales South Wales Service, the Marches Line, the Ebbw Vale Line and the South Wales Valleys lines. With reference to the blade tip ZTV in Figures 5.3: Blade Tip ZTV to 35 km with Viewpoints and 5.4: Blade Tip ZTV to 24 km with Viewpoints, these lines generally follow low-lying routes through settled areas or routes through the valleys where there is either limited or no theoretical visibility.

5.6.115 Where theoretical is predicted actual visibility would be reduced by built development or trackside vegetation resulting. Any effects would be limited and would not be considered significant. As such effects on rail routes are not considered further within the assessment.

### **Assessment Viewpoints**

5.6.116 The following table sets out the viewpoints considered as part of this assessment. These viewpoints have been derived through desk-based, on-site analysis, interpretation of ZTVs and through consideration of the viewpoints used in the assessment of other nearby wind farms. The assessment viewpoints have also been consulted on as part of the scoping and amended based on the feedback received from various consultees, including Torfaen, Caerphilly and Monmouthshire Councils.

5.6.117 The viewpoints are representative of the range of views towards the proposed wind farm. They are not intended to cover every single view but are representative of a range of distances from the site and receptor types (e.g. residents, walkers, road users) and have been used to inform the assessment of effects on landscape character, the visual assessment, the cumulative assessment and the assessment of effects from routes.

5.6.118 Table 5.5 identifies the 37 assessment viewpoints, an increase on the original 25 viewpoints which were proposed in the Scoping Report. The locations of these viewpoints are illustrated in Figures 5.3: Blade Tip ZTV to 35 km with Viewpoints and 5.4: Blade Tip ZTV to 24 km with Viewpoints. A more detailed location map of each viewpoint is also provided in Technical Appendix 5.7.

**Table 5.5 - ASSESSMENT VIEWPOINTS**

No.	Location	X	Y	Receptor Type
1	Cambrian Way Car Park	327734	198002	Recreational/road users
2	Prescoch Lane	328566	199596	Recreational/residential
3	A4042 Overbridge, New Inn	329776	200152	Road users
4	Llandegfedd Reservoir	332877	198464	Recreational
5	B4236 / Llanfrefcha	331663	193725	Residential/road users
6	Twmbarlwm	324217	192608	Recreational
7	Ebbw View Terrace, Newbridge	320988	196760	Residential/road users
8	B4471, Swffryd	321643	198842	Residential/road users
9	Pen-y-fan Pond Country Park	319609	200668	Recreational
10	St Illtyd	322118	201976	Road users
11	Cefn Manmoel	316604	207145	Recreational
12	Pen Garn-Bugail / Gelligaer Common	310040	203577	Recreational
13	Rhymney Valley Ridgeway Walk / Mynydd Bach	317027	192282	Recreational
14	Cefn Eglwysilan	309708	190529	Recreational
15	Mynydd Machen	322365	190050	Recreational
16	Bettws, Monnow Way	328748	190306	Residential/road users
17	Ridgeway, Newport	329337	188255	Recreational/road users
18	Lodge Hill, Caerleon	332137	191212	Recreational
19	Pen-y-cae-mawr	341324	195030	Recreational/road users
20	B4293 / Devauden	348566	199060	Residential/recreational
21	Llancayo	336810	203259	Residential/recreational
22	Bloreng	326948	211824	Recreational
23	B4560	316441	215673	Road users
24	Pen y Fan	301211	221580	Recreational
25*	Mynydd Maendy	293937	194598	Road users
26	Cwmbran Town centre (centre of Edlogan Way close to Cwmbran Station)	329795	195796	Settlement/road users
27	Pantygasseg	325229	199821	Residential/road users
28	Trevethin	327820	202036	Residential
29	Cefn Fforest / Blackwood Showfields	316742	198076	Residential/recreational
30	Mynydd Garn-Wen	328929	204367	Recreational

31	Cambrian Way	326424	196478	Recreational
32	Brookland Terrace /play area	329270	196566	Residential/recreational
33	Raglan castle	341849	208510	Recreational
34	Llanhennock	335392	192759	Recreational/road users
35	Ysgyryd fawr	332966	217714	Recreational
36	Mynydd Coety	323252	207915	Recreational
37	Royal Crescent, Treowen/ Treowen Park	320818	198000	Residential/recreational

\* Viewpoint 25 has been micro-sited from the A4107/Craig Owr viewpoint to the footpath at Mynydd Maendy where there is theoretical visibility of the proposed wind farm.

5.6.119 Technical Appendix 5.5 provides a baseline description of the view from each assessment viewpoint, followed by a detailed analysis and assessment of the effects.

## 5.7 Predicted Impacts

5.7.1 Following a brief summary of the proposed wind farm, this section of the LVIA considers the effects of the proposed wind farm on the physical features of the site (landscape fabric), landscape character, and visual amenity. It considers the effects at two different stages in the lifetime of the proposed wind farm:

- during construction of the proposed wind farm; and
- during the operational lifetime of the proposed wind farm.

5.7.2 As discussed at section 5.4, effects during decommissioning have been scoped out of the assessment as effects would be very similar in nature to those experienced during the construction, except in reverse.

5.7.3 Effects during the construction phase would be temporary and would have a short duration. Effects associated with the operational phase of the proposed wind farm are considered to be long-term, reversible effects.

### *Project Description*

5.7.4 The proposed wind farm would comprise the following visible features which may have an impact on landscape character or visual amenity:

- 13 turbines with a maximum blade tip height of 149.9 m. The proposed turbines would be three bladed horizontal axis machines; the finish and colour of the turbines will be semi-matt and pale grey in colour);
- site access tracks;
- hardstanding areas and turning heads adjacent to each turbine;
- a substation;
- on-site underground cabling;
- Up to three temporary borrow pits;
- temporary construction compound; and
- Off-site roadworks along the access road from the west of the site to facilitate the delivery of wind turbine abnormal indivisible loads to the site.

### *Effects during Construction on Existing Landscape Features*

5.7.5 As identified in the baseline section, the existing landscape features comprise:

- Grassland and heathland;
  - Upland plateau landform; and
  - Telecoms mast and overhead pylon line.
- 5.7.6 The construction phase would result in the removal of grassland and heath vegetation and other such ground-level vegetation, through the construction of on-site access tracks, hardstanding areas, the substation compound, on-site underground cabling, temporary borrow pits, the construction compound and turbine foundations. Underground electricity cables would generally follow access tracks.
- 5.7.7 The existing vegetation would be removed to allow construction of foundations for the various elements. Soils stripped as part of the establishment works would be stored in accordance with established soil handling best-practice for use during reinstatement works on completion of construction activities.
- 5.7.8 The grassland and heathland vegetation are an abundant feature of the wider surrounding upland plateau that extends across Mynydd Maen, Mynydd Llwyd and Mynydd Twyn-glas. The western half of the site forms part of the fabric of the Abercarn VILL, while the south-eastern part forms part of the fabric of the South West Uplands SLA.
- 5.7.9 The grassland and heath are noted in the descriptions of both the Abercarn VILL and the South West Uplands SLA, and the three LANDMAP Landscape Habitats Aspect Areas (CYNONLH150, TRFNLH020 and TRFNLH021) that cover the site are assessed as having an overall high evaluation and are judged to have a high susceptibility to change. Combining the value and susceptibility results in the sensitivity of the grassland and heathland vegetation being high.
- 5.7.10 The grassland and heath vegetation would experience a low magnitude of change resulting from the construction of internal access tracks, hardstandings and turbine foundations, affecting a small part of the overall plateau, with large areas remaining in the western and eastern parts of the site and in between the proposed infrastructure. The overall level of effect on the grassland and heath resulting from the proposed wind farm is considered to be minor moderate, which is not considered to be significant.
- 5.7.11 The upland plateau landform of the site covers small parts of four LANDMAP Geological Landscape aspect areas, as noted in the baseline section (CYNONGL001 - Upper Ebbw valley; CYNONGL002 - Nant Gwyddon; TRFNGL003 - Cwm y Glyn; and TRFNGL002 - Mynydd Maen) which are assessed as having a moderate or high evaluation and are judged to have medium susceptibility to the change proposed. Combining the value and susceptibility results in the sensitivity of the upland plateau landform being medium high.
- 5.7.12 Referring to the Project Description found at Chapter 3 of the Environmental Statement, up to three potential borrow pits are proposed. The final location, number and estimate of material from each potential site would be determined once full ground investigation works and testing have been completed. The borrow pits would all be located within the LANDMAP Geological Landscape Aspect Area CYNONGL001, while turbine foundations and access tracks would be located in all four aspect areas.
- 5.7.13 The excavation of the borrow pits would be short-term and would result in the removal of soils and subsurface rock. Borrow workings would be restored following construction so as to encourage re-vegetation although it is accepted that some regrading of the land profile would be expected. The excavation of access tracks and turbine foundations would also result in the removal of soils and subsurface rock but in a very localised area. These changes would result in no greater than a low magnitude of change. The overall level of effect on the upland plateau landform resulting from the proposed wind farm is considered to be minor moderate, which is not considered to be significant.
- 5.7.14 The telecoms mast and overhead pylon line would be unaffected by the proposed wind farm and would remain in-situ, resulting in no change to these features.

#### **Summary of effects on existing landscape features**

5.7.15 The proposed wind farm would result in minor moderate effects to the grassland and heathland vegetation and the upland plateau landform, while the telecoms mast and overhead pylon line would experience no change. All these effects are considered to be not significant.

#### *Assessment of Effects on Landscape Character*

5.7.16 As discussed in Section 5.3, PAA 10 extends across the majority of the site and all of the proposed turbines and associated infrastructure are located within it. The Welsh Government has determined the area as being capable of accommodating wind energy development in an acceptable way, subject to the criteria set out in Policy 18 of Future Wales that are relevant to this chapter.

5.7.17 As explained in the baseline section, the site sits to the south of the Heads of the Valleys Smaller Scale Wind Turbine Development Landscape Sensitivity and Capacity Study. As such the below assessment uses the Visual and Sensory Aspect Areas as the basis for the assessment. However, effects on the landscape character of the BBNP are also considered which lies to the north of the site.

5.7.18 LANDMAP Visual and Sensory Aspect Areas within 10 km of the proposed wind farm are shown in Figure 5.14: LANDMAP Visual and Sensory Classification within 10 km and overlaid with the blade tip ZTV in Figure 5.15: LANDMAP Visual and Sensory Overall Evaluation with Blade Tip ZTV.

5.7.19 As explained in the baseline section at paragraph 5.6.5050, the site overlaps the following Visual and Sensory Aspect Areas:

- CYNONVS372 - Mynydd Maen;
- CYNONVS214 - Mynydd Llwyd and Mynydd Maen;
- TRFNVS024; and
- TRFNVS036

5.7.20 Beyond these aspect areas the assessment considers effects on landscape character collectively in broad geographical areas around the site based on their distance from the proposed wind farm. The intention has been to ensure that the level of attention given is proportionate to the likelihood of significant effects arising.

5.7.21 The first stage in assessing the effects of the proposed wind farm on landscape character is to evaluate the sensitivity of the landscape to the type of change proposed. As indicated within GLVIA3, sensitivity of landscape character should be determined through a consideration of both susceptibility to change and any values associated with the landscape.

5.7.22 The second stage is to determine the magnitude of change on landscape character as a result of the proposed wind farm. This has been determined using professional judgement based on the following factors:

- The percentage of the visual and sensory aspect area from where the site would theoretically and actually be visible;
- The distance between the aspect area and the site;
- The likely prominence of the turbines from the aspect area taking account of existing locally dominant characteristics in the character type; and
- The degree to which the physical and perceptual characteristics would change as a result of the proposed wind farm.

5.7.23 Beyond the immediate environs of the site, the ground level components of the proposed wind farm, including access tracks, areas of hardstanding, temporary construction compound, borrow pits and the proposed substation, would not be discernible from lower-lying areas due to the elevation of the plateau upon which the wind farm is located. Therefore, effects on landscape character, as experienced in the wider landscape, for most locations arise largely in relation to the introduction of the 13 proposed turbines into the landscape and the resultant changes to the perceptual experience of landscape character.



- 5.7.24 It is acknowledged that there may be more elevated areas, particularly to the north and west, where ground-level elements, particularly the substation building may be visible and these are considered within the assessment where relevant.
- 5.7.25 It is noted that in general, the magnitude of change in landscape character would incrementally decrease with distance from the turbines as they become gradually less prominent. A summary of the effects on landscape character is presented in Table 5.6. Note that for all character types stated within this table, the duration of the proposed wind farm is considered to be long-term and reversible.
- 5.7.26 Visual and Sensory Aspect Areas have been overlaid with the blade tip ZTV in Figure 5.15: LANDMAP Visual and Sensory Overall Evaluation with Blade Tip ZTV.

#### *Visual and Sensory Aspect Areas covering the site*

##### **CYNONVS372 - Mynydd Maen (host Aspect Area)**

- 5.7.27 As noted in the baseline, this aspect area is an upland area of medium scale, comprising ridges and valleys with a mix of conifer and deciduous woodland that provides enclosure. The elevated open ridges afford views across the adjacent wooded valleys and urban areas, with vertical elements such as overhead powerlines and telecoms mast forming visual detractors that interrupt landscape pattern. None of the proposed turbines are located within this area, with only the access track passing through it following the route of an existing track with three small areas where access works would be required.

#### *Sensitivity*

- 5.7.28 The value of the aspect area is assessed as medium. It is located within the Caerphilly VILL and is assessed as having a moderate scenic quality, integrity and character and is considered to have visual qualities that are relatively rare within the regional context.
- 5.7.29 The susceptibility of the area is assessed as medium. Pylons and masts are noted as being intrusive vertical elements that influence the visual character of the area, making it less susceptible to the change proposed. The proposed wind farm would be located within an adjoining aspect area with only the access track to the proposed wind farm crossing through this area following the route of an existing track. From the more open higher ridges, existing views are influenced by the existing pylon line, adjacent urban areas and longer-range views of existing turbines.
- 5.7.30 Combining the value and the susceptibility results in this aspect area having a medium sensitivity to the change proposed.

#### *Magnitude of change during construction*

- 5.7.31 During construction the open area in the northern part of the aspect area east of Crumlin would be affected by works associated with the formation of the access track and increased movement of vehicles and people using the track to access the site to the east which would result in a change to the perceived character across a small part of the overall area.
- 5.7.32 The scale of the effect would be small, affecting the northern part of the aspect area and a small geographical extent. The effect would be short term, temporary and reversible, resulting in a medium magnitude of change.

#### *Effects during construction*

- 5.7.33 Overall, the effect is judged to be moderate and not significant as most of the aspect area would be unaffected.

#### *Magnitude of change during operation*

- 5.7.34 With reference to Figure 5.15: LANDMAP Visual and Sensory Overall Evaluation with Blade Tip ZTV showing the visual and sensory aspect areas overlaid with the blade tip ZTV, during

operation the magnitude of change experienced within the more enclosed valleys and wooded areas would be limited as predicted visibility in these areas is restricted by landform and would be further reduced by intervening trees and vegetation. The more elevated open areas would be influenced to a greater extent where easterly views are available of the proposed wind farm.

- 5.7.35 The scale of the effect would be moderate and the change would influence a moderate geographical extent of the overall area. The effect would be long term and reversible, resulting in a medium magnitude of change.

#### *Effects during operation*

- 5.7.36 Effects during construction are judged to be moderate and significant.

#### **CYNONVS214 - Mynydd Llwyd and Mynydd Maen (host Aspect Area)**

- 5.7.37 As noted in the baseline, this aspect area features upland areas of medium scale, comprising both heath and grassland on the western slopes of Mynydd Maen and Mynydd Llwyd, flanked by coniferous plantation woodland with more open areas to the east, with westerly areas in valleys having a smaller field pattern. The upland areas afford some views to adjacent uplands and to the urban area of Newbridge in the valley to the west. Turbines 4 to 7 and 10 to 13 and their associated access tracks and hardstandings are located within this area. The area is assessed as having moderate overall evaluation.

#### *Sensitivity*

- 5.7.38 The value of the aspect area is assessed as medium. It is located within the Caerphilly VILL and is assessed as having a moderate scenic quality, integrity and character and is considered to have visual qualities that are relatively rare within the regional context.
- 5.7.39 The susceptibility of the area is assessed as medium. Pylons and masts are noted as being intrusive vertical elements that influence the visual character of the area, making it less susceptible to the change proposed. Eight of the proposed turbines and their associated foundations and hardstandings would be located within the eastern part of this aspect area. Existing views in the north-eastern part of the aspect areas are influenced by the existing pylon line, adjacent urban areas and longer-range views of existing turbines.
- 5.7.40 Combining the value and the susceptibility results in this aspect area having a medium sensitivity to the change proposed.

#### *Magnitude of change during construction*

- 5.7.41 During construction the north-eastern part of the aspect area would be affected by disturbance arising from the formation of the construction compound within the western part of the site, the excavation of borrow pits, the construction of the substation within the eastern part of the aspect area and the construction of turbine foundations and access tracks leading to each turbine. Large cranes would be used to erect the turbines and over time these would move between turbine locations. Temporary fencing, construction signage and compound security lighting would also be present. There would also be additional movement of construction vehicles and people within the site.
- 5.7.42 The scale of the change would be medium, affecting the north-eastern part of the aspect area and extending across a moderate geographical extent. The effect would be short-term, temporary and reversible, resulting in a medium magnitude of change.

#### *Effects during construction*

- 5.7.43 Overall, the effect is judged to be moderate and significant with the change affecting the north-eastern part of the aspect area while the northern and southern limbs would be unaffected directly but would experience a short-term temporary change to their visual character.

### ***Magnitude of change during operation***

- 5.7.44 With reference to Figure 5.15: LANDMAP Visual and Sensory Overall Evaluation with Blade Tip ZTV, theoretical visibility is predicted of up to all 13 turbines across the majority of the area, with only the western fringes of the aspect area not experiencing any change. The open grassland and heathland would remain but the turbines would introduce additional vertical structures into the landscape that would have strong influence on the character of the area, particularly across Mynydd Llwyd and Mynydd Maen and to a much lesser degree within the lower-lying northern and southern limbs of the aspect area.
- 5.7.45 The proposed wind farm would introduce a large scale of change that would be experienced across a large geographical extent of the aspect area, resulting in a high magnitude of change.

### ***Effects during operation***

- 5.7.46 Effects during operation are judged to be major and significant.

#### **TRFNVS024 (host Aspect Area)**

- 5.7.47 This aspect area is described as an upland area ranging from approximately 400 m to 550 m AOD with land cover dominated by open grazed hill tops of rough grassland and heath that is exposed with panoramic views over upland areas and over valleys. The area has a strong sense of place resulting from the available views and its simple defining characteristics that are generally unspoilt. Turbines 1 to 3, 8 and 9 and their associated access tracks and hardstandings are located within this area. The area is assessed as having a high overall evaluation.

### ***Sensitivity***

- 5.7.48 The value of the aspect area is assessed as high. The area situated on the eastern edge of the Caerphilly VILL and the majority of it is situated within the South West Uplands Special Landscape Area. It is assessed as having a high scenic quality, integrity and character and it allows views out from the exposed ridge across the lower lying areas to its east while forming a prominent visual backdrop to views from the wider surrounding area.
- 5.7.49 The susceptibility of the area is assessed as high. While the area is crossed by an existing overhead pylon line that lowers its susceptibility, the area forms a prominent backdrop in many views from the surrounding area and has a strong sense of place.
- 5.7.50 Combining the value and the susceptibility results in this aspect area having a high sensitivity to the change proposed.

### ***Magnitude of change during construction***

- 5.7.51 During construction the northern part of the aspect area would be affected by disturbance arising from the formation of turbine foundations, hardstandings and access tracks leading to each turbine which are located within the north-western part of the area. Large cranes would be used to erect the turbines and over time these would move between turbine locations during the construction period. Temporary fencing and construction signage would also be present. There would also be additional movement of construction vehicles and people within the site.
- 5.7.52 The scale of the change would be medium, affecting the north-western part of the aspect area and extending across a moderate geographical extent. The effect would be short-term, temporary and reversible, resulting in a medium magnitude of change.

### ***Effects during construction***

- 5.7.53 Overall, the effect is judged to be moderate and significant with the change affecting the north-western part of the aspect area while the southern and eastern limbs would be unaffected directly but would experience a short-term temporary change to their visual character.

### *Magnitude of change during operation*

- 5.7.54 With reference to Figure 5.15: LANDMAP Visual and Sensory Overall Evaluation with Blade Tip ZTV, theoretical visibility is predicted of up to all 13 turbines across the majority of the area. The topography of the aspect area means that at lower elevations such as at the foot of Mynydd Twyn-glas, theoretical visibility would be reduced or no views would be available such as along sections of the narrow southern limb. The open grassland and rough heathland would remain but the turbines would introduce additional vertical structures into the landscape that would have strong influence on the visual character of the area, particularly across Mynydd Maen and Mynydd Twyn-glas and to a much lesser degree within the lower-lying southern part of the aspect area.
- 5.7.55 The proposed wind farm would introduce a large scale of change that would be experienced across a large geographical extent of the aspect area, resulting in a high magnitude of change.

### *Effects during operation*

- 5.7.56 Effects during operation are judged to be major and significant.

#### **TRFNVS036**

- 5.7.57 This aspect area is a small open, upland valley with a mosaic pattern of fields and wooded areas but with no single notable quality, with an overall moderate evaluation. Whilst it lies partly within the red line boundary none of the proposed infrastructure would be located within this aspect area.

### *Sensitivity*

- 5.7.58 The value of the aspect area is assessed as medium. It is not located within a designated landscape and is assessed as having a moderate scenic quality, integrity, character and rarity.
- 5.7.59 The susceptibility of the area is assessed as medium. The proposed wind farm would be located within an adjoining aspect area. The area would still be perceived as a small open, upland valley.
- 5.7.60 Combining the value and the susceptibility results in this aspect area having a medium sensitivity to the change proposed.

### *Magnitude of change during construction*

- 5.7.61 During construction, views of construction activity would be possible but due to the topography of the aspect area some views would be screened. There would be the potential for views of cranes associated with the erection of the turbines. However, other construction activity and movement would be largely screened from view.
- 5.7.62 The scale of the change would be medium, affecting only parts of the aspect area where views are available. The effect would be short-term, temporary and reversible, resulting in a medium magnitude of change.

### *Effects during construction*

- 5.7.63 Overall, the effect is judged to be moderate and significant.

### *Magnitude of change during operation*

- 5.7.64 With reference to Figure 5.15: LANDMAP Visual and Sensory Overall Evaluation with Blade Tip ZTV, theoretical visibility across the aspect area is limited, with a reduced number of turbines visible across the area. The topography of the aspect area means that at lower elevations such as from the north-eastern part only between one and three turbines would be visible. Referring to the hub height ZTV in Figure 5.6: Hub Height ZTV to 24 km with Viewpoints, views would be limited to blade tips only from some northern parts of the area. The open character of the valley would remain with the turbines introducing a change to the character of available

views west up the rising landform, with the turbines seen in close proximity above the valley side.

- 5.7.65 The proposed wind farm would introduce a large scale of change that would be experienced across a moderate geographical extent of the aspect area, resulting in a high magnitude of change.

#### *Effects during operation*

- 5.7.66 Effects during operation are considered to be major and significant.

#### **Other Visual and Sensory Aspect Areas within 5 km**

##### *Areas to the north*

- 5.7.67 To the immediate north of the site the landform falls steeply down into a narrow valley through which the A472 passes. The southern valley slopes comprise two visual and sensory aspect areas (CYNONVS372 and TRFNVS017) located within approximately 1 km that are characterised by their wooded upland valleys slopes. These areas are assessed as having a medium value, a low susceptibility to the change proposed and a medium sensitivity.
- 5.7.68 Construction activities would be screened by a combination of the valley landform and the wooded southern valley sides although cranes used to assemble the turbines would be visible at certain points such as when turbines closest to the northern edge of the site are installed, resulting in no greater than a small scale of change, across a small geographical extent and a low magnitude of change. The overall effect would be minor moderate and not significant.
- 5.7.69 During operation a limited number of turbines would be seen, with greater visibility at higher elevations. The areas would still be perceived to be wooded slopes but with turbines beyond. This would result in a large scale of change that would be experienced across a small geographical extent, resulting in a medium magnitude of change. The overall effect would be moderate and significant.
- 5.7.70 North of the valley the landform rises steeply towards Pantygasseg (Viewpoint 27) and Visual and Sensory Aspect Area TRFNVS018 located within approximately 2.5 km which is characterised as hillside and scarp slopes with grazing, which is assessed as having a medium value, a low susceptibility to the change proposed and a medium sensitivity.
- 5.7.71 Construction activities would be partially screened due to the valley landform and the wooded southern valley sides although cranes used in the construction of the turbines would be highly noticeable at certain points during the construction phase, seen above the valley. Some ground-level activities and additional movement would also be experienced at times. It is considered that this would result in a large scale of change, experienced across a large geographical extent and leading to a high magnitude of change. The overall effect would be moderate major and significant.
- 5.7.72 During operation up to 12 turbines would be seen, with greater visibility at higher elevations. The areas would still be perceived as hillside and scarp slopes with grazing but the turbines would have a strong influence on its visual character. This would result in a large scale of change that would be experienced across a large geographical extent, resulting in a high magnitude of change. The overall effect would be moderate major and significant.
- 5.7.73 Further north, the landform continues to rise in elevation towards St. Illtyd and Mynydd Llanhilleth and comprising areas of moorland and upland grazing (Visual and Sensory Aspect Areas TRFNVS019, TRFNVS020, TRFNVS022, TRFNVS024 and the southern part of BLNGWVS688) located within approximately 1.5 km to 5 km of the proposed wind farm. The Eastern Ridge and Mynydd James Special Landscape Area overlaps the northern edge of these areas near St. Illtyd. These areas are judged to have a medium or high value and are considered to have a medium susceptibility to the change proposed, resulting in a medium high sensitivity.
- 5.7.74 During construction, views would be available of the construction works but they would be experienced at greater distance where the higher elevation permits longer views across the valley. Views would be available of ground-level activities, including the construction of the

substation building along with cranes associated with the erection of the turbines and additional movement of construction vehicles. However, at distances of up to approximately 5 km the additional change would be small and affect a small geographical extent of available views, leading to a low magnitude of change. This would result in a minor moderate effect that would not be significant.

- 5.7.75 During operation, the majority of these areas would experience views of all the turbines but with the increased distance this would have a moderate influence on their visual character. This would result in a medium scale of change that would affect a moderate geographical extent, resulting in a medium magnitude of change. Combined with their sensitivity this would result in a moderate effect to the character of these areas that would be significant.

#### *Areas to the East*

- 5.7.76 To the east of the site, the landform slopes down and is characterised as hillside and scarp slopes comprising areas of grazing and mosaic (Visual and Sensory Aspect Areas TRFNVS042 and TRFNVS044) located within approximately 1.5 km to 4.5 km. These areas are assessed as having medium to high value and are judged to have a high susceptibility to the change proposed as the slopes form an important visual transition from the low-lying areas to the east and upland plateau landscapes to the north-west, resulting in a medium high sensitivity.
- 5.7.77 During construction, views of construction activity would be restricted by the topography. There would be the potential for views of cranes associated with the erection of the turbines. However, other construction activity and movement would be screened from view. The scale of the change would be low to none and would result in no greater than a low magnitude of change. This would result in a minor moderate effect that would not be significant.
- 5.7.78 During operation, only a reduced number of turbines would be visible, with views limited to blade tips particularly in southern parts of these areas east of Cwmbran. The proposed wind farm would have a limited influence on the visual character of these areas, introducing a small change that would be experienced from limited parts of these two areas, resulting in a low magnitude of change. This would result in a minor moderate effect that would not be significant.
- 5.7.79 Further east between approximately 1.5 km and 5 km lie the extensive urban areas of Pontypool to the north-east and Cwmbran to the east and south-east (Visual and Sensory Aspect Areas TRFNVS040 and TRFNVS045). These areas are assessed as having low value and susceptibility and low sensitivity.
- 5.7.80 Due to the position of the settlements below the upland ridge, views during construction would be limited to cranes seen above the landform. This would introduce a small change that would only be experienced intermittently where views are available from the towns, affecting a small geographical extent, leading to a low magnitude of change and resulting in a minor effect that would not be significant.
- 5.7.81 During operation, views would be available at limited points within the settlements, such as from viewpoints 3, 26 and 32. Views would generally be experienced as glimpsed views seen between buildings or as glimpsed views while travelling through the area. As such, although the turbines would appear above the ridge to the west, they would have a limited influence on the visual character of these built-up areas. This would lead to no greater than a small change and would affect a small geographical extent of these areas, with the majority of the areas experiencing no effects, resulting in a low magnitude of change. Combined with their sensitivity this would result in a minor effect to the character of these areas that would be not significant.

#### *Areas to the South*

- 5.7.82 Areas to the south are located at distances of approximately 2.6 km up to 5 km distance from the proposed wind farm and comprise areas to the south-east within the Southern Lowlands SLA (Visual and Sensory Aspect Area TRFNVS004), TRFNVS002 and parts of Mynydd Maen (Visual and Sensory Aspect Area CYNONVS372, considered above). These areas are characterised as rolling lowlands, hillsides and scarp slopes and uplands and plateau respectively.



- 5.7.83 With reference to Figure 5.15: LANDMAP Visual and Sensory Overall Evaluation with Blade Tip ZTV, visibility from these areas is limited to either a reduced number of turbines in the Southern Lowlands (TRFNVS004) and hillsides and scarp slopes (TRFNVS002) areas or to upland areas on the south-eastern fringes of Mynydd Maen (CYNONVS372), as illustrated by Viewpoint 6. These areas are assessed as having medium value and low susceptibility due to their increased distance and the limited visibility from these areas and medium sensitivity.
- 5.7.84 During construction from Visual and Sensory Aspect Areas TRFNVS004 and TRFNVS002, views of construction activity would be restricted by landform. There would be the potential for more distant views of cranes associated with the erection of the turbines. The scale of the change would be small and would result in no greater than a low magnitude of change. This would result in a minor moderate effect that would not be significant.
- 5.7.85 During operation, only a limited number of turbines would be visible, with views of some turbines limited to blade tips only. The proposed wind farm would have a very limited influence on the visual character of these areas, introducing a small change that would be experienced from limited parts of these two areas where views are available, resulting in a low to very low magnitude of change. This would result in a minor effect to the character of these areas that would not be significant.
- 5.7.86 From the southern part of the Mynydd Maen Visual and Sensory Aspect Area (CYNONVS372) north of Risca, located between approximately 500 m to 5 km from the proposed wind farm, theoretical visibility is very limited and would be further reduced by tree cover in parts. As previously assessed the area is considered to have a medium sensitivity.
- 5.7.87 During construction, the majority of the southern part of this area would experience no change, while from the open and elevated northern fringes of the area, illustrated by Viewpoint 6, construction activity would be seen, including ground level components such as the substation and the cranes used to install the turbines. This would introduce a medium magnitude of change and moderate effect that would not be considered significant.
- 5.7.88 Similarly, during operation there would be limited areas where views of the turbines and substation would be available. The upland plateau landscape character would remain and there would be a medium magnitude of change to its visual character where open views are available, resulting in a moderate significant effect.

#### *Areas to the west*

- 5.7.89 With reference Figure 5.15: LANDMAP Visual and Sensory Overall Evaluation with Blade Tip ZTV, there is very limited theoretical visibility from the narrow valley landscapes to the west at Risca (CYNONVS190), the eastern parts of Blackwood (CYNONVS114), the Lower Ebbw Valley (BLNGWVS985) and Tredegar (BLNGWVS246) at distances of between approximately 3 to 3.5 km. These areas would experience no effects.
- 5.7.90 From the western parts of Blackwood (CYNONVS114) as illustrated by Viewpoint 7, theoretical visibility would be restricted by a combination of landform and vegetation on the slopes to the east but increases as the landform rises towards the west and the hillside and scarp slopes of Pentraeod (CYNONVS144) east of Oakdale, as illustrated by Viewpoint 37 at distances of approximately 4 to 5 km. These areas are assessed as having medium value and are judged to have a low susceptibility to the change proposed due to the proposed wind farm being sited in another aspect area at over 4 km distance. Overall they are considered to have medium sensitivity.
- 5.7.91 During construction from Blackwood (CYNONVS114) and Pentraeod (CYNONVS144), there would be no views of construction activity. There would be the potential for views of cranes associated with the erection of the turbines. The scale of the change would be low and would result in no greater than a low magnitude of change. This would result in a minor moderate effect that would not be significant.
- 5.7.92 During operation up to all 13 turbines would be seen, with greater visibility at higher elevations, while visibility would reduce or not be available at lower elevations, as illustrated by Viewpoint 7. The areas would still be perceived as hillside and scarp slopes with grazing but the turbines would have an influence on the visual character as they would be seen above



the adjacent valley side that forms the backdrop to easterly views. This would result in a medium scale of change that would be experienced across a small geographical extent, resulting in a medium magnitude of change. The overall effect would be no greater than moderate and would not be considered significant. However, it should be noted that these effects would largely be experienced from higher elevations within Pentraepod (CYNONVS144), while Blackwood (CYNONVS114) would experience much fewer effects, if any.

- 5.7.93 It is important to note that the Visual and Sensory Aspect Areas that cover the western half of the site also extend to the west of the site and have been considered separately above.

#### **Other Visual and Sensory Aspect Areas within 5 to 10 km**

##### ***Areas to the north***

- 5.7.94 With reference to Figure 5.15: LANDMAP Visual and Sensory Overall Evaluation with Blade Tip ZTV, at distances between 5 to 10 km to the north of the proposed wind farm theoretical visibility is mainly restricted to the elevated, exposed, upland plateaus and ridges that separate the smaller scale, enclosed valleys below. These areas include Mynydd Bedwellte (BLNGWVS688) and Visual and Sensory Aspect Areas TRFNVS024 and TRFNVS033. They have high value and a medium susceptibility and are assessed as having a medium high sensitivity.
- 5.7.95 With reference to viewpoints 30 and 36 that are located in these areas, there would be a change to the long-range views out from these areas towards the distant ridge upon which the proposed wind farm would be located influencing the character of available views. However, the overall landscape character would remain and they would still be perceived as exposed, upland plateaus.
- 5.7.96 During construction, there would be the potential for long-range distant views of construction activity and cranes used to erect the turbines. However, given the distance from the proposed wind farm, this would result in no greater than a low magnitude of change and a minor moderate effect that would not be considered significant.
- 5.7.97 During operation, the proposed turbines would be seen on the distant ridge to the south. This would introduce a medium low magnitude of change and result in a moderate effect that would not be considered significant.

##### ***Areas to the east***

- 5.7.98 Between 5 and 10 km to the east, Visual and sensory aspect areas include Goytre Lowland (MNMTHVS042) and Twyn-Gwyn (TRFNVS028) located to the north-east of Pontypool both classified as mosaic rolling lowland. Cilfeigan Park & Woodlands (MNMTHVS016) to the east classified as wooded hillside and scarp slopes and Sor Brook valley (MNMTHVS036), TRFNVS011, TRFNVS008 and Caerleon Farmlands (NWPRTVS025) classified as either mosaic lowland valleys or rolling lowlands. These areas have medium to high value and a low susceptibility, resulting in a medium sensitivity.
- 5.7.99 With reference to Figure 5.15: LANDMAP Visual and Sensory Overall Evaluation with Blade Tip ZTV, theoretical visibility of all 13 turbines is predicted but generally visibility is patchy and intermittent and would be further reduced by intervening trees and hedgerows.
- 5.7.100 Referring to viewpoints 4, 5 and 18, during construction, there would be the potential for long-range distant views of cranes used to erect the turbines. However, ground-level activities would be screened by the landform of the ridge and given the distance from the proposed wind farm, this would result in no greater than a low magnitude of change and a minor moderate effect that would not be considered significant.
- 5.7.101 During operation, the proposed turbines would be seen on the ridge to the west. This would introduce a medium magnitude of change to the character of westerly views from these areas, where available. This would result in a moderate effect that would not be considered significant.

##### ***Areas to the south***

- 5.7.102 Between 5 and 10 km to the south, theoretical visibility is much more limited with many aspect areas experiencing visibility of a reduced number of turbines or from very limited areas where topography affords views across lower-lying valley landscapes towards the proposed wind farm.
- 5.7.103 To the south-east, with reference to Figure 5.15: LANDMAP Visual and Sensory Overall Evaluation with Blade Tip ZTV, theoretical visibility of up to all 13 turbines is predicted but this is restricted to areas of higher ground such as from Ridgeway, illustrated by Viewpoint 17. From lower-lying areas to the north of Bettws (Viewpoint 16) there would be theoretical visibility of a reduced number of turbines.
- 5.7.104 Visual and Sensory Aspect Areas include the southern parts of TRFNVS004, Maescoed (NWPRTVS014), Ynysfro (NWPRTVS015), Bettws Farmland (NWPRTVS017) and Alt-yr Yn (NWPRTVS018).
- 5.7.105 Referring to viewpoints 16 and 17, during construction, there would be the potential for long-range distant views of cranes used to erect the turbines. However, ground-level activities would be screened by the landform of the ridge and given the distance from the proposed wind farm this would result in no greater than a low magnitude of change and a minor moderate effect that would not be considered significant.
- 5.7.106 During operation, the proposed turbines that would be seen on the ridge to the north that provides the backdrop to the views. This would introduce a medium magnitude of change to the character of views out from these areas, where available. This would result in a moderate effect that would not be considered significant.
- 5.7.107 To the south and south-west, theoretical visibility is much more limited and mainly concentrated to a narrow band along the high ridge to the south of the Sirhowy Valley (Sirhowy Valley slopes CYNONVS668), Valley slopes Machen - Ystrad Mynach (CYNONVS260) and Machen Slopes (NWPRTVS013) located approximately between 6 and 8 km to the south, before the terrain slopes down to the south-west towards Caerphilly. Views from this area are represented by viewpoints 13 and 15. These areas have medium to high value and a low susceptibility, resulting in an overall medium sensitivity.
- 5.7.108 Referring to viewpoints 13 and 15, during construction, there would be the potential for views of construction activities and cranes used to erect the turbines. This would result in no greater than a low magnitude of change and a minor moderate effect that would not be considered significant.
- 5.7.109 During operation, the proposed turbines would be seen on the landform to the north that provides the backdrop to the views. This would introduce a medium magnitude of change to the character of views out from these areas, where available resulting in a moderate effect that would not be considered significant.

#### *Areas to the west*

- 5.7.110 Areas to the west include the built-up areas of Pontllanfraith and Blackwood (CYNONVS114) as illustrated by viewpoints 7 and 29 and the hillside and scarp slopes of Pentrapeod (CYNONVS144) represented by Viewpoint 9.
- 5.7.111 The value and susceptibility of Blackwood (CYNONVS114) is considered to be low and it is judged to have an overall low sensitivity, due to its urban nature.
- 5.7.112 Referring to Viewpoint 29, during construction there would be the potential for long-range distant views of cranes used to erect the turbines and limited potential for some ground-level activities to be seen. However, at such distance they would be barely perceptible. This would result in no greater than a low magnitude of change and a minor effect that would not be considered significant.
- 5.7.113 During operation, many parts of this area would not experience any change due to views being restricted by built form. Where views are available, the proposed turbines would be seen at distance on the hillside to the east. This would introduce no greater than a low medium magnitude of change to the character of easterly views, where available. This would result in a minor moderate effect that would not be considered significant.

- 5.7.114 The value and susceptibility of Pentraepod (CYNONVS144) is assessed medium and the overall sensitivity is judged to be medium.
- 5.7.115 During construction, there would be the potential for long-range distant views of cranes used to erect the turbines and limited potential for some ground-level activities to be seen. However, at such distance they would be barely perceptible. This would result in no greater than a low magnitude of change and a minor moderate effect that would not be considered significant.
- 5.7.116 During operation, there would be views to the proposed turbines that would be seen at distance on the ridge that provides the backdrop to the views. This would introduce a medium magnitude of change to the character of views, where available and result in a moderate effect that would not be significant.
- 5.7.117 To the north-west, Hafod-y-dafel/Arail (BLNGWVS762) and Clydach valley (BLNGWVS993) feature south-facing slopes. These areas assessed as having medium value and a medium susceptibility to the change proposed, resulting in a medium sensitivity.
- 5.7.118 During construction, there would be the potential for long-range distant views of cranes used to erect the turbines. This would result in no greater than a low magnitude of change and a minor moderate effect that would not be considered significant.
- 5.7.119 During operation, there would be views to the proposed turbines that would be seen at distance on the ridge that provides the backdrop to the views. At distances of over 6 km this would introduce a medium magnitude of change to the character of views and result in a moderate effect that would not be significant.

#### **Visual and Sensory Aspect Areas beyond 10 km**

- 5.7.120 With reference to Figure 5.15: LANDMAP Visual and Sensory Overall Evaluation with Blade Tip ZTV, beyond 10 km theoretical visibility becomes much more intermittent, restricted to high ridges and hilltops. To the north theoretical visibility is limited to high ridges and south-facing slopes (Mynydd Bedwellte BLNGWVS688) and from the north of Blaenavon (TRFNVS033). Further north within the Bannau Brycheiniog National Park, theoretical visibility is very limited, with the majority of areas experiencing no theoretical visibility. Visibility is predicted from elevated upland plateaus (as illustrated by Viewpoint 23), the summit of Bloreng (The Bloreng MNMTHVS003) and Ysgryd Fawr (MNMTHVS012).
- 5.7.121 These locations are located within the BBNP and are considered to have high sensitivity. During construction and operation, at distances between 11 and 20 km, the magnitude of change to the visual character of these areas would be no greater than low resulting in minor or at worse minor to moderate effects that would not be considered significant.
- 5.7.122 Beyond 10 km to the east theoretical visibility is patchy and intermittent and mainly limited to upland areas with occasional visibility from some lowland areas. Intermittent visibility is predicted from some areas such as: Northern Raglan (MNMTHVS038); Trothy valley (MNMTHVS035); King coed scarp slope (MNMTHVS031); Llangoven Foothills (MNMTHVS034); Llangeview (MNMTHVS018); Devauden scarp slope (MNMTHVS027); Wentwood (MNMTHVS094) and Chepstow parkland (MNMTHVS019). Views from these areas are illustrated by viewpoints 19, 20, 21 and 33).
- 5.7.123 These locations are considered to have medium sensitivity to the change proposed, due in part to their lower susceptibility due to the distance from the proposed wind farm. Given the distance from the proposed wind farm, the magnitude of change to the visual character and perceptual qualities of these areas during construction and operation is assessed as low to very low, with effects considered to be minor and not significant.
- 5.7.124 To the south are the urban areas of Newport and Cardiff. Although theoretical visibility is predicted from these areas, actual visibility would be much less than predicted due to the built-up nature of these areas such that the magnitude of change would be no greater than very low. Given the low sensitivity of these areas there would be minor to no effects from these areas during construction and operation.

- 5.7.125 With reference to Figure 5.15: LANDMAP Visual and Sensory Overall Evaluation with Blade Tip ZTV, beyond 10 km theoretical visibility becomes much more intermittent, restricted to high ridges and hilltops. To the north-west this includes: Rhoslas (CYNONVS361); Cefn Y Brithdir (CYNONVS605); N. of Bargoed (CYNONVS308) and Gelligaer Common (CYNONVS404). Viewpoint 12 is representative of views from these areas.
- 5.7.126 To the west this includes Taff/Cynon Ridge (MRTHRVS729); Gethin Woodlands (MRTHRVS487); Merthyr Common (MRTHRVS452); Cwm Cothi Farmlands (MRTHRVS908); West of Mountain Ash (CYNONVS903); St Gwynno (CYNONVS580); Ynysbwl (CYNONVS141); Mynydd y Glyn (CYNONVS142) and Llanfabon (CYNONVS143).
- 5.7.127 These locations are considered to have medium sensitivity to the change proposed, due in part to their lower susceptibility due to the distance from the proposed wind farm. Given the distance from the proposed wind farm, during both construction and operation the magnitude of change to the visual character and perceptual qualities of these areas is assessed as low to very low, with effects considered to be minor and not significant.

**TABLE 5.6 - SUMMARY OF LANDSCAPE CHARACTER EFFECTS ON VISUAL AND SENSORY ASPECT AREAS DURING CONSTRUCTION AND OPERATION**

Aspect Area	Sensitivity	During Construction			During Operation		
		Magnitude of Change	Level of Effect	Significant	Magnitude of Change	Level of Effect	Significant
<b>Visual and Sensory Aspect Areas covering the site</b>							
CYNONVS372 - Mynydd Maen	Medium	Medium	Moderate	No	Medium	Moderate	Yes
CYNONVS214 - Mynydd Llwyd and Mynydd Maen	Medium	Medium	Moderate	Yes	High	Major	Yes
TRFNVS024	High	Medium	Moderate	Yes	High	Major	Yes
TRFNVS036	Medium	Medium	Moderate	Yes	High	Major	Yes
<b>Visual and Sensory Aspect Areas within 5 km to the north</b>							
CYNONVS372 and TRFNVS017 - within approximately 1 km	Medium	Low	Minor moderate	No	Medium	Moderate	Yes
TRFNVS018 - within approximately 2.5 km	Medium	High	Moderate major	Yes	High	Moderate major	Yes
St. Illtyd and Mynydd Llanhilleth TRFNVS019, TRFNVS020, TRFNVS022, TRFNVS024 and the southern part of BLNGWVS688 - within approximately 1 to 5 km	Medium high	Low	Minor moderate	No	Medium	Moderate	Yes

Aspect Area	Sensitivity	During Construction			During Operation		
		Magnitude of Change	Level of Effect	Significant	Magnitude of Change	Level of Effect	Significant
<b>Visual and Sensory Aspect Areas within 5 km to the east</b>							
TRFNVS042 and TRFNVS044 - located within 1.5 km to 4.5 km	Medium high	Low	Minor moderate	No	Low	Minor moderate	No
Pontypool/Cwmbran TRFNVS040 and TRFNVS045 - located within approximately 1.5 to 5 km	Low	Low	Minor	No	Low	Minor	No
<b>Visual and Sensory Aspect Areas within 5 km to the south</b>							
TRFNVS004) and TRFNVS002 - located between 2.6 and 5 km	Medium	Low	Minor moderate	No	Low to very low	Minor	No
Mynydd Maen (CYNONVS372) southern part - located approximately 500 m to 5 km	Medium	Medium	Moderate	No	Medium	Moderate	Yes
<b>Visual and Sensory Aspect Areas within 5 km to the west</b>							
Abercarn (CYNONVS190), Blackwood (CYNONVS114), the Lower Ebbw Valley (BLNGWVS985) and Tredegar	Low	Very low	No change	No	Very low	No change	No

Aspect Area	Sensitivity	During Construction			During Operation		
		Magnitude of Change	Level of Effect	Significant	Magnitude of Change	Level of Effect	Significant
(BLNGWVS246) - located within approximately 3 to 3.5 km							
Blackwood (CYNONVS114) and Pentraeod located within approximately 3 to 3.5 km	Medium	Low	Minor moderate	No	Medium	Moderate	No
<b>Visual and Sensory Aspect Areas within 5 to 10 km to the north</b>							
Mynydd Bedwellte (BLNGWVS688) TRFNVS024 and TRFNVS033 - located between 5 and 10 km	Medium high	Low	Minor moderate	No	Medium low	Moderate	No
<b>Visual and Sensory Aspect Areas within 5 to 10 km to the east</b>							
Goytre Lowland (MNMTHVS042) Twyn-Gwyn (TRFNVS028) Cilfeigan Park & Woodlands (MNMTHVS016) Sor Brook valley (MNMTHVS036), TRFNVS011 - located between 5 and 10 km	Medium	Low	Minor moderate	No	Medium	Moderate	No
<b>Visual and Sensory Aspect Areas within 5 to 10 km to the south</b>							



Aspect Area	Sensitivity	During Construction			During Operation		
		Magnitude of Change	Level of Effect	Significant	Magnitude of Change	Level of Effect	Significant
TRFNVS004, Maescoed (NWPRTVS014), Ynysfro (NWPRTVS015), Bettws Farmland (NWPRTVS017) and Alt-yr Yn (NWPRTVS018) - located between 5 and 10 km	Medium	Low	Minor moderate	No	Medium	Moderate	No
Sirhowy Valley (Sirhowy Valley slopes CYNONVS668) and Machen Slopes (NWPRTVS013)	Medium	Low	Minor moderate	No	Medium	Moderate	No
<b>Visual and Sensory Aspect Areas within 5 to 10 km to the west</b>							
Blackwood (CYNONVS114)	Low	Low	Minor	No	Low medium	Minor moderate	No
Pentrapeod (CYNONVS144)	Medium	Low	Minor moderate	No	Medium	Moderate	No
Hafod-y-dafel/Arail (BLNGWVS762) and Clydach valley (BLNGWVS993)	Medium	Low	Minor moderate	No	Medium	Moderate	No
<b>Visual and Sensory Aspect Areas beyond 10 km</b>							
Areas to the north -	High	Very low	Minor	No	Low to Very low	Minor to minor moderate	No
Areas to the east	Medium	Low to very low	Minor	No	Low to very low	Minor	No
Areas to the south	Low	Very low	Minor/no effect	No	Very low	Minor/no effect	No
Areas to the west	Medium	Low to very low	Minor	No	Low to very low	Minor	No

**Bold** text indicates a significant effect.

### Effects on the Landscape Character of the Bannau Brycheiniog National Park

5.7.128 As set out in the baseline section, theoretical visibility is predicted from LCAs 9, 12 and 15. The sensitivity of each of these LCAs is considered to be high.

#### *LCA 9 - Mynyddoedd Llangatwg and Llangynidr*

5.7.129 With reference to Figure 5.74, which illustrates the blade tip ZTV overlaid onto the BBNP landscape character assessment mapping, theoretical visibility is predicted from the southern part of the LCA at distances from 16.3 km to approximately 22 km from the proposed wind farm. Views from this area are represented by Viewpoint 23 (B4560).

5.7.130 A 'distinctive characteristic' of this LCA is described as follows:

*'Very limited settlement, but views to settlement in the Usk valley to the north, and other development (e.g. roads, pylons) beyond the southern boundary of the National Park.'*

5.7.131 The special qualities for this LCA in relation to scenic quality and sense of place, and perceptual qualities are described respectively as follows:

- *'Scenic quality and sense of place resulting from combination of openness, landform, moorland vegetation, archaeology and views to distinctive skylines in other LCAs (e.g. profile of Central Beacons).'*
- *'An exceptionally open and exposed landscape. Its landform, and absence of settlement and development give it a sense of tranquillity, remoteness and relative wildness in parts, despite its proximity to settlements to the south. The western part is within the BBNP core dark skies area.'*

5.7.132 The sensitivities relating to these criteria are described as follows:

*'Introduction of incongruous features into the open landscape.'*

*'Inappropriate development, (including outside the National Park) which affects skylines and/or views.'*

*'Proximity to settlement and development to the south mean that perceptual qualities are sensitive to new development (including beyond the National Park boundary) and to anti-social behaviour such as fly tipping and illegal vehicle use.'*

5.7.133 Given the distance from the proposed wind farm outwith the National Park, the scale of change to the special qualities of the LCA would be very small, affecting a relatively small geographic extent of views experienced from the LCA. Effects would be limited to the southern part of the LCA, particularly south-facing slopes and upland plateau areas such as that represented by Viewpoint 23. The parts of the LCA with the greatest theoretical visibility of the proposed wind farm are generally those which are already influenced by intervisibility with settlement to the south of the National Park. Although the proposed wind farm introduces new elements, given the distance from the LCA they would not be considered notable and would lead to a very low magnitude of change to the character of the LCA overall and no greater than a minor effect during construction and operation that would not be significant.

#### *LCA 12 - Skirrid and Sugar Loaf*

5.7.134 With reference to Figure 5.74, from LCA 12 theoretical visibility is very patchy and limited to the higher peaks, with visibility of all 13 turbines predicted from Sugar Loaf at a distance of approximately 20 km from the proposed wind farm and Ysgryd Fawr at a distance of approximately 19.3 km. There are several other very small areas where visibility is predicted but of a limited number of turbines only and at greater distance. Views from this area are represented by Viewpoint 35 (Ysgryd fawr).

5.7.135 The special qualities for this LCA in relation to scenic quality and sense of place, and perceptual qualities are described respectively as follows:

- *‘High scenic quality and sense of place, resulting from the composition of soft, wooded valleys and distinctive uplands. The surrounding LCAs (particularly the Black Mountains and Eastern Usk Valley) contribute to its character and views.’*
- *‘Long views, openness and elevation give a sense of tranquillity despite their proximity to Abergavenny and other settlements. Indeed, the presence of settlements as small elements in views from high land can enhance the viewer’s sense of detachment.’*

5.7.136 The sensitivities relating to these criteria are described as follows:

*‘Visually-intrusive development in surrounding areas affecting views, particularly where it extends up valley sides.’*

*‘Loss of tranquillity as a result of visible or audible development in surrounding areas.’*

5.7.137 The proposed wind farm would be seen on the distant ridge that forms the backdrop to south-westerly views. Residential development in Abergavenny in the intervening valley landscape is a noticeable element of the view towards the site, as illustrated by Viewpoint 35. The turbines would appear as distant features on the horizon, clearly separated on the opposite side of the valley from the National Park. At distances of approximately 20 km away, the scale of change would be very small, affecting a very small geographic extent of views experienced from the LCA. Where the proposed wind farm would be visible, the landscape character is already influenced by the settlement of Abergavenny, leading to a very low magnitude of change to the character of the LCA and no greater than a minor effect during construction and operation to the character of available views to the south of the area that would not be significant.

#### ***LCA 15 - Blorenges Summit and Slopes***

5.7.138 With reference to the blade tip ZTV overlaid onto the BBNP landscape character map in Figure 5.74, theoretical visibility from the LCA is very limited, with views available from The Blorenges as illustrated by Viewpoint 22 at distances of 11.4 km to 13.6 km. Visibility is also predicted along the south-western fringes of the LCA at a distance of between approximately 5 km and 8 km, with views represented by Viewpoint 30 (Mynydd Garn-Wen).

5.7.139 A ‘distinctive characteristic’ of this LCA is described as follows:

*‘The high plateau of the Blorenges is easily accessible by car (B4246) and the public can enjoy panoramic views from the high car park’.*

5.7.140 The special qualities for this LCA in relation to scenic quality and sense of place, and perceptual qualities are described respectively as follows:

- *‘High scenic quality resulting from the harmonious juxtaposition of moorland, woodland and pasture. Distinctive concave landforms, the Blorenges ridge and long views across the Usk valley create a strong sense of place, enhanced by the bluebell carpets, deep lanes and woodland.’*
- *‘Valley sides are exceptionally peaceful, with a sense of enclosure, timelessness and very few detracting influences. Moorland feels more open and exposed, with longer views over surrounding landscapes.’*

5.7.141 The sensitivities relating to these criteria are described as follows:

*‘Negative changes in land management (e.g. replacement of hedgerows with post-and-wire fencing).’*

*‘Introduction of visually-intrusive features into views.’*

- 5.7.142 Where views are available at closer-range distances of between 5 and 8 km, along the western fringe of LCA 15, the proposed wind farm would be seen on the ridge that forms the backdrop to southerly views. Residential development in the valleys is already a noticeable element of the view in the direction of the site, as illustrated by Viewpoint 30. The turbines would be sky-lined on the horizon, where existing pylons are already visible, clearly separated on the opposite side of the valley from the National Park. The proposed wind farm would introduce a medium scale of change that would affect a relatively small geographical extent of a view which is already influenced in part by built form. This would introduce a medium magnitude of change, resulting in a moderate effect to the landscape character of the area during construction and operation that would not be considered significant. This change would only be experienced at the south-western edge of the LCA, with the majority of southern part of the LCA experiencing no effects.
- 5.7.143 At distances of between 11.3 km and 13.6 km, on the higher ground illustrated by Viewpoint 22, the turbines would again be sky-lined on the horizon in proximity to the existing pylons, but would appear smaller in scale than the existing telecommunications masts in the foreground landscape of the National Park. The magnitude of change to the character of the LCA would be low, with effects reducing to moderate/minor during construction and operation which would not be considered significant.

**Table 5.7 - SUMMARY OF LANDSCAPE CHARACTER EFFECTS ON THE BBNP**

Aspect Area	Sensitivity	During Construction			During Operation		
		Magnitude of Change	Level of Effect	Significant	Magnitude of Change	Level of Effect	Significant
LCA 9 - Mynyddoedd Llangatwg and Llangynidr	High	Very low	Minor	No	Very low	Minor	No
LCA 12 - Skirrid and Sugar Loaf	High	Very low	Minor	No	Very low	Minor	No
LCA 15 - Bloreng Summit and Slopes - <i>located approximately 5 to 8 km</i>	High	Medium	Moderate	No	Medium	Moderate	No
LCA 15 - Bloreng Summit and Slopes - <i>located approximately 11.3 to 13.6 km</i>	High	Low	Minor moderate	No	Low	Minor moderate	No

### *Assessment of Visual Effects*

5.7.144 Effects on visual amenity arise from changes to views resulting from the introduction of the proposed wind farm. It comprises:

- An assessment of visual effects from the representative viewpoints; and
- An assessment of visual effects on receptor groups such as settlements, roads and walking routes brought forward into detailed assessment.

5.7.145 The assessment has been carried out through a combination of site visits and desk study using the ZTVs, wirelines and photomontages.

#### **Construction Effects**

5.7.146 Construction activities associated with the proposed wind farm would be screened from parts of the study area due to the topography of the study area while activities would be visible from more elevated locations that allows views across the uplands where the proposed wind farm would be located.

5.7.147 From lower-lying valley locations such as from viewpoints 1, 2, 3, 7, 8, 26, 27, 32 and 37 ground-level activities would be mostly screened by landform and by intervening woodland. In these locations the additional visual effects, over and above those addressed under the heading of Operational Effects, would arise in relation to views of the cranes erecting the turbines.

5.7.148 Cranes used during the construction phase would be visible for a relatively short period and would be incidental when considered in the context of the turbines being erected. It is assessed that any views of these works would result in a low magnitude of additional change and no greater than a minor, temporary effect which would be not significant.

5.7.149 From elevated locations within relative proximity of the proposed wind farm, such as from viewpoints 6 and 10, views would extend across lower-lying areas to the site allowing views of construction activities, in addition to the views of the cranes used to install the turbines. In these locations, there would be a medium to high magnitude of additional change which would result in moderate major significant temporary effects during the construction phase.

5.7.150 From the majority of the remaining viewpoints, ground-level activities would be screened through a combination of landform and vegetation or seen at greater distance limiting the influence on views. In these locations, the additional visual effects, over and above those addressed under the heading of Operational Effects, would arise primarily in relation to views of the cranes erecting the turbines.

#### **Operational Effects**

5.7.151 A detailed viewpoint assessment of the operational effects is presented in Technical Appendix 5.5 and this considers the long-term visual effects during the operational phase of the proposed wind farm for each of the 37 viewpoints.

5.7.152 For each of the assessment viewpoints, a short description is given of the baseline view, and a judgement is provided regarding the sensitivity of the key receptors likely to experience the view.

5.7.153 This is followed by a description of the features of the proposed wind farm that would be visible from that viewpoint. This includes a description of how many turbine hubs and blades would be visible and also, where relevant, whether any ground-level components of the proposed wind farm would be visible. For each viewpoint, there is a comment on how vegetation or topography would affect the actual visibility of the turbines.

5.7.154 A judgement is then provided of the magnitude of change that would be experienced at each viewpoint, the level of the effect on the view and a statement provided to clarify whether the additional effect resulting from the proposed wind farm is significant or not.



5.7.155 A summary of the sensitivity of the view, magnitude of change in the view, the level of effect and its significance is given in Table 5.8 below. Where a viewpoint is representative of more than one type of visual receptor, the assessment carried forward into the table represents the most sensitive receptor group represented by the viewpoint.

5.7.156 With reference to the Viewpoint Assessment in Technical Appendix 5.5, when considered against the existing baseline it has been assessed that there would be significant visual effects at 14 of the 37 representative viewpoints. These are as follows:

- Viewpoint 1 - Cambrian Way Car Park;
- Viewpoint 2 - Prescoch Lane;
- Viewpoint 4 - Llandegfedd Reservoir;
- Viewpoint 6 - Twmbarlwm;
- Viewpoint 8 - B4471 / Swffryd;
- Viewpoint 10 - St Illtyd;
- Viewpoint 26 - Cwmbran Town Centre;
- Viewpoint 27 - Pantygasseg;
- Viewpoint 28 - Trevethin;
- Viewpoint 29 - Cefn Fforest / Blackwood Showfields;
- Viewpoint 30 - Mynydd Garn-Wen;
- Viewpoint 31 - Cambrian Way;
- Viewpoint 32 - Brookland Terrace /play area; and
- Viewpoint 37 - Royal Crescent, Treowen/ Treowen.

**Table 5.8 - SUMMARY OF VISUAL EFFECTS FROM ASSESSMENT VIEWPOINTS DURING OPERATION**

Viewpoint	Sensitivity	Magnitude of Change	Level of Effect	Significant
1 - Cambrian Way Car Park	High	Medium	Moderate	Yes
2 - Prescoch Lane	High	Medium high	Major	Yes
3 - A4042 Overbridge, New Inn	Medium low	Medium	Moderate	No
4 - Llandegfedd Reservoir	High	Medium	Moderate	Yes
5 - B4236 / Llanfrechfa	High	Medium low	Moderate	No
6 - Twmbarlwm	High	Medium high	Moderate major	Yes
7 - Ebbw View Terrace, Newbridge	High	None	None	No
8 - B4471 / Swffryd	High	Medium	Moderate	Yes
9 - Pen-y-fan Pond Country Park	High	Medium	Moderate	No
10 - St Illtyd	Medium high	Medium high	Moderate major	Yes
11 - Cefn Manmoel	High	Medium low	Moderate minor	No
12 - Pen Garn-Bugail / Gelligaer Common	High	Medium low	Moderate minor	No
13 - Rhymney Valley Ridgeway Walk / Mynydd Bach	High	Medium	Moderate	No

Viewpoint	Sensitivity	Magnitude of Change	Level of Effect	Significant
14 - Cefn Eglwysilan	High	Medium low	Moderate minor	No
15 - Mynydd Machen	High	Medium	Moderate	No
16 - Bettws, Monnow Way	High	Medium	Moderate	No
17 - Ridgeway, Newport	High	Medium	Moderate	No
18 - Lodge Hill, Caerleon	High	Medium	Moderate	No
19 - Pen-y-cae-mawr	High	Low	Moderate minor	No
20 - Devauden	High	Very Low	Minor	No
21 - Llancayo	High	Low	Minor moderate	No
22 - Blorenge	High	Medium	Moderate	No
23 - B4560	High	Medium low	Moderate minor	No
24 - Pen y Fan	Very high	Very low	Minor	No
25* - Mynydd Maendy	High	Very low	Minor	No
26 - Cwmbran Town Centre	High	Medium	Moderate	<b>Yes</b>
27 - Pantygasseg	High	High	Major	<b>Yes</b>
28 - Treveithin	High	Medium high	Moderate major	<b>Yes</b>
29 - Cefn Fforest / Blackwood Showfields	High	Medium	Moderate	<b>Yes</b>
30 - Mynydd Garn-Wen	High	Medium	Moderate major	<b>Yes</b>
31 - Cambrian Way	High	High	Major	<b>Yes</b>
32 - Brookland Terrace /play area	High	Medium	Moderate	<b>Yes</b>
33 - Raglan Castle	High	Low	Moderate minor	No
34 - Llanhennock	High	Medium	Moderate	No
35 - Ysgyryd fawr	Very high	Low	Moderate	No
36 - Mynydd Coety	High	Medium	Moderate	No
37 - Royal Crescent, Treowen/ Treowen	High	Medium	Moderate	<b>Yes</b>

**Bold text indicates a significant effect.**

\* Viewpoint 25 has been micro-sited from the A4107/Craig Owr viewpoint to the footpath at Mynydd Maendy where there is theoretical visibility of the proposed wind farm.

### *Assessment of Effects on Visual Receptor Groups*

5.7.157 This section considers the effects of the proposed wind farm on the visual receptor groups brought forward into detailed assessment.

#### **Construction Effects on Visual Receptor Groups**

5.7.158 It is recognised that there would be some additional temporary visual effects during the construction of the proposed wind farm over and above those assessed under the operational phase.

5.7.159 The vast majority of effects, of note, when considering the construction phase would be experienced within the local environs of the site, with views from many areas contained by topography, as illustrated by the blade tip ZTV in Figure 5.3: Blade Tip ZTV to 35 km with Viewpoints.

5.7.160 The construction works would be visible from a number of properties within the local landscape. However, views of the construction phase would be restricted to views of cranes appearing above intervening landform and vegetation with all ground-level components screened from view. These views would only be experienced for a relatively short duration during the construction and they would be experienced within the context of the turbines being constructed.

5.7.161 Overall, it is assessed that there would be a low magnitude of additional effect during construction over and above the operational phase effects assessed below. This would result in a temporary moderate additional effect which would not be significant, and these effects need to be considered in conjunction with the operational effects identified below.

#### **Operational Effects on Visual Receptor Groups**

5.7.162 Beyond the site boundary, views of the ground level components of the proposed wind farm, including the substation, would generally be experienced from receptors at elevated locations which allow views onto the upland plateau where the proposed wind farm would be located. Such views tend to be experienced at long range, so the components of wind farm infrastructure would appear so small as to be not worthy of note. Except where indicated, the discussion below therefore relates primarily to views of the proposed turbines.

#### **Residential Receptors within 2 km**

5.7.163 All properties located within 2 km of a proposed turbine have been assessed separately within the Residential Visual Amenity Assessment in Technical Appendix 5.6 and illustrated in Figure 1 of Technical Appendix 5.6.

5.7.164 In summary, of the properties within 2 km, those which would have a clear, open view of one or more turbines would experience a significant visual effect. However, none of the residents of any occupied private property would experience such an overbearing or overwhelming effect on their visual amenity that their properties would become unattractive places in which to live.

#### **Effects on Settlements**

5.7.165 The below assessment considers the effects of the proposed wind farm on those settlements identified in Technical Appendix 5.4 as having the potential to experience significant effects. As set out in Technical Appendix 5.1, the sensitivity of residential receptors is considered to be high.

5.7.166 For each settlement, a short description is given of its location, the key views towards the development and a description of the features that would be visible. This includes a description of how many turbine hubs and blades would be visible and, where relevant, whether any ground-level components would be visible. It also considers how vegetation or topography would affect the actual visibility of the turbines.

5.7.167 A judgement is then provided of the magnitude of change that would be experienced, the level of the visual effect and whether the effect would be considered significant. A summary of the effects is presented in Table 5.9 below.

#### **Effects on Settlements within 5 km**

##### ***Pantygasseg***

5.7.168 Located approximately 1 km to the north of the proposed wind farm, Pantygasseg is a linear settlement of terraced houses along Cefn Crib and Coch-y-North roads. The properties face onto the road and open views extend over Craig Gwent towards the adjacent ridge of Mynydd Llwyd that provides the backdrop to views south-east.

5.7.169 Referring to the blade tip ZTV in Figure 5.3: Blade Tip ZTV to 35 km with Viewpoints, the properties would experience views of between 10 to 12 turbines, with the properties experiencing direct to slightly oblique views with the proposed turbines seen above the landform to the south, as illustrated by Viewpoint 26.

- 5.7.170 Due to the elevation of the properties relative to the high landform, ground-level components would be screened from view. The proposed turbines would appear as highly prominent new features seen against the skyline above the landform to the south of the valley. Referring to Viewpoint 27, the blades, hubs and parts of the towers of eight of the 13 turbines would be seen, while only the blade tips of two other turbines would be seen.
- 5.7.171 This would introduce a large size and scale of change that would occupy a large proportion of southerly views. This would result in a high magnitude of change and a major effect that would be significant.
- 5.7.172 Effects on properties within Pantygasseg have also been considered within Residential Visual Amenity Assessment in Technical Appendix 5.6.

### *Cwmbran*

- 5.7.173 Located approximately 1.4 km to the south-east of the proposed wind farm, the town is a large, nucleated settlement situated within the lower-lying valley to the east of the site. In addition to the range of commercial services it provides there are residential areas, both within the lower-lying western parts of the settlement and within the eastern parts where the landform rises.
- 5.7.174 Referring to the blade tip ZTV in Figure 5.3: Blade Tip ZTV to 35 km with Viewpoints, theoretical visibility is predicted across most of the settlement. Within the lower-lying areas to the west, there is theoretical visibility of fewer turbines and theoretical visibility increases towards the east of the settlement where elevation rises, with up to all 13 turbines visible in theory from the eastern edge of the settlement.
- 5.7.175 However, actual visibility would be greatly reduced as views within the settlement would be restricted by surrounding buildings and intervening vegetation although some views of the proposed wind farm would be available along streets or experienced as glimpsed views when moving through the town.
- 5.7.176 Within the western part of the settlement up to a distance of approximately 3 km, the lower elevation would mean that more of the wind farm would be screened by the landform of Mynydd Maen, reducing the number of turbines that would be visible. Where views are available, views would mainly comprise blade tips seen above the landform with the upper parts of towers and hubs of a limited number of turbines also seen. This would introduce a medium size and scale of change extending across a moderate proportion of the view. This would lead to a low medium magnitude of change and result in a moderate effect that would not be considered significant.
- 5.7.177 With reference to viewpoints 26 and 32, with further distance from the proposed wind farm and increased elevation there would be a greater scale of change as more turbines would be seen above the landform to the west of the town, resulting in a medium magnitude of change and a moderate effect that would be considered significant.
- 5.7.178 However, these effects would only be experienced at intermittent locations within the urban environment where views would be available.

### *Pontypool*

- 5.7.179 Located approximately 2.3 km to the north-east of the proposed wind farm, the town is a large nucleated settlement situated on the Afon Llwyd river within lower-lying valleys to the north-east of the site.
- 5.7.180 Referring to the blade tip ZTV in Figure 5.3, theoretical visibility of a limited number of turbines is predicted across most of the settlement, with visibility of a greater number of turbines from the more elevated parts of the town towards Panteg to the east and Trevethin to the north.
- 5.7.181 However, actual visibility would be greatly reduced as views within the settlement would be restricted by surrounding buildings and the extensive areas of trees that line many of the main transport routes through the area. Occasional views of the proposed wind farm may be

available at certain points along streets or experienced as glimpsed views when moving through the town.

- 5.7.182 Viewpoints 3 is representative of views that may be experienced from limited parts of the settlement. Where views are possible, the proposed turbines would be largely screened by the intervening landform of Twyn Calch and intervening vegetation. Parts of the towers, hubs and blades of up to five turbines would be seen against the sky above the landform, while views of a further five blade tips would be available.
- 5.7.183 Within approximately 4 km from the proposed wind farm there would be a medium size and scale of change extending across a moderate proportion of the view. This would lead to a low medium magnitude of change and result in a moderate effect that would not be considered significant.
- 5.7.184 Towards Panteg, theoretical visibility of up all 13 turbines would be available leading to a greater scale of change as more turbines would be seen above the landform to the south-west, resulting in a medium magnitude of change and a moderate effect that would be considered significant.
- 5.7.185 However, these effects would only be experienced at intermittent locations and the majority of the settlement would not experience significant effects.

#### *Pantside*

- 5.7.186 The settlement is located approximately 2.6 km to the west of the proposed wind farm on the eastern valley side above Crumlin. The proposed access to the wind farm would connect to the highway network at Crumlin.
- 5.7.187 Referring to the blade tip ZTV in Figure 5.3: Blade Tip ZTV to 35 km with Viewpoints, theoretical visibility of a limited number of turbines is predicted at lower elevations within the settlement, with visibility of up to all 13 turbines available from the north-eastern part of the settlement within approximately 3 km from the proposed wind farm.
- 5.7.188 Actual visibility from the settlement would be reduced due to the partial screening provided by surrounding buildings and intervening trees and woodland. However, where views are available views would be limited to the upper parts of the towers of some turbines, while views of other turbines would be limited to blade tips only.
- 5.7.189 Within a distance of approximately 3 km from the proposed wind farm this would introduce a medium size and scale of change that would extend across a moderate geographical extent of easterly views, resulting in a medium magnitude of change and a moderate effect that would be significant.
- 5.7.190 At distances greater than 3 km, theoretical visibility reduces rapidly reducing the magnitude of change to low and effects to minor moderate and not significant as the elevation reduces with distance to the west.

#### *Swffryd*

- 5.7.191 The settlement is located on the higher slopes to the north-east of Crumlin, with properties generally facing north south. Referring to the blade tip ZTV in Figure 5.3: Blade Tip ZTV to 35 km with Viewpoints, there is theoretical visibility of up to nine turbines available across the majority of the settlement, although visibility from the north-western part of the settlement is restricted by the topography of the hillside on which it sits. Views are represented by Viewpoint 8.
- 5.7.192 Oblique easterly views would be available from the settlement. However, the wooded slopes to the south of Craig Gwent would provide some screening of parts of the turbines, reducing the extent of some of the towers seen above the landform.
- 5.7.193 Within approximately 3.1 km, the proposed wind farm would introduce a medium size and scale of change that would occupy a small extent of available oblique views, resulting in a medium magnitude of change and a moderate effect that would be significant.

5.7.194 At distances beyond approximately 3.1 km the hillside screens views from the northern part of the settlement.

#### ***Brynithel***

5.7.195 Located approximately 4.1 km to the north-west of the proposed wind farm, the settlement sits on the south-facing slopes above Llanhilleth. The elevation of the settlement and the general orientation of the properties means that there would be views across the lower-lying areas towards the proposed wind farm. Views from this settlement are broadly represented by Viewpoint 10.

5.7.196 Referring to the blade tip ZTV in Figure 5.3: Blade Tip ZTV to 35 km with Viewpoints, theoretical visibility of all 13 turbines would be available. Properties within the eastern part of the settlement within approximately 4.3 km distance would experience direct views, while those properties beyond this distance within the western part of the settlement would be orientated away from the proposed wind farm.

5.7.197 Within approximately 4.3 km, the proposed wind farm would introduce a medium size and scale of change that would extend across a moderate lateral extent of the views that extend across fields and woodland towards the high plateau where the site would be located. There would also be potential for some ground-level components to be visible, albeit at distance and as such they would appear small in scale. The magnitude of change is judged to be medium high resulting in a moderate major effect that would be significant.

5.7.198 At distances beyond 4.3 km, due to the orientation of the properties away from the proposed wind farm the magnitude of change would be very low, with effects considered to be minor and not significant.

#### **Effects on Settlements within 5 to 10 km**

#### ***Oakdale***

5.7.199 Located approximately 5 km to the west of the proposed wind farm, the settlement is located at a higher elevation to the west of the Ebbw valley.

5.7.200 Referring to the blade tip ZTV in Figure 5.3: Blade Tip ZTV to 35 km with Viewpoints, theoretical visibility of all 13 turbines is predicted across the settlement.

5.7.201 Actual visibility would be reduced by surrounding properties and tree cover around the eastern fringes of the settlement. Glimpsed intermittent views may be available between properties and from the eastern edge of the settlement. However, given the level of screening around parts of the settlement, available views would be limited. It is assessed that the proposed wind farm would introduce a small size and scale of change that would occupy a small lateral extent of available views, leading to a low magnitude of change and no greater than a minor moderate effect that would not be considered significant.

#### ***Bettws/Malpas***

5.7.202 Located approximately 6.3 km to the south-east of the proposed wind farm, the settlements are located at a lower elevation with the high ground where the site would be located providing the backdrop to available views to the north-west.

5.7.203 With reference to the blade tip ZTV in Figure 5.3: Blade Tip ZTV to 35 km with Viewpoints, there is theoretical visibility of up to 12 turbines predicted from Bettws and the western part of Malpas, while up to 13 turbines would be seen from residential area to the east of the A4051. Views from this area are represented by Viewpoint 16.

5.7.204 The turbines would be seen above the ridge that forms the backdrop to north-westerly views. They would be seen as small-scale elements extending above the background landform, with the towers of many of the turbines screened by the landform of the ridge, restricting views to the upper parts of towers, with views of some turbines limited to blade tips.

5.7.205 Due to the dense built form of the settlements, actual visibility would be reduced by the surrounding buildings, with views generally experienced from the western edge of the area or as occasional glimpsed views between properties.

5.7.206 The proposed wind farm would introduce a medium size and scale of change that would occupy a small lateral extent of available views, leading to a medium magnitude of change and no greater than a moderate effect that would not be considered significant.

#### ***Pontllanfraith/Blackwood***

5.7.207 Located approximately 6.6 km to the west of the proposed wind farm these settlements are located on the rising ground to the west of Sirhowy Valley. Views east from the settlement extend across lower-lying areas and Oakdale towards the hills beyond where the proposed wind farm would be located.

5.7.208 With reference to the blade tip ZTV in Figure 5.3: Blade Tip ZTV to 35 km with Viewpoints, theoretical visibility of all 13 turbines is predicted across these areas. However, actual visibility would be much less due to the extensive built form that would restrict the majority of views, together with intervening vegetation along the eastern fringes of these areas that would screen views of the proposed wind farm.

5.7.209 Available views would be limited to occasional glimpsed views between buildings or to more elevated and open areas such as Cefn Fforest/Blackwood Showfields, as represented by Viewpoint 29.

5.7.210 From such locations the turbines would be seen as small to medium scale new elements extending above the ridge that forms the distant horizon. The proposed wind farm would extend across a moderate proportion of the view and would introduce a medium magnitude of change and a moderate effect that would be significant.

#### ***Caerleon***

5.7.211 The town is located approximately 8.2 km to the south-east of the proposed wind farm. With reference to the blade tip ZTV in Figure 5.3: Blade Tip ZTV to 35 km with Viewpoints, theoretical visibility of all 13 turbines is predicted from the north-western edge of the settlement and from parts of the settlement situated to the south of the river and north of the M4. Views from the settlement are represented by Viewpoint 18.

5.7.212 From the north-western edge of the settlement, in the vicinity of Lodge Wood, views extend north-westwards towards the ridge where the proposed wind farm would be located. The turbines would appear as small to medium scale new elements extending above the ridge that forms the horizon to north-westerly views. The proposed wind farm would extend across a small to medium proportion of the view and would introduce a medium magnitude of change and a moderate effect that would not be significant.

5.7.213 These effects would only be experienced from the north-western edge of the settlement and from elsewhere within the town, views would be screened by the surrounding buildings.

**Table 5.9 - SUMMARY OF OPERATIONAL EFFECTS ON SETTLEMENTS**

Settlement	Sensitivity	Magnitude of Change	Level of Effect	Significant
<b>Settlements within 5 km</b>				
Pantygasseg	High	High	Major	Yes
Cwmbran - up to approximately 3 km to the east	High	Low medium	Moderate	No



Settlement	Sensitivity	Magnitude of Change	Level of Effect	Significant
Cwmbran - <i>beyond approximately 3 km to the east</i>	High	Medium	Moderate	<b>Yes</b>
Pontypool - <i>up to approximately 4 km</i>	High	Low medium	Moderate	No
Pontypool - <i>towards Panteg</i>	High	Medium	Moderate	<b>Yes</b>
Pantside - <i>within approximately 3 km</i>	High	Medium	Moderate	<b>Yes</b>
Pantside - <i>beyond 3 km</i>	High	Low	Minor moderate	No
Swffryd - <i>within approximately 3.1 km</i>	High	Medium	Moderate	<b>Yes</b>
Swffryd - <i>beyond approximately 3.1 km</i>	High	Very low	No change	No
Brynithel - <i>within approximately 4.3 km</i>	High	Medium high	Moderate major	<b>Yes</b>
Brynithel - <i>beyond approximately 4.3 km</i>	High	Very low	Minor	No
<b>Settlements within 5 to 10 km</b>				
Oakdale - <i>located approximately 5 km to the west</i>	High	Low	Minor moderate	No
Bettws/Malpas - <i>located approximately 6.3 km to the south-east</i>	High	Medium	Moderate	No
Pontllanfraith/Blackwood - <i>located approximately 6.6 km to the west</i>	High	Medium	Moderate	<b>Yes</b>
Caerleon - <i>located approximately 8.2 km to the south-east</i>	High	Medium	Moderate	No

**Bold text indicates a significant effect.**

#### **Effects on Long Distance Walking Routes**

5.7.214 The following assessment focuses on the long-distance walking routes within 10 km of the proposed wind farm identified in the filtering exercise in Technical Appendix 5.4 as having the potential to experience significant effects.

5.7.215 In accordance with the methodology set out in Technical Appendix 5.1 the sensitivity of users of long-distance routes is considered to be high. A summary of the effects is presented in Table 5.10 below.

#### ***Cambrian Way (south to north)***

5.7.216 The route is a high-level 298 mile coast to coast route from the south to north Wales, from Cardiff to Conwy. As such the below assessment considers effects that would be experienced by people walking the route in this direction.



- 5.7.217 With reference to the blade tip ZTV in Figure 5.20: Principal Visual Receptors to 24 km with Blade Tip ZTV and Viewpoints, walkers would not experience any views until the route passes to the north of Machen and follows a section of the Rhymney Valley Ridgeway Walk for approximately 1.6 km. Views experienced from this section are represented by Viewpoint 15.
- 5.7.218 The open nature of the ridge allows oblique views north-east towards the proposed wind farm that would be seen on the ridge to the north-east. There would be long-range views of ground-level components that would be seen as very small-scale diminutive elements in comparison to the turbines themselves. All 13 turbines would be seen and would appear as small-scale elements above the landform, extending across a moderate lateral extent of north-easterly views. This would introduce a medium magnitude of change and result in a moderate effect that would not be significant, given the level of existing structures and built development already present within views.
- 5.7.219 As the route descends from the ridge towards Risca views become obscured by the landform of the valley, recommencing to the west of Twmbarlwm, illustrated by Viewpoint 6 and continuing for a distance of approximately 10.5 km as the route passes to the east of the site. From Twmbarlwm the proposed wind farm would be seen at a distance of approximately 4 km with all 13 turbines seen as medium scale elements on the horizon. Due to the relative proximity to the site some ground-level components, including the proposed substation, would be seen in addition to the 13 turbines which would occupy a medium lateral extent of north-easterly views. This would introduce a medium high magnitude of change and result in a moderate major significant effect.
- 5.7.220 These effects would be experienced in direct to slightly oblique views from the route as it descends Mynydd Henllys over a distance of approximately 2.1 km, until views are screened by woodland adjacent to the northern edge of the path for approximately 900 m.
- 5.7.221 With reference to Viewpoint 31, as the route continues north-eastwards along the foot of Mynydd Maen the landform of the hillside partially screens the turbines from view. Views over this section are strongly influenced by the overhead pylon line which crosses up onto Mynydd Maen. The proposed wind farm would occupy a large lateral extent of westerly views from the route. The turbines would be partially screened by the landform with views limited to the upper parts of some towers, hubs and blades, while only the blade tips of some turbines would be seen above the landform. This would introduce a large scale of change and a high magnitude of change and result in a major significant effect. These effects would continue for a distance of approximately 3.1 km.
- 5.7.222 As the route passes the Cambrian Way car park (Viewpoint 1) the level of screening provided by the landform of Mynydd Twyn-glas means that the magnitude of change would reduce to medium with effects also reducing to moderate but remaining significant. These effects would continue for a further 1.8 km approximately to Viewpoint 2, where the proposed wind farm would be located behind walkers.
- 5.7.223 North of this point, walkers would not experience further effects as they continue north-eastwards towards Pontypool.

### *Cistercian Way*

- 5.7.224 The Welsh Cistercian Way is a 672 mile circular route starting and ending at Caerphilly. The route passes within approximately 1.2 km to the south-east of the proposed wind farm at its closest point.
- 5.7.225 Within 10 km, walkers would experience no effects for the first part of the route until it descends from the high ground to the north-east of Machen towards Pontymister. Viewpoint 15 is broadly representative of the nature of views that would be experienced. There would be long-range oblique views of ground-level components that would be seen as very small-scale elements in comparison to the turbines themselves. All 13 turbines would be seen as small-scale elements above the landform, extending across a moderate lateral extent of north-easterly views. This would introduce a medium magnitude of change and result in a moderate effect that would not be significant. However, walkers would only experience these

effects for approximately 700 m at most as the proposed wind farm quickly becomes screened by the landform as the route descends into the valley.

- 5.7.226 Walkers would experience no further views until near Twmbarlwm (Viewpoint 6), where it follows a similar course to that of the Cambrian Way, with walkers experiencing the same effects as walkers on this section of the Cambrian Way.
- 5.7.227 Over this section of the route, views would be direct to slightly oblique with walkers experiencing a medium high magnitude of change and a moderate major significant effect over a distance of approximately 2.1 km as the route descends Mynydd Henllys until views are screened by woodland adjacent to the northern edge of the path for approximately 900 m.
- 5.7.228 From Mynydd Henllys, there is no theoretical visibility experienced from the route as it descends towards Cwmbrian. Within Cwmbrian, the proposed wind farm would be behind walkers travelling south-eastwards, while walkers travelling north-west may experience occasional glimpsed views along streets or between buildings. The magnitude of change is assessed as medium, with effects judged to be moderate and significant. These effects would be experienced very intermittently with views mostly screened by development within the town. These effects would also reduce nearer to the proposed wind farm as the turbines are screened to a greater extent by the landform.
- 5.7.229 To the north-west of Caerleon over a distance of approximately 4.6 km, walkers travelling north-west would experience longer-range views across Cwmbrian towards the proposed wind farm. The turbines would appear as small to medium scale new elements extending above the ridge that forms the horizon to north-westerly views. The proposed wind farm would extend across a small to medium proportion of the view and would introduce a medium magnitude of change and a moderate effect that would not be significant. These effects would mainly be experienced by people walking north-west along the route.

#### *Torfaen Trail*

- 5.7.230 The route is a 35 mile route through Torfaen taking in Cwmbrian in the south, Pontypool and Blaenavon. To the south of Pontypool, the eastern and southern sections of the route pass through Cwmbrian. As assessed above, the majority of views would be restricted by surrounding buildings, with the magnitude of change considered to be no greater than medium and effects moderate and significant.
- 5.7.231 As the route heads west out of Cwmbrian, views of the proposed wind farm would be screened by landform for approximately 2.8 km. Theoretical visibility gradually increases as the route continues north towards The Square and Upper Cwmbrian. Where views are available, they would be partially screened by trees along the route and only a limited number of turbines would be seen above the landform to the west with views mainly limited to blade tips, introducing a low magnitude of change and a minor moderate effect that would not be considered significant. These effects would continue for approximately 1.8 km.
- 5.7.232 As the route continues towards the Cambrian Way car park (Viewpoint 1) the level of screening provided by the landform of Mynydd Twyn-glas means that the magnitude of change would be medium with effects increasing to moderate and significant. These effects would continue for a further 1.8 km approximately to Viewpoint 2, where the proposed wind farm would be located behind walkers. North of this point, walkers would not experience further effects as they continue towards Pontypool.
- 5.7.233 To the north of Pontypool, walkers along the eastern leg would experience longer-range views south-west towards the proposed wind farm over a distance of approximately 4.3 km between Blaenavon in the north and Lasgarn Wood as the route crosses Mynydd Garnclochdy. The proposed turbines would be seen at greater distance as small-scale elements above the distant landform and would occupy a small lateral extent of the view. This would introduce a low magnitude of change and result in a minor moderate effect that would not be considered significant.
- 5.7.234 Walkers would experience no views as the route passes through Lasgarn Wood. Views would become available north of Trevethin as the route exits the woodland and views would be experienced for a further 1 km approximately before the route enters suburban areas and

views are screened by surrounding buildings. Over this section the proposed wind farm would be seen above the landform with the turbines introducing small to medium scale elements that would extend across a moderate proportion of the view. This would result in a medium magnitude of change and moderate significant effects.

- 5.7.235 Views from the north-western leg of the route are very limited with the majority of the route experiencing no effects. Views would be available as the route crosses the Coety Mountains over a distance of approximately 1.1 km, with views broadly represented by Viewpoint 36. At over 8 km to the north of the proposed wind farm, the turbines would be seen on the distant landform, appearing as small-scale elements occupying a small proportion of the available view, resulting in a low magnitude of change and a moderate effect that would not be significant.
- 5.7.236 With reference to the blade tip ZTV in Figure 5.3: Blade Tip ZTV to 35 km with Viewpoints, there is theoretical visibility from a 1.2 km section north-west of Garndiffaith, with views of a limited number of turbines only, with further screening provided by intervening vegetation. Over this section, walkers would experience a very low magnitude of change and minor effects that would not be considered significant.
- 5.7.237 South of this point there would be no further views from the route until the route approaches Pentre Piod on the north-western outskirts of Pontypool. Walkers would experience very oblique views of all 13 turbines resulting in a medium magnitude of change and moderate significant effect.
- 5.7.238 These effects would only be experienced for approximately 500 m before rapidly reducing as the route descends from the higher ground. At lower elevations there would be visibility of a limited number of turbines for a further 1.5 km. However, actual visibility would be reduced due to surrounding trees that would largely screen views from this section. The magnitude of change would be low, with effects judged to be minor moderate and not significant.

#### ***Rhymney Valley Ridgeway Walk***

- 5.7.239 This long-distance walking route is situated approximately 6.3 km to the south-west of the proposed wind farm at its closest point and is a 45 km circular route encircling Caerphilly. Within 10 km of the proposed wind farm the route follows the ridge to the west of the Sirhowy Valley from near Pontllanfraith in the north, south to near Risca and Pontymister. Views from the route are illustrated by viewpoints 13 and 15.
- 5.7.240 Existing views from the path extend north-east across the valley to the high ground on the other side of the valley and are influenced by existing built development in the lower-lying settled valleys, pylons, telecoms masts, operational wind turbines and solar development.
- 5.7.241 There would be long-range views of ground-level components that would be seen as very small-scale diminutive elements in comparison to the turbines themselves. All 13 turbines would be seen and would appear as small-scale elements above the landform, extending across a moderate lateral extent of north-easterly views. This would introduce a medium magnitude of change and result in a moderate effect that would not be significant.
- 5.7.242 These effects would be experienced over an approximate 9 km section of the route. However, as noted the landscape is already influenced by a number of similar types of developments.

#### ***Sirhowy Valley Walk***

- 5.7.243 This long-distance walking route is situated in the western part of study area and leads from Newport in the south, north to Mynydd Machen and Mynydd Manmoel.
- 5.7.244 From the south, the first section where walkers would experience views commences at Ridgeway, as illustrated by Viewpoint 17. Views would be experienced over a distance of approximately 1.3 km. The proposed wind farm would be seen on the distant high ground, with the turbines seen above the skyline, appearing as small-scale elements occupying a small lateral extent of the view. At approximately 9 km from the proposed wind farm, the magnitude of change would be no greater than medium, with effects considered to be moderate and not significant.

- 5.7.245 As the route enters built up areas there would be no effects. The route crosses to the west side of the valley and climbs in elevation onto the valley side where existing woodland screens views.
- 5.7.246 Views of a limited number of turbines become available as the route continues in a north-westerly direction towards Mynydd Machen. Over this part of the route that extends to approximately 2.5 km walkers would experience oblique views to the north, where the proposed wind farm would be seen on the distant high ground. This would result in no greater than a low magnitude of change and a minor moderate effect that would not be considered significant.
- 5.7.247 As walkers approach Mynydd Machen, the number of visible turbines increases with the magnitude of change increasing to medium with effects becoming moderate and not significant. These effects would be experienced for approximately 2.7 km. The route then descends the valley side and follows a route north through the Sirhowy Valley where no views would be available for over 14 km.
- 5.7.248 Theoretical visibility recommences at Manmoel as the route climbs Cefn Manmoel and continues for approximately 1.3 km. From this part of the route, there would be oblique views towards the proposed wind farm that would be seen on the horizon provided by the distant high ground. The turbines would appear as medium-scale elements occupying a small geographical extent. They would introduce a medium magnitude of change and moderate effects that would be considered significant.

**Table 5.9 - SUMMARY OF OPERATIONAL EFFECTS ON LONG DISTANCE WALKING ROUTES**

Receptor	Sensitivity	Magnitude of Change	Level of Effect	Significant
<b>Cambrian Way</b>				
Cambrian Way - an approximate 1.6 km section north of Machen	High	Medium	Moderate	No
Cambrian Way - an approximate 2.1 km section at Mynydd Henllys	High	Medium high	Moderate major	Yes
Cambrian Way - an approximate 3.1 km section at Mynydd Maen	High	High	Major	Yes
Cambrian Way - an approximate 1.8 km section at Mynydd Twyn-glas	High	Medium	Moderate	Yes
<b>Cistercian Way</b>				
Cistercian Way - approximately 700m section north east of Machen	High	Medium	Moderate	No
Cistercian Way - an approximate 2.1 km section at Mynydd Henllys	High	Medium high	Moderate major	Yes

Cistercian Way - <i>within Cwmbran</i>	High	Medium	Moderate	Yes
Cistercian Way - <i>located north- west of Caerleon</i>	High	Medium	Moderate	No
<b>Torfaen Trail</b>				
Torfaen Trail - <i>within Cwmbran eastern and southern sections</i>	High	Medium	Moderate	Yes
Torfaen Trail - <i>west of Cwmbran</i>	High	Very low	No change	No
Torfaen Trail - <i>approximately 1.8 km south of Upper Cwmbran</i>	High	Low	Minor moderate	No
Torfaen Trail - <i>approximately 4.3 km section south of Blaenavon</i>	High	Low	Minor moderate	No
Torfaen Trail - <i>approximately 1 km section north of Trevethin</i>	High	Medium	Moderate	Yes
Torfaen Trail - <i>approximately 1.1 km section Coety Mountains</i>	High	Medium	Moderate	No
Torfaen Trail - <i>approximately 1.2 km section north-west of Garndiffaith</i>	High	Very low	Minor	No
Torfaen Trail - <i>approximately 500 m section north of Pentre Piod</i>	High	Medium	Moderate	Yes
Torfaen Trail - <i>approximately 1.5 km section south of Pentre Piod</i>	High	Low	Minor moderate	No
<b>Rhymney Valley Ridgeway Walk</b>				
Rhymney Valley Ridgeway Walk - <i>9 km section</i>	High	Medium	Moderate	No

<b>Sirhowy Valley Walk</b>				
Sirhowy Valley Walk - 1.3 km section at Ridgeway	High	Medium	Moderate	No
Sirhowy Valley Walk - 2.5 km section south-east of Mynydd Machen	High	Low	Minor moderate	No
Sirhowy Valley Walk - 2.7 km at Mynydd Machen	High	Medium	Moderate	No
Sirhowy Valley Walk - 1.3 km section at Cefn Manmoel	High	Low	Moderate	<b>Yes</b>

**Bold** text indicates a significant effect.

### Effects on Cycle Routes

5.7.249 The following assessment focuses on the cycle routes within 10 km of the proposed wind farm identified in the filtering exercise in Technical Appendix 5.4 as having the potential to experience significant effects.

5.7.250 In accordance with the methodology set out in Technical Appendix 5.1 the sensitivity of users of these routes is considered to be high. A summary of the effects is presented in Table 5.10 below.

#### *National Cycle Route 466*

5.7.251 The cycle route is located approximately 677 m from the proposed wind farm at its closest point as it passes through the valley to the north of the site between Crumlin in the west and Pontypool.

5.7.252 With reference to Figure 5.20: Principal Visual Receptors to 24 km with Blade Tip ZTV and Viewpoints showing the principal visual receptors overlaid with the blade tip ZTV, from the west there would be no visibility from the first section of the route as it enters the valley where there is theoretical visibility of a limited number of turbines over a distance of approximately 7.5 km.

5.7.253 Visibility commences near Swffryd and continues for approximately 1.9 km, with theoretical visibility of up to nine turbines. However, the route passes through residential areas over this section until it meets the A472. Over this section cyclists would experience oblique views towards the proposed wind farm but views would be partially screened by intervening buildings, leading to a low magnitude of change and minor moderate effects that would not be significant.

5.7.254 The route continues eastwards following a path to the south of the A472 for approximately 1.4 km before it joins Crumlin Road. Over this section there is theoretical visibility of up to six turbines for most of this section. However, views would be largely restricted to the upper parts of towers and blade tips, with visibility of up to three hubs. Cyclists would experience oblique views which would be further restricted by vegetation on the steep-sided valley resulting in a very low magnitude of change and minor effects that would not be significant.



- 5.7.255 As the route continues north-eastwards along Crumlin Road, views would be partially screened by roadside trees along the southern edge of the road. For approximately 1.6 km until south of Pantygasseg, cyclists would experience very oblique to perpendicular short-range views with the proposed turbines largely screened by the topography of the valley and partially filtered by vegetation both along the road and on the valley side. Cyclists would experience views of a limited number of turbines and hubs seen above the valley, resulting in a low magnitude of change and a minor moderate effect that would not be significant.
- 5.7.256 Over the remaining approximate 3.7 km of the route to Pontypool, views would be partially filtered by roadside trees, with visibility available at intermittent sections. The proposed wind farm would also be behind cyclists as they continue eastwards towards Pontypool. Cyclists travelling eastwards would not experience views towards the proposed wind farm unless looking to their rear. Where views are experienced, a limited number of turbines and hubs would be seen above the valley, resulting in a low magnitude of change and a minor moderate effect that would not be significant. These levels of effect would continue to the end of the route.

#### ***National Cycle Route 49***

- 5.7.257 This cycle route is located approximately 2.4 km to the east of the proposed wind farm at its closest point. The route links Abergavenny and Newport and passes through the urban areas of Pontypool and Cwmbran following sections of the Monmouthshire and Brecon Canal. Theoretical visibility commences at a distance of approximately 5 km from the proposed wind farm at Pontypool and continues for a distance of approximately 14 km.
- 5.7.258 With reference to Figure 5.20: Principal Visual Receptors to 24 km with Blade Tip ZTV and Viewpoints showing the principal visual receptors overlaid with the blade tip ZTV, theoretical visibility commences at a distance of approximately 5 km from the proposed wind farm at Pontypool and continues for a distance of approximately 14 km over which there would be theoretical visibility of a limited number of turbines.
- 5.7.259 Actual visibility would be reduced by vegetation along the canal banks. Occasional glimpsed views may be available at intermittent points along the route. Where views are available, they would be experienced as perpendicular views and would be further restricted by built development as the route passes through Cwmbran, resulting in no greater than a low magnitude of change and minor moderate effects that would not be considered significant. These effects would continue until the end of the route near Newport.

#### ***National Cycle Route 423***

- 5.7.260 This cycle route follows the Peregrine Path from Cwmbran to Ross via Monmouth. Within 10 km from the proposed wind farm it follows a route from west of Usk, west towards Cwmbran. At the start of this section there is no visibility for approximately 1.5 km.
- 5.7.261 Theoretical visibility commences east of Llandegfedd Reservoir as the route follows country lanes lined with hedgerows, with intermittent views available over a distance of approximately 3.1 km as the cycle route passes to the south-east of the reservoir. Views would be further screened by intervening hedgerows and scattered trees dotted across the fields to the west of the route. Where views are available, the proposed wind farm would be seen in oblique views on the distant hills, introducing a medium magnitude of change and a moderate effect that would be considered significant.
- 5.7.262 No views would be available for approximately 500 m as the route passes through a narrow-wooded valley before continuing west along Tre-Herbert Road towards the A4042 for approximately 2 km. Over this section there would be intermittent views across fields of up to 12 turbines, with views partially screened by intervening hedges and scattered trees. Where views are available, the proposed wind farm would be seen directly ahead on the distant hills, introducing a medium magnitude of change and a moderate effect that would be considered significant.
- 5.7.263 To the west of the A4042, the cycle route enters Cwmbran and continues for approximately 1.4 km west. Over this section views would be screened initially by trees and as the route

continues west into the urban area, views would be partially screened by surrounding buildings. Where views are available, the proposed wind farm would be seen in direct views on the hills to the west of the town with a limited number of turbines seen, introducing a medium magnitude of change and a moderate effect that would be considered significant.

**Table 5.10 - SUMMARY OF OPERATIONAL EFFECTS ON CYCLE ROUTES**

Receptor	Sensitivity	Magnitude of Change	Level of Effect	Significant
<b>National Cycle Route 466</b>				
NCN 466 - 1.9 km section near Swffryd	High	Low	Minor moderate	No
NCN 466 - 1.4 km section A472 to Crumlin Road	High	Very low	Minor	No
NCN 466 - 1.6 km section Crumlin Road to Pantygasseg	High	Low	Minor moderate	No
NCN 466 - 3.7 km section Pantygasseg to Pontypool	High	Low	Minor moderate	No
<b>National Cycle Route 49</b>				
NCN 49 - 14 km section between Pontypool and Cwmbran	High	Low	Minor moderate	No
<b>National Cycle Route 423</b>				
NCN 423 - 3.1 km section Llandegfedd Reservoir	High	Medium	Moderate	<b>Yes</b>
NCN 423 - 2 km section Tre-Herbert Road to A4042	High	Medium	Moderate	<b>Yes</b>
NCN 423 - 1.4 km west of A4042, Cwmbran	High	Medium	Moderate	<b>Yes</b>

**Bold text indicates a significant effect.**

### Effects on Roads

5.7.264 The following assessment focuses on the roads within 10 km of the proposed wind farm identified in the filtering exercise in Technical Appendix 5.4 as having the potential to experience significant effects.



5.7.265 In accordance with the methodology set out in Technical Appendix 5.1 the sensitivity of users of minor roads is considered to be medium, while the sensitivity of users of trunk roads is considered to be low. A summary of the effects is presented in Table 5.11 below.

***Minor road, Pantygasseg***

5.7.266 This road leads from Cefn-Crib in the west to Pontypool in the east over a distance of approximately 5.5 km.

5.7.267 From the west, there is theoretical visibility of all 13 turbines for approximately 1.4 km to Tir-pentwys. Over this section there would be open views across the valley to the ridge to the south where the proposed wind farm would be located. The proposed turbines would appear as highly prominent new features seen against the skyline above the landform. The blades, hubs and parts of the towers of up to nine of the 13 turbines would be seen, while the blade tips of the remaining turbines would be seen.

5.7.268 This would introduce a large size and scale of change that would occupy a large proportion of southerly views. This would result in a large magnitude of change and a moderate effect that would be significant.

5.7.269 These effects would continue for approximately 2.6 km with views changing from oblique to perpendicular to the road as it continues past Pantygasseg towards Old Furnace and Pontypool.

5.7.270 Towards the eastern end of the road it descends towards Tranch and enters an area of residential housing which screens views towards the proposed wind farm which would appear behind road users travelling east along the road. Over this approximate 600 m section, the magnitude of change would reduce to very low with effects considered to be minor and not significant.

5.7.271 Road users travelling north-west towards Cefn-Crib would experience the same effects but in reverse.

***A472***

5.7.272 The A472 passes through Craig Gwent between Crumlin to the west and Pontypool to the east. With reference to Figure 5.20: Principal Visual Receptors to 24 km with Blade Tip ZTV and Viewpoints showing the principal visual receptors overlaid with the blade tip ZTV, theoretical visibility commences to the east of Crumlin and continues for a distance of approximately 7.1 km to Pontypool. However, over this stretch the road's location within the steep-sided narrow valley bottom means that theoretical visibility is limited to a reduced number of turbines.

5.7.273 From the west, for approximately 1.7 km road users would experience visibility of up to nine turbines that would be seen above the landform to the south. Views from the road would be partially filtered by roadside trees. Where available this would introduce a medium magnitude of change and result in a minor moderate effect that would not be considered significant.

5.7.274 As the road continues north-eastwards, theoretical visibility reduces with up to three turbines visible for approximately 650 m. However actual visibility would be limited to one hub with the tips of the other visible turbines visible above the landform in oblique to perpendicular views from the road, with roadside vegetation and tree cover on the hillside providing some additional screening. This would introduce a low medium magnitude of change and a minor moderate effect that would not be considered significant.

5.7.275 As the road continues north-eastwards over approximately 2.6 km to Lower Race the proposed wind farm would be seen above the valley side with up to six turbines visible. Road users would experience views perpendicular to the direction of travel and the wind farm would move to their rear as they continued towards Pontypool. Views would be mostly screened by the landform, while mature roadside trees would provide further screening. This would introduce a low medium magnitude of change and a minor moderate effect that would not be considered significant which would only be experienced by road users looking to their rear.

5.7.276 From Lower Race to Pontypool road users would not experience any effects as views are screened by adjacent woodland and surrounding buildings.

5.7.277 Road users travelling north-west towards Crumlin would experience the same effects but in reverse.

**Table 5.11 - SUMMARY OF OPERATIONAL EFFECTS ON ROADS**

Receptor	Sensitivity	Magnitude of Change	Level of Effect	Significant
<b>Minor road, Pantygasseg</b>				
Minor road - approximately 1.4 km Cefn-Crib	Medium	High	Moderate	Yes
Minor road - approximately 2.6 km Pantygasseg	Medium	High	Moderate	Yes
Minor road - approximately 600 m at Tranch	Medium	Very low	Minor	No
<b>A472</b>				
A472 - approximately 1.7 km section east of Crumlin	Low	Medium	Minor moderate	No
A472 - approximately 650 m section east of Swffryd	Low	Medium	Minor moderate	No
A472 - approximately 2.6 km section to Lower Race	Low	Medium	Minor moderate	No
A472 - to Lower Race to Pontypool	Low	Very low	No effects	No

**Bold text indicates a significant effect.**

#### **Effects on Bannau Brycheiniog National Park**

5.7.278 As set out in the baseline in Section 5.6, the Special Qualities (SQ) of the BBNP are set out in The Park's Management Plan 2023 - 2028. The ten SQ are grouped around landscapes, communities, experiences and wildlife. Having reviewed the ten SQ the below assessment focuses on the Special Landscapes group that comprises 'Sweeping grandeur & outstanding natural beauty', 'Contrasting patterns, colours and textures', 'Sounds, sights, smells & tastes' and 'Peace, tranquillity & darkness'.

#### ***Sweeping grandeur & outstanding beauty***

5.7.279 The justification for the 'Sweeping grandeur & outstanding natural beauty' SQ describes it as:

*"The National Park's sweeping grandeur and outstanding natural beauty observed across a variety of harmoniously connected landscapes, including marvellous gorges and*

*waterfalls, classic karst geology with limestone pavement, caves and sink holes, contrasting glacial landforms such as cliffs and broad valleys carved from old red sandstone and prominent hilltops with extensive views in all directions. A landscape that provides a sense of time depth and timelessness.”*

- 5.7.280 With reference to the landscape designations overlaid with the blade tip ZTV in Figure 5.9: Landscape Designations within 24 km with Blade Tip ZTV, within the detailed 24 km LVIA study area there is relatively limited and intermittent theoretical visibility from within the boundary of the park. Visibility is generally limited to the westerly edge of the narrow limb of the park that extends southwards, to the east of Blaenavon (as illustrated by Viewpoint 30) and to isolated areas of high ground and south-facing slopes. These include Blorenge (illustrated by Viewpoint 22) situated approximately 13 km to the north of the proposed wind farm, Ysgryd Fawr (illustrated by Viewpoint 35) situated approximately 20 km to the north, the upland plateau of Mynydd Llangynidr (illustrated by Viewpoint 23) situated approximately 19 km to the north-west and Pen y Fan (illustrated by Viewpoint 24) situated outside of the detailed study area at a distance of approximately 33 km.
- 5.7.281 The assessment of effects on the character of the BBNP LCAs within the detailed 24 km study area identified that there would be no greater than minor effects during construction and operation on the character of available views towards the proposed wind farm from LCA 9 - Mynyddoedd Llangatwg and Llangynidr and LCA 12 - Skirrid and Sugar Loaf and moderate effects on LCA 15 - Blorenge Summit and Slopes.
- 5.7.282 Pen y Fan is located outside of the study area within LCA 7 - Central Beacons. This area is considered to have a very high sensitivity. Given the very limited theoretical visibility from this LCA and the distance from the proposed wind farm there would be no greater than a very low magnitude of change and minor to no effects on the visual character of the LCA.
- 5.7.283 Views experienced of the proposed wind farm from within the BBNP have the potential to affect the extensive views from the park that are noted as one of the attributes of the Sweeping grandeur & outstanding natural beauty SQ.
- 5.7.284 From the more distant locations within the park that experience theoretical visibility of the proposed wind farm (viewpoints 23, 24 and 35) there would be no greater than minor effects during construction and operation that would not be considered significant.
- 5.7.285 At closer distances at Blorenge where views are available as illustrated by Viewpoint 22, views are influenced by existing telecoms masts, with the proposed wind farm introducing a medium scale of change that would affect a small geographical extent of the available views. This would introduce a medium magnitude of change and result in a moderate effect during construction and operation that would not be considered significant.
- 5.7.286 Along the south-western edge of the park where views are available at Mynydd Garn-wen (as illustrated by Viewpoint 30) the turbines would be sky-lined on the horizon introducing a medium scale of change that would affect a small geographical extent of available views. This would introduce a medium magnitude of change, resulting in a moderate effect during construction and operation that would be considered significant.
- 5.7.287 These significant effects would occur in a part of the landscape that is already strongly influenced by extensive built development at Pontypool and Cwmbran. It would introduce additional built elements into the view but in the opposite direction to the core of the BBNP.
- 5.7.288 It is acknowledged that there would be some very limited non-significant effects on occasional views out from elevated locations south from the central part of the park and some significant visual effects experienced at the south-western edge of the park within approximately 5 to 8 km from the proposed wind farm. However, these significant effects would not extend into the park and are confined to its south-western boundary that is already influenced by existing development.
- 5.7.289 Overall, the introduction of the proposed wind farm would have a limited effect on the Sweeping grandeur & outstanding natural beauty SQ, but the effects would not be of such a scale to undermine its appreciation.

---

***Contrasting patterns, colours and textures***

5.7.290 The BBNP Management Plan provides the following justification for this SQ:

*“A working, living “patchwork” of contrasting patterns, colours and textures comprising well-maintained farmed landscapes, open uplands, lakes and meandering rivers, punctuated by small-scale woodlands, country lanes, hedgerows and stone walls and scattered settlements, grouped around landscape, community, experiences and wildlife.”*

5.7.291 The proposed wind farm would not have an effect on the Contrasting patterns, colours and textures SQ as it is located outside of the Park.

***Sites, sounds, smells and tastes***

*“A feeling of vitality and wellbeing that comes from enjoying the National Park’s fresh air, clean water, rural setting, open land and locally produced foods.”*

5.7.292 The rural setting and open land characteristics of this SQ would not be affected by the proposed wind farm due to the separation of the BBNP from the proposal site, and the intervening settled valley landscape between.

***Peace, tranquility and darkness***

*“National Park offering, dark, night time skies, peace and tranquillity with opportunities for quiet enjoyment, inspiration, relaxation and spiritual renewal”.*

5.7.293 With reference to the NRW ‘Tranquillity and Place’ mapping, in general the least tranquil places within the BBNP boundary are those areas along the southern edge of the National Park which are influenced by settlement to the south, particularly around Merthyr Tydfil/Merthyr Tudful and Abergavenny/Y Fenni, or areas in proximity to major roads. These areas are represented by Viewpoints 22, 23, 30 and 35. When examined in relation to the ZTV for the proposed wind farm, those areas of greatest theoretical visibility tend to coincide with the least tranquil areas, except for the most elevated peaks. The most tranquil locations tend to occur at distances over 25km away, including the Black Mountains (LCA 13) and the Central Beacons (LCA 7, represented by Viewpoint 24 Pen-y-Fan).

5.7.294 From the more distant locations within the park that experience theoretical visibility of the proposed wind farm (viewpoints 23, 24 and 35) there would be no greater than minor effects during construction and operation that would not be considered significant.

5.7.295 In views from the Black Mountains to the north of the proposed wind farm, the turbines would appear as small features in the distance and in views from the north-west such as Pen-y-Fan, the consented Mynydd Carn wind farm would appear closer and more prominent. The proposed wind farm would therefore have very limited impact on the tranquillity of the BBNP.

5.7.296 Furthermore, as there would be no requirement for any of the turbines to be fitted within visible aviation lighting due to the height of the proposed turbines being less than 150 m, the proposed wind farm would not affect the dark skies quality of the BBNP.

## Effects on Special Landscape Area

### *Effects on the South West Uplands SLA*

5.7.297 The SLA boundary overlaps the south-eastern part of the site and extends south from Mynydd Twyn-glas in the north, along the western edge of Cwmbran to Twmbarlwm in the south abutting the boundary of the Abercarn VILL. The Torfaen Borough Council 'Designation of Special Landscape Areas Study' (2011) describes the area as:

*"An area of upland hillside and scarp slopes, typified by rough pasture, rising up to 460 metres AOD. The southern section has extensive woodland cover, primarily coniferous but includes areas of ancient semi-natural broadleaved habitat, elsewhere it is characterised by dry terrestrial heath and unimproved acid grasslands. It includes important geological features, Mynydd Henllys being the site of an ancient rotational landslide, and the area contains substantial coal reserves. The area also exhibits medieval and post medieval agricultural landscapes, such as on Mynydd Maen, with later industrial relics making it an archaeologically sensitive area. The settlement of Upper Cwmbran predates the Newtown development and reflects the earlier development and land use of the area."*

5.7.298 The study also notes the area as:

*"an area of rising ground to the west of Cwmbran running up to the County Borough boundary along Mynydd Henllys and Mynydd Maen, including part of Upper Cwmbran. It forms an important visual backdrop to the town..."*

5.7.299 With reference to the blade tip ZTV in Figure 5.9: Landscape Designations within 24 km with Blade Tip ZTV, theoretical visibility from the SLA is limited to the northern and western parts of the SLA, while the south-eastern part of the SLA would experience intermittent visibility of a limited number of turbines, with large parts having no views of the proposed wind farm.

5.7.300 There would be localised and significant effects on the landscape character of a very small part of the north-western corner of the SLA where turbine number nine and its associated access track and hardstanding would be located. This would extend approximately 1.2 km to the north-east at Mynydd Twyn-glas and approximately 2.1 km to the south at Mynydd Maen from the north-western corner of the SLA. These effects would no longer be significant within the narrow valley west of Upper Cwmbran where only a limited number of turbines would be experienced. From the remaining parts of the SLA, there would be indirect effects on the landscape character of the SLA but they would not be considered significant.

5.7.301 In terms of effects on the visual qualities of the SLA, views towards the rising ground that forms the visual backdrop to Cwmbran are already influenced by tall vertical structures in the form of the overhead pylons that cross onto the high ground and by the large telecoms mast towards Mynydd Twyn-glas that is seen in some westerly views from the SLA.

5.7.302 However, there would be significant effects on westerly views that would be experienced along the western half of the SLA extending south approximately 3.8 km and east approximately 1 km from the proposed wind farm.

5.7.303 Overall, while it is acknowledged that there would be both significant effects on landscape character and visual amenity within parts of the SLA as a result of the proposed wind farm, it is not considered that these effects would be such as to prevent an understanding or appreciation of the underlying landscape of the SLA.

### *Effects on the St. Illtyd Plateau and Ebbw Eastern Sides SLA*

5.7.304 The SLA is located approximately 2.3 km to the north-west of the proposed wind farm at its closest point. The SLA comprises the Ebbw Valley Sides and plateau landscape above Swffryd, Llanhilleth and Brynithel.

5.7.305 The Blaenau Gwent Borough Council 'Proposals for Designation of Special Landscape Areas in Blaenau Gwent' report (2009) sets out the key landscape qualities as:

#### **St. Illtyd plateau:**

- Well-preserved pattern of pre-industrial farmland of small rectangular fields with distinctive stone walls and overgrown beech and holly hedges, centred on, and integral with, early settlement of St. Illtyd, of considerable historic and cultural significance;
- Panoramic views especially west and south, to other plateau landscapes;
- Remote from busy valleys, with ‘other world’ atmosphere due to obvious pre-industrial character;
- Two areas of acid and neutral grassland are cSINCs, also LBAP priority habitats; and
- Old hedges are of considerable biodiversity value as well as historic and visual value.

**Ebbw Valley sides:**

- Valley sides form attractive backdrop to main valley settlements and routes, due to convoluted topography and a variety of semi-natural vegetation;
- Mosaic of native woodland with bracken, dry heath and conifer plantations, plus areas of unimproved acid grassland;
- Five areas of upland oak woodland with beech are cSINCs, LBAP priority habitats; and
- The minor side valleys provide recreational links to uplands.

5.7.306 With reference to the blade tip ZTV in Figure 5.9: Landscape Designations within 24 km with Blade Tip ZTV, theoretical visibility from the SLA is mainly limited to the plateau landscapes at St. Illtyd, above Six Bells and from the south-eastern edge of the SLA north of Swffryd, with very limited theoretical or no visibility from the valley sides part of the SLA. Views from the SLA are represented by Viewpoint 10.

5.7.307 In terms of effects on the visual qualities of the SLA, views south and west to adjacent upland plateaus are noted as one of the key features of the SLA. The proposed wind farm would introduce built form on a plateau landscape to the south, while views towards plateau landscapes to the west would be unaffected. This would introduce a moderate major significant visual effect that would be experienced where narrow bands of theoretical visibility extend across the SLA. These bands occur at the southern edge of the SLA at Swffryd, between a distance of 3.6 and 4.5 km at St. Illtyd and from the north-eastern corner of the SLA at Six Bells.

5.7.308 Overall, while it is acknowledged that there would be some significant visual effects on southerly views to the upland plateau landscape the effects would not be of such a scale so as to prevent an understanding or appreciation of the underlying landscape of the SLA.

***Effects on the Eastern Ridge & Mynydd James SLA***

5.7.309 The SLA is located approximately 2.8 km to the north at its closest point, extending to over 14 km from the proposed wind farm. The SLA comprises three landscape character types, the northern slopes at the northern end of the SLA, the valley sides along the western edges of the SLA to the east of Blaina and Abertillery and the open, upland common areas.

5.7.310 The Blaenau Gwent Borough Council ‘Proposals for Designation of Special Landscape Areas in Blaenau Gwent’ report (2009) sets out the key landscape qualities as:

**Open upland**

- Unimproved acid grassland, with areas of bog, bare peat, flush, dry heath. All part of BAP habitat - upland heath in good condition. All the open land is cSINC;
- Wealth of archaeological remains representing many phases of human history from prehistoric to recent, including evidence of mining and industry which may relate to activities within Blaenavon Registered Historic Landscape. Eastern parts



of the area are within the Blaenavon Registered Historic Landscape (but not the WHS);

- Remnants of patches (early opencast coal extraction) on either side of Blaenavon Road;
- Remote and bleak in contrast to adjacent valley, with panoramic and distant views, and forming distinctive and remote skylines; and
- Spectacular but secluded gorge in southernmost forestry.

#### Valley sides

- Form varied backdrops for valley settlements and routes throughout;
- Bourneville Slip is cSINC for mosaic of habitats, including neutral and acidic grasslands, mire, open water and wet heathland. Also contains dwarf shrub heath, an LBAP habitat;
- Part of important gap between Heads of the Valleys and mid valley settlements.

#### Northern slopes

- Prominent backdrop and skylines from Brynmawr and Heads of the Valleys road;
- Areas of patches and other early workings, of historic value;
- Remnants of various communication routes between Brynmawr and Clydach Gorge, of historic interest.

5.7.311 With reference to the blade tip ZTV in Figure 5.9: Landscape Designations within 24 km with Blade Tip ZTV, there is no theoretical visibility from the northern slopes part of the SLA. Elsewhere, theoretical visibility occurs mainly from the open upland areas such as from the south-facing slopes of Mynydd James, from a small part of Coety Mountain within the eastern corner of the SLA (as illustrated by Viewpoint 36) and from upland areas at the southern end of the SLA.

5.7.312 In terms of effects on the visual qualities of the SLA, panoramic and distant views are noted as one of the key features of the open upland. The proposed wind farm would introduce built form on a plateau landscape to the south. This would introduce a moderate major significant visual effect that would be experienced at the southern end of the SLA in the vicinity of Mynydd Llanhilleth extending up to approximately 5 km from the proposed wind farm.

5.7.313 Further north between approximately 5.3 and 10 km, visual effects would reduce to moderate and would no longer be considered significant, due to the greater distance and the reduced prominence of the turbines in southerly views.

5.7.314 Overall, while it is acknowledged that there would be some significant visual effects on southerly views experienced from the southern end of the SLA and some non-significant effects from other parts of the SLA, the effects would not be of such a scale so as to prevent an understanding or appreciation of the underlying landscape of the SLA.

#### ***Effects on the Western Uplands SLA***

5.7.315 The SLA is located approximately 3.6 km to the north of the proposed wind farm and to the west of Abersychan, Garndiffaith and Varteg. The Torfaen Borough Council 'Designation of Special Landscape Areas Study' (2011) describes the area as:

*"An area of mixed landscapes including an open upland plateau which rises to 550 metres AOD and includes the peaks of Brygwm, Waun Wen and Gwastad. This is dissected by a series of small valleys, more enclosed and vegetated with a regular pattern of small side fields bounded by hedgerows and walls and small areas of broadleaved woodland. The uplands have a vast, open character, mostly covered in dry heathland and acid grasslands but with a strong sense of place. As with much of the area, the SLA exhibits the impacts of post medieval industrial landscapes upon the post medieval agricultural landscape which results in the area being archaeologically sensitive."*

- 5.7.316 With reference to the blade tip ZTV in Figure 5.9: Landscape Designations within 24 km with Blade Tip ZTV, theoretical visibility from the SLA is limited to the south-facing slopes of Twyn Du, Waun Wen and along the southern boundary of the SLA. In terms of effects on the visual qualities of the SLA, the proposed wind farm would introduce built form on high ground to the south of the SLA that forms part of the backdrop of southerly views. Within approximately 3.8 to 5.9 km at the southern end of the SLA there would be moderate major significant effects on views south from the SLA.
- 5.7.317 Further north at Waun Wen and Twyn Du, at a distance of approximately 5.9 to 7.8 km, the level of visual effects would reduce to moderate and would no longer be significant due to the reduced apparent scale of the turbines.
- 5.7.318 Overall, while it is acknowledged that there would be some significant visual effects on views experienced from the southern end of the SLA and some non-significant effects from limited parts further north, the effects would not be of such a scale so as to prevent an understanding or appreciation of the underlying landscape of the SLA as the majority of the SLA would not experience any views.

#### **Effects on the South Eastern Lowlands SLA**

- 5.7.319 Bordering the eastern edge of Cwmbarn, the South Eastern Lowlands SLA is located approximately 4.4 km to the east of the proposed wind farm at its closest point. The Torfaen Borough Council 'Designation of Special Landscape Areas Study' (2011) describes the area as:

*"A rolling, lowland agricultural landscape, ranging from 30-110 metres AOD. It forms a quiet, secluded area to the east of Cwmbarn with scattered settlements pattern, Llanfrechfa being the main village in the area. This part of the SLA has a strong visual unity eastwards into Monmouthshire. The southern part of the SLA includes the grounds of Llantarnam Abbey which is included on the Cadw/ICOMOS Register of Parks and Gardens of Historic Interest. However the presence of roads and more urban influences associated with Llantarnam Business Park and Ponthir give a more discordant feel to the area. The landscape is typified by a patchwork of small to medium sized fields bounded by hedgerows with hedgerow trees and interspersed with a range of small and some larger woodland blocks. A number of these retain many of their ancient semi-natural woodland features which contributes to the overall quality of the area. The main river valley of Torfaen, the Afon Lwyd dissects the SLA at Ponthir as it runs southwards into the Usk."*

- 5.7.320 With reference to the blade tip ZTV in Figure 5.9: Landscape Designations within 24 km with Blade Tip ZTV, there is theoretical visibility of all 13 turbines from across most of the SLA, with slightly few turbines theoretical visible from the northern end the SLA. Views from the SLA are represented by Viewpoint 5.
- 5.7.321 Although westerly views are not specifically mentioned as a key feature of the SLA, they are strongly influenced by the built development of Cwmbarn, with Mynydd Maen providing the backdrop beyond the town. The proposed wind farm would be seen in north-westerly views above the ridge and would result in moderate non-significant effects on the character of available views along the western edge of the SLA to a distance of approximately 6.5 km from the proposed wind farm. Beyond 6.5 km, where views are available the level of effects would reduce to minor moderate and not significant.
- 5.7.322 Overall, while it is acknowledged that there would be some non-significant visual effects on views experienced from the SLA, the effects would be experienced in the opposite direction to the SLA's strong visual links into Monmouthshire. The effects would not prevent an understanding or appreciation of the underlying landscape of the SLA.

#### **Cumulative Effects**

- 5.7.323 For the cumulative assessment, consideration was initially given to a 60 km radius from the site, as recommended by NatureScot best practice guidance. Following this, all other wind energy developments that are operational, under construction, consented, subject to a valid full planning application, or a valid Scoping Request within 35 km of the proposed wind farm



were identified and reviewed as part of the cumulative baseline. It is acknowledged that this list is constantly evolving and therefore, the 31<sup>st</sup> May 2024 was used as an effective ‘cut-off’ date after which no further research was undertaken on the evolving status of wind energy development in the study area, and the Cumulative LVIA reflects the status of each wind farm at the time of this date. Following a review, it was not considered that there were any non-wind schemes which would have the potential to result in significant cumulative landscape or visual effects in addition to the proposed wind farm, so no such schemes were considered within the detailed assessment.

5.7.324 In order that the assessment remains focused on those other schemes which have the greatest potential to give rise to significant cumulative effects, it was deemed appropriate to focus the assessment on a detailed 24 km area from the proposed wind farm. It was also deemed appropriate to scope out any turbines under 50 m, or any turbines between 50 m and 80 m which lie over 10 km from the nearest proposed turbine. Schemes that are at the pre-scoping stage have not been considered due to the uncertainty that these schemes will come forward and the lack of adequate information about project details. This is in accordance with the approach advocated in GLVIA3.

5.7.325 The cumulative sites within 35 km are illustrated in Figure 5.29: Other Wind Farms within 35 km and cumulative sites within the 24 km detailed study area are illustrated in Figure 5.30: Other Wind Farms within 24 km. At the time of preparing this LVIA, there were 16 other wind farms within the detailed 24 km cumulative study area which were either operational, under construction or in planning as set out in Table 5.12.

**Table 5.12 - OTHER WIND FAR WITHIN 24 KM OF THE PROPOSED WIND FARM**

Site	Blade Tip Height	Number of Turbines	Distance and Direction
<b>Operational</b>			
Oakdale Business Park	130 m	2	6 km north-west
Pen Bryn Oer	110 m	3	17 km north-west
Rassau Industrial Estate	80 m	2	18 km north-west
ANP Newport	126 m	1	14 km south-east
Nash Waste Water Treatment Works	130 m	1	14 km south-east
Solutia UK Ltd	125 m	2	14 km south-east
Tesco Distribution Centre, Magor	90 m	2	17 km south-east
G24 Innovations	135 m	1	17 km south
Longlands Farm, Rush Wall Lane	149.9 m	1	18 km south-east
<b>Consented or Under Construction</b>			
Pen-Yr-Heol Farm, Hollybush	76.5 m	1	11 km north-west
Mynydd Carn Y Cefn	180 m	8	6.3 km north-west
<b>In Planning</b>			
Mynydd Llanhilleth	180 m	8	2 km north
Manmoel	180 m	6	10.9 km north-west
Twyn Hywel	200 m	20	13.1 km south-west
Mynydd Y Glyn	155 m	7	22 km south-west
Pen March	180m	6	19.9 km north-west
<b>Scoping</b>			
Abertillery	200m	6	4 km north

5.7.326 For the avoidance of doubt and to reiterate the methodology adopted in Technical Appendix 5.1, the baseline against which the solus effects of the proposed wind farm has been assessed

includes all operational wind farms. An assessment of the proposed wind farm with consideration of other operational wind farms has already therefore been presented in the main section of this LVIA.

5.7.327 The primary purpose of the cumulative impact assessment is therefore to consider the additional effects that might arise as a result of the proposed wind farm if the other consented or under construction and in planning (awaiting determination) schemes were also operational. In addition, this cumulative assessment also includes a further consideration of the overall totality of the effect, when the proposed wind farm is considered alongside the other operational or proposed schemes across the study area.

5.7.328 The baseline in the cumulative impact assessment is therefore extended to consider other schemes that are not yet present in the landscape but are at various stages in the planning process. Three scenarios are considered which reflect the different degrees of certainty that these schemes will be constructed:

- Scenario 1 assumes that other consented (but as yet unbuilt) wind farms are operational;
- Scenario 2 extends this further to assume that all schemes in planning are also operational. In reality, it is possible that all other schemes that are in planning may not be approved and constructed but this scenario assumes all planning schemes are operational as this presents the 'worst case'; and
- Scenario 3 extends this further to assume that the Scoping stage Abertillery scheme is also operational alongside the consented and in planning schemes.

#### **Cumulative ZTVs and Wirelines**

5.7.329 Cumulative ZTVs (CZTVs) have been produced to illustrate the theoretical visibility of various other wind farms and combinations of wind farms with the proposed wind farm.

5.7.330 It should be reiterated that ZTVs imply a much greater geographical extent of influence on the landscape and views of it than would actually be the case. It therefore follows that the cumulative ZTVs also exaggerate the actual impacts of the turbines on landscape character and visual amenity as they do not take account of vegetation or buildings in the landscape, which may restrict the nature and extent of views.

5.7.331 Cumulative ZTVs have been produced for the following combinations of existing, consented and other wind farm sites in planning:

#### **Operational**

- Figure 5.31: Cumulative ZTV with Operational Oakdale Business Park, Rassau Industrial Estate and Pen Bryn Oer
- Figure 5.32: Cumulative ZTV with Operational Solutia UK, ANP Newport, Nash Waste Water, G24 Solutions, Tesco Distribution Centre and Longlands Farm

#### **Consented or Under Construction**

- Figure 5.33: Cumulative ZTV with Consented Pen-Yr-Hoel Farm
- Figure 5.34: Cumulative ZTV with Consented Mynydd Carn Y Cefn

#### **In Planning**

- Figure 5.35: Cumulative ZTV with In Planning Mynydd Y Glyn and Twyn Hywel
- Figure 5.36: Cumulative ZTV with In Planning Mynydd Llanhilleth, Manmoel and Pen March

Scoping

Figure 5.75: Cumulative ZTV with Scoping stage Abertillery

5.7.332 The wirelines included with the visualisations illustrate the cumulative developments.

### Cumulative Effects on Landscape Character

- 5.7.333 It is acknowledged that wherever more than one wind farm is visible at any given location in the landscape, there will be a greater overall or cumulative effect on landscape character than if just one wind farm was visible in the landscape.
- 5.7.334 However, it is also noted that in any given landscape where turbines are already present, the additional effect on landscape character of introducing further turbines may not be as significant as the initial introduction of turbines. Furthermore, in general, the greater the number of turbines in the baseline landscape the less significant the addition of further turbines may be in landscape character terms as the landscape will be more heavily characterised by turbines in the baseline situation.
- 5.7.335 It has been assessed in the assessment of the solus effects of the proposed wind farm set out earlier in this chapter that there would be some limited significant effects on landscape character as a result of the proposed wind farm. The purpose of this section of the cumulative assessment is therefore to identify whether there would be any change to the assessments of significance previously set out in relation to the proposed wind farm, once the other wind turbines which are not already operational are considered to form part of the baseline landscape.
- 5.7.336 Generally speaking, such additional cumulative effects would arise when the addition of the proposed wind farm to the baseline results in an increase in effects, when viewed in combination with the other wind turbines forming part of the baseline landscape.
- 5.7.337 The assessment is considered in three parts, firstly in relation to the scenario where the additional consented developments are also considered to be operational, secondly the scenario where the consented and in-planning schemes are also considered to be operational and then thirdly with the addition of the scoping schemes.

#### *Cumulative Scenario 1 - Other consented schemes are also considered to be operational*

- 5.7.338 In the first cumulative scenario considered (where other consented wind farms are also considered to be operational), there would be one additional wind turbine, Pen-Yr-Heol Farm, Hollybush, situated approximately 11 km to the north-west and one additional wind farm, Mynydd Carn Y Cefn Wind Farm, situated approximately 6.3 km to the north-west.
- 5.7.339 Given the distance between the single turbine and the proposed wind farm and the nature of the intervening landscape between the sites, it is not considered that the inclusion of this scheme within the baseline would result in any change to the effects on landscape character in relation to the proposed wind farm which are already set out in the main assessment.
- 5.7.340 The proposed Mynydd Carn Y Cefn Wind Farm is located on the elevated ridge to the west of Abertillery. Like the proposed wind farm, it also lies within Pre-Assessed Area for Wind Energy 10, as set out in Future Wales. As such, in the same manner as for the proposed wind farm the principle of wind energy at the Mynydd Carn Y Cefn Wind Farm scheme has already been judged to be appropriate in terms of its potential for effects on landscape character. There is no suggestion in Future Wales that multiple wind farms cannot be located in Pre-Assessed Area for Wind Energy 10, which covers a relatively large expanse of the upland landscape north of Caerphilly. Nonetheless, it is acknowledged that Future Wales sets out that the cumulative impacts of wind farms should be considered.
- 5.7.341 If the Mynydd Carn Y Cefn Wind Farm scheme were already in the baseline, there would be a minor reduction in the effects on landscape character in the immediate environs of the Mynydd Carn Y Cefn Wind Farm site as a result of the introduction of the proposed wind farm, including the adjacent Cefn Manmoel ridge. This is because the Mynydd Carn Y Cefn Wind Farm scheme would already introduce wind energy as a characteristic element of the landscape character in this area. There would be the potential for increased effects on landscape character in the landscape between the two sites, where wind may become a characteristic element in views in different directions, where with the Mynydd Carn Y Cefn Wind Farm scheme it would currently only be in one direction.

- 5.7.342 However, with regard to the CZTV at Figure 5.34: Cumulative ZTV with in planning Mynydd Carn Y Cefn there would in fact be relatively limited visibility of both of the schemes from the intervening landscape between the two sites. Generally, such visibility would be restricted to the area of higher ground around St Illtyd, as illustrated by Viewpoint 10. In this area, the main assessment identified the potential for a moderate, significant effect as a result of the proposed wind farm. With the Mynydd Carn Y Cefn Wind Farm scheme also in the landscape to the north of this area there would be a further additional moderate, significant effect.
- 5.7.343 There would also be the potential for views of the Mynydd Carn Y Cefn Wind Farm scheme and the proposed wind farm in slightly different directions from the higher ground at Pen-y-fan Pond Country Park in the vicinity of Viewpoint 9. In this area, the main assessment identified the potential for a moderate, non-significant effect as a result of the proposed wind farm. With the Mynydd Carn Y Cefn Wind Farm scheme also in the landscape to the north of this area there would again be a further additional effect which would result in an overall significant effect on this area. This would represent an increase in the extent of significant effects when compared with that of the proposed wind farm in isolation.
- 5.7.344 For all other assessments of landscape character effects there would be no change to the significant effects already identified in the main assessment.

***Cumulative Scenario 2 - Other consented and in-planning schemes are considered to also be operational***

- 5.7.345 In the second cumulative scenario considered (where other schemes in planning are also considered to be consented and operational) there would be five additional schemes which can be divided into two broad groupings: Firstly, Mynydd Llanhilleth, Manmoel and Pen March which are located between approximately 2 and 19.9 km to the north-west of the site, and secondly, Mynydd Y Glyn and Twyn Hywel, which are located between 13 km and 22 km to the south-west.
- 5.7.346 Should the three schemes in the first grouping all come forward, this would represent a notable further addition of wind energy in the landscape to the north west of the site, in addition to that of the approved Mynydd Carn Y Cefn and Pen-Yr-Foel Farm schemes. In particular, the Mynydd Llanhilleth scheme would be particularly close to the proposed wind farm, lying around only 2 km to the north. In this scenario the effects of the proposed wind farm on the character of the landscape to the north of the site would for the most part be notably reduced. The only area where there may be the potential for a greater effect than that set out in the main assessment would be the small area of landscape immediately between the proposed wind farm and the Mynydd Llanhilleth scheme, where wind energy would lie in close proximity in two different directions. However, much of this area is the lower-lying wooded landscape of the Cywm y Glyn, from which visibility of either or both of the schemes would be limited by the intervening landform of the valley sides. Nonetheless some further additional moderate significant effects may occur in this area.
- 5.7.347 Should the two schemes in the second grouping both come forward, this would have less bearing in terms of potential cumulative effects with the proposed wind farm due to the distance between these schemes and the proposed wind farm. Together they would serve to introduce wind energy as a characteristic of the landscape in the area beyond 10 km to the south-west of the site but given their distance from the site it is not considered that there would be any potential for a change to the significant effects already identified in the main assessment for the landscape that lies between the proposed wind farm and this area.

***Cumulative Scenario 3 - Other Scoping schemes are also considered to also be operational***

- 5.7.348 In the third cumulative scenario considered (where other scoping stage wind farms are also considered to be operational), there would be one additional wind farm, Abertillery, situated approximately 5 km to the north.
- 5.7.349 The proposed Abertillery Wind Farm is located on the elevated ridge to the east of Abertillery. Unlike the proposed wind farm, it does not lie within a Pre-Assessed Area for Wind Energy, as set out in Future Wales. As such, unlike for the proposed wind farm, the principle of wind

energy at the Abertillery Wind Farm scheme has not already been judged to be appropriate in terms of its potential for effects on landscape character.

- 5.7.350 If the Abertillery Wind Farm scheme were already in the baseline, alongside the other consented and in planning schemes, it would lie at a distance of around 5 km to the north of the Proposed Development, immediately to the north of the in planning Mynydd Llanhilleth scheme, which would lie between the two schemes. The potential for any further cumulative effects would therefore be limited beyond those already set out in relation to Mynydd Llanhilleth addressed in Cumulative Scenario 2.
- 5.7.351 With regard to the CZTV at Figure 5.75: Cumulative ZTV with Scoping Stage Abertillery, setting aside the in planning Mynydd Llanhilleth scheme, there nonetheless would be relatively limited visibility of both of the schemes from the intervening landscape between the two sites. Generally, such visibility would be restricted to the area of higher ground around St Illtyd, as illustrated by Viewpoint 10. In this area, the main assessment identified the potential for a moderate, significant effect as a result of the proposed wind farm. With the Mynydd Carn Y Cefn Wind Farm scheme also in the landscape to the north of this area there would be a further additional moderate, significant effect and this would also apply with the inclusion of Abertillery Wind Farm.
- 5.7.352 There would also be the potential for views of the Abertillery Wind Farm scheme and the proposed wind farm in slightly different directions from the higher ground at Pen-y-fan Pond Country Park in the vicinity of Viewpoint 9. In this area, the main assessment identified the potential for a moderate, non-significant effect as a result of the proposed wind farm. It was identified in Cumulative Scenario 2 that with the Mynydd Carn Y Cefn Wind Farm scheme also in the landscape to the north of this area there would again be a further additional effect which would result in an overall significant effect on this area. This would represent an increase in the extent of significant effects when compared with that of the proposed wind farm in isolation. With the Abertillery Wind Farm scheme also in the view, this would continue to apply.

#### *Totality of the Combined Effect of All Schemes*

- 5.7.353 Consideration has also been given to the overall totality of the effect, when the proposed wind farm is considered alongside the other operational, consented and proposed schemes.
- 5.7.354 With regard to the proposed wind farm and the other already operational schemes, it is noted that with the exception of the two turbines at Oakdale Business Park, all other operational turbines are located over 12 km from the site, with almost all of the schemes being single turbines in more developed parts of the landscape and there would be no particular cumulative issues arising. There may be some glimpses of both the two turbines at Oakdale Business Park and the proposed wind farm from receptors in the landscape in and around the two sites, but again in part given the developed context of the Oakdale Business Park turbines there would be no greater effects than those already set out in the main assessment. This would also remain the case when the two turbines at Pen-Yr-Heol Farm, Hollybush and Longlands Farm, Rush Wall Lane, are considered, noting their distance from the site.
- 5.7.355 When the consented Mynydd Carn Y Cefn Wind Farm scheme is also considered, the combined effect of that scheme and the proposed wind farm would be greater than either scheme in isolation, but both lie within the Pre-Assessed Area for Wind Energy and are located in the upland landscape such that views from the more populated valleys would be limited. There would be an increased effect on the landscape character of the relatively small upland areas around viewpoints 9 and 10 when both schemes are considered together than would arise for either in isolation, but the separation between the two schemes would be such that wind energy would not become a dominant or defining feature of the local landscape.
- 5.7.356 If the schemes currently in planning and Scoping are also included, there would be a more notable presence of wind energy across the landscape to the north of the site, of which the proposed wind farm would be the most southerly element. Collectively the impact of the schemes would be such that wind energy became a defining feature of the upland landscape in this part of South Wales. It is noted that the majority of the proposed Mynydd Llanhilleth scheme, and the whole of the Scoping stage Abertillery scheme, lie outside of the Pre-

Assessed Area for Wind Energy and are located closer to the National Park boundary. The greater part of any overall impact on both the National Park and the wider landscape in proximity to its boundary would therefore be brought about by these two schemes. The Manmoel scheme lies within the Pre-Assessed Area, as is Mynydd Carn Y Cefn Wind Farm and the proposed wind farm. As such these schemes are located in an area which is potentially capable of accommodating large-scale wind energy development in an acceptable way.

- 5.7.357 The other two schemes currently in planning at Mynydd Y Glyn and Twyn Hywel, which are located between 13 km and 22 km to the south-west would have less bearing on the overall total cumulative impact, given their separation from the rest of the schemes that would be present in the landscape near to the proposed wind farm. Nonetheless, their addition would further serve to reinforce the presence of wind energy in this part of South Wales, with much of the Twyn Hywel scheme also lying in the same Pre-Assessed Area 10 as the proposed wind farm, but in a different part of the landscape covered by the broad overall area.
- 5.7.358 Regarding the totality of the combined effects of all consented, in planning and scoping schemes on the landscape character of the BBNP, there would be greater effects on the landscape character of LCA 9 Mynyddoedd Llangatwg and Llangynidr than the solus effects of the proposed development. The addition of consented schemes increases the proportion of the LCA that would experience combined effects, concentrated in the eastern part of the LCA on the south-facing slopes of Mynydd Llangatwg, in a part of the LCA where its landscape character is already influenced by built development in the valley below.
- 5.7.359 The addition of the in planning and scoping schemes introduces some additional effects in the northern and western part of the LCA where views inwards to the core of the park and the distinctive landform of the central Breacons are available. Overall, it is considered that the combined effects of all consented and in planning schemes would result in a medium magnitude of change and moderate significant effect to the landscape character of LCA 9. However, it should be noted that the greatest contribution to these combined significant effects would come from the in planning and scoping schemes due to their closer proximity to the boundary of the BBNP and this LCA. It is also considered that significant effects on this LCA would arise in any event as a result of the in planning and scoping schemes and that the addition of the proposed wind farm would not result in effects on the landscape character of the LCA becoming significant.
- 5.7.360 The combined effects of all consented, in planning and scoping schemes on the landscape character of LCA 12 Skirrid and Sugar Loaf would be greater than the solus effects of the proposed development. These effects would mainly be experienced from the south and south west-facing slopes of Sugar Loaf and would be largely brought about by the in planning Manmoel, Mynydd Llanhilleth and Pen March schemes, plus the scoping stage Abertillery scheme, that are located to the north west of the proposed wind farm in closer proximity to the BBNP boundary and this LCA. The combined effects of all consented, in planning and scoping schemes would result in a low magnitude of change and moderate minor non-significant effect to the landscape character of LCA 12.
- 5.7.361 The combined effects of all consented, in planning and scoping schemes on the landscape character of LCA 15 Bloreng Summit and Slopes would be slightly greater compared to the solus effects of the proposed development. These effects would only be experienced in a limited area in the northern part of the LCA on the north western slopes of Bloreng, brought about by the in planning Manmoel, Mynydd Llanhilleth and Pen March schemes, plus the scoping stage Abertillery scheme, that are located to the north west of the proposed wind farm in closer proximity to the BBNP boundary. The combined effects of all consented, in planning and scoping schemes would result in a medium low magnitude of change and moderate non-significant effect to the landscape character of LCA 15.

#### **Cumulative Effects on Views and Visual Amenity**

- 5.7.362 As with cumulative landscape character effects, it is acknowledged that the addition of the proposed wind farm to the baseline has the potential to result in an increase in effects, when viewed in combination with other wind turbines forming part of the visual baseline.



5.7.363 However, it is also noted that in any given view where turbines are already present, the additional effect on visual amenity of introducing further turbines may not have as greater effect as the initial introduction of turbines. Furthermore, in general the greater the number of turbines in the baseline view, the less significant the addition of further turbines may be. It is also recognised however that a slight additional effect on top of an existing effect, which at present is not quite significant, could in theory tip the balance such that the overall effect is deemed to be significant. Again, generally speaking, such additional cumulative effects would arise where a visual receptor would now lie between a cumulative wind farm in one direction and the proposed wind farm in a different direction, such that the visibility of turbines as a result of the addition of the proposed wind farm would become notable in multiple, usually directly opposite, directions.

#### ***Cumulative ‘in combination’ visual effects***

5.7.364 An ‘in combination’ cumulative visual effect is the term used to refer to the situation where a viewer is able to see one or more further wind farms, in addition to the proposed wind farm, whilst standing in one location. These effects are either ‘simultaneous’, where the viewer can see the additional turbines in the same angle of view, or ‘successive’, where the view can see the additional turbines in a different angle of view by turning their head.

5.7.365 As set out in the main assessment, given their distance from the site, there are relatively few locations where the other existing wind turbines in the study area are seen in views from the landscape in and around the proposed wind farm.

#### ***Cumulative Scenario 1 - Other consented schemes are also considered to be operational***

5.7.366 In the first cumulative scenario considered (where other consented wind farms are also considered to be operational), there would be one additional wind turbine, Pen-Yr-Heol Farm, Hollybush, situated approximately 11 km to the north-west and one additional wind farm, Mynydd Carn Y Cefn Wind Farm, situated approximately 6.3 km to the north-west. Given the distance between these schemes and the proposed wind farm and the nature of the intervening landscape between the sites, it is not considered that the inclusion of these schemes within the baseline would result in any change to the effects on visual amenity in relation to the proposed wind farm which are already set out in the main assessment. With these two schemes in the baseline the wider landscape would be characterised by wind energy development to a minor additional degree, but one which was barely perceptible in the context of the other built form and landform in the landscape.

#### ***Cumulative Scenario 2 - Other consented and in-planning schemes are also considered to be operational***

5.7.367 In the second cumulative scenario considered (where other schemes in planning are also considered to be consented and operational) there would be five additional schemes which can be divided into two broad groupings: Mynydd Llanhilleth, Manmoel and Pen March which are located between approximately 2 and 22 km to the north-west of the site, and secondly, Mynydd Y Glyn and Twyn Hywel, which are located between 13 km and 24 km to the south west.

5.7.368 Should the three schemes in the first grouping all come forward, this would represent a notable further addition of wind energy in the landscape to the north west of the site, in addition to that of the consented Mynydd Carn Y Cefn and Pen-Yr-Foel Farm schemes. In particular, the Mynydd Llanhilleth scheme would be particularly close to the proposed wind farm, lying around only 2 km to the north. The location of these schemes in a broadly similar part of the landscape would mean there would be some simultaneous views, albeit primarily from elevated parts of the landscape, such as from viewpoints 6, 9, 10, 11, 12, 13, 15, 19, 20, 23, 24 and 36, and some successive views from elevated locations such as viewpoints 9, 10 and 37.

5.7.369 Should the two schemes in the second grouping come forward, this would represent a notable addition of further wind energy in the landscape to the south west of the site, in addition to the approved Mynydd Carn Y Cefn and Pen-Yr-Foel Farm schemes. Simultaneous views would

be experienced from viewpoint 14. However, the Twyn Hwel scheme would be located within the immediate foreground of the view, such that the effects of the proposed wind farm would reduce more notably. Successive views would be available from other elevated locations such as viewpoints 6, 9 and 10.

- 5.7.370 For the most part, if the Mynydd Carn Y Cefn Wind Farm scheme were already in the baseline from the viewpoints with simultaneous views, there would be a minor reduction in the visual effects as a result of the introduction of the proposed wind farm. This is because the Mynydd Carn Y Cefn Wind Farm scheme would have already introduced wind energy as a characteristic element in the views. In some cases the viewpoints where simultaneous views of the schemes would be available are also located over 10 km from the proposed wind farm, where the scheme would only form a very minor element of the view in any case.
- 5.7.371 In the case of Viewpoint 11, the Mynydd Carn Y Cefn Wind Farm scheme would lie immediately in front of the proposed wind farm in the view, such that the effects of the proposed wind farm would reduce more notably. With other viewpoints, such as Viewpoint 12, the Mynydd Carn Y Cefn Wind Farm scheme would be more separated from proposed wind farm in the view, such that there would be a minor increase in the effect when the proposed wind farm were added, but again this viewpoint is over 15 km from the proposed wind farm and neither scheme would be especially prominent in the view.
- 5.7.372 In the case of Viewpoint 14, the Twyn Hywel scheme would lie immediately in front of the proposed wind farm in the view, such that the effects of the proposed wind farm would reduce more notably. With other viewpoints, such as Viewpoint 12, the Mynydd Carn Y Cefn Wind Farm scheme would be more separated from proposed wind farm in the view, such that there would be a minor increase in the effect when the proposed wind farm were added, but again this viewpoint is over 15 km from the proposed wind farm and neither scheme would be especially prominent in the view.
- 5.7.373 If the Mynydd Carn Y Cefn Wind Farm scheme were already in the baseline from the viewpoints with successive views there would be the potential for increased visual effects, where wind may become a characteristic element in views in different directions, where with the Mynydd Carn Y Cefn Wind Farm scheme it would currently only be in one direction.
- 5.7.374 Generally, such visibility would be restricted to the area of higher ground around St Illtyd, as illustrated by Viewpoint 10, where a significant visual effect was identified for the proposed wind farm. In this area, with the Mynydd Carn Y Cefn Wind Farm scheme also in the landscape to the north, there would be a further additional effect, which itself would also be significant. There would also be the potential for views of the Mynydd Carn Y Cefn Wind Farm scheme and the proposed wind farm in slightly different directions from the higher ground at Pen-y-fan Pond Country Park in the vicinity of Viewpoint 9. In this area, with the Mynydd Carn Y Cefn Wind Farm scheme also in the landscape to the north of this area, there would again be a further additional significant cumulative effect.
- 5.7.375 Overall, however, due to the relatively limited visibility of the schemes together, either simultaneously or successively, from the majority of the lower-lying parts of the landscape where the majority of the visual receptors are located, there would be no change to the previous assessment of significant effects on the visual amenity which the proposed wind farm would bring about beyond those set out above.

### **Cumulative Scenario 3 - Other Scoping schemes are also considered to be operational**

- 5.7.376 In the third cumulative scenario considered (where other scoping schemes are also considered to be consented and operational) there would be one additional scheme, Abertillery, situated approximately 5 km to the north.
- 5.7.377 Should the scheme come forward alongside those in the first grouping of cumulative scenario 2, this would represent a notable further addition of wind energy in the landscape to the north of the site, in addition to that of the consented Mynydd Carn Y Cefn and Pen-Yr-Foel Farm schemes. The location of these schemes in a broadly similar part of the landscape to Abertillery would mean there would be some simultaneous views, albeit primarily from elevated parts of the landscape, such as from viewpoints 6, 9, 10, 11, 12, 13, 15, 19, 20, 23, 24 and 36, and some successive views from elevated locations such as viewpoints 9, 10 and



37. Further details of cumulative visual effects in the third cumulative scenario with the Abertillery scheme are set out in the Viewpoint Assessment at Appendix 5.5.

### Cumulative 'sequential' effects

5.7.378 A 'sequential' cumulative visual effect is the term used to refer to the situation where a viewer is able to see one or more further wind farms in addition to the proposed wind farm, whilst travelling along a linear route. This could be either on foot, whilst walking on a footpath, or by bicycle or car along the public highway. The main assessment focussed on the following routes which it was identified had the potential to experience significant effects as a result of the proposed wind farm and these are also used as the basis for the cumulative assessment:

- Minor road, Pantygasseg;
- National Cycle Route 423;
- Cambrian Way;
- Cistercian Way;
- Torfaen Trail; and
- Sirhowy Valley Walk.

5.7.379 In the first cumulative scenario considered (where other consented wind farms are also considered to be operational), there would be two additional schemes, Pen-Yr-Heol Farm, Hollybush, situated approximately 11 km to the north-west and Mynydd Carn Y Cefn Wind Farm, situated approximately 6 km to the north-west. The main linear route of those set out above of relevance to the Mynydd Carn Y Cefn Wind Farm scheme would be the Sirhowy Valley Walk, which runs adjacent to the scheme on the opposite side of the valley. With the Mynydd Carn Y Cefn Wind Farm scheme, the addition of the proposed wind farm would increase the extent and nature of views of turbines from the route. For the proposed wind farm, in its own right, a significant effect was identified for a short section of the route. With the Mynydd Carn Y Cefn Wind Farm scheme in the baseline the route would already be characterised in part by views of turbines, but the effect previously identified for the proposed wind farm would remain.

5.7.380 In the second cumulative scenario considered (where other consented and in planning wind farms are also considered to be operational) there would be five additional schemes which can be divided into two broad groupings: Firstly, Mynydd Llanhilleth, Manmoel and Pen March which are located between approximately 2 and 22 km to the north-west of the site, and secondly, Mynydd Y Glyn and Twyn Hywel, which are located between 13 km and 22 km to the south-west.

5.7.381 The main linear route of those set out above of relevance to the first grouping would be the Sirhowy Valley Walk, which runs adjacent to the scheme on the opposite side of the valley. With the Mynydd Llanhilleth and Manmoel schemes, the addition of the proposed wind farm would increase the extent and nature of views of turbines from the route. For the proposed wind farm, in its own right, a significant effect was identified for a short section of the route. With these schemes in the baseline the route would already be characterised in part by views of turbines, but the effect previously identified for the proposed wind farm would remain.

5.7.382 The addition of the Mynydd Llanhilleth scheme in relative proximity to the north of the minor road at Pantygasseg would increase the extent and nature of views of turbines from the route, with receptors potentially experiencing successive views to the north and south of the road. For the proposed wind farm, in its own right, a significant effect was identified for a 3 km section of the road. With these schemes in the baseline the route would already be characterised in part by views of turbines, but the effect previously identified for the proposed wind farm would remain.

5.7.383 The main linear route of those set out above relevant to the second grouping would be the Cistercian Way. For the proposed wind farm, in its own right, a significant effect was not identified until of the route approaches Cwbran. With these schemes in the baseline the

route would already be characterised in part by views of turbines, but the effect previously identified for the proposed wind farm would remain.

5.7.384 In the third cumulative scenario considered (where other scoping schemes are also considered to be consented and operational) there would be one additional scheme, Abertillery, situated approximately 5 km to the north. The main linear route of those set out above relevant to the third cumulative scenario would be the Cambrian Way. For the proposed wind farm, in its own right, a significant effect was identified for part of the route. With the Abertillery scheme in the baseline the route would already be further characterised in part by views of turbines, but the effect previously identified for the proposed wind farm would remain.

#### ***Totality of the Combined Effects of all schemes***

5.7.385 Consideration has also been given to the overall totality of the cumulative visual effect, when the proposed wind farm is considered alongside the other operational, consented and proposed schemes.

5.7.386 With regard to the proposed wind farm and the other already operational schemes, it is noted that with the exception of the two turbines at Oakdale Business Park, all other operational turbines are located over 12 km from the site, with almost all of the schemes being single turbines in more developed parts of the landscape and there would be no particular cumulative issues arising. There may be some glimpses of both the two turbines at Oakdale Business Park and the proposed wind farm from receptors in the landscape in and around the two sites, but again in part given the developed context of the Oakdale Business Park turbines there would be no greater effects than those already set out in the main assessment. This would also remain the case when the consented Pen-Yr-Heol Farm, Hollybush is considered, noting its distance from the site.

5.7.387 When the consented Mynydd Carn Y Cefn Wind Farm scheme is also considered the combined effect of that scheme and the proposed wind farm would be greater than either scheme in isolation, but both lie within the Pre-Assessed Area for Wind Energy and are located in the upland landscape such that views from the more populated valleys would be limited. There would be an increased visual effect on the area of higher ground around St Illtyd, as illustrated by Viewpoint 10, along with the higher ground at Pen-y-fan Pond Country Park in the vicinity of Viewpoint 9. In these areas, with the Mynydd Carn Y Cefn Wind Farm scheme also in the landscape to the north, there would be a combined significant cumulative effect.

5.7.388 If the planning and scoping stage schemes are also included there would be a more notable presence of wind energy across the landscape to the north of the site, of which the proposed wind farm would be the most southerly element. Collectively the impact of the schemes would be such that the wind energy became a defining feature of the upland landscape in this part of South Wales, albeit views from the valleys in which the majority of the visual receptors are located would be more limited. It is noted that the proposed Pen March, Manmoel and the Mynydd Llanhilleth scheme, plus the scoping stage Abertillery scheme, are located closer to the National Park boundary. Therefore, the greater part of any overall impact on views from the National Park would therefore be brought about by these schemes.

5.7.389 The other two in planning schemes at Mynydd Y Glyn and Twyn Hywel would have less bearing on the overall total cumulative visual impact, given their separation from the rest of the schemes that would be present in the landscape near to the proposed wind farm.

#### **Summary of Cumulative Effects**

5.7.390 It is acknowledged that wherever more than one wind farm is visible at any given location in the landscape, there will be a greater overall or cumulative effect on landscape character than if just one wind farm was visible in the landscape. Likewise, it is acknowledged that the more wind turbines that are constructed in any given landscape, the greater the magnitude of overall (or combined) change to the landscape character.

5.7.391 When the consented scheme at Mynydd Carn Y Cefn is added into the baseline, there would be the potential for increased effects on landscape character and visual amenity in the landscape between the two sites, where wind may become a characteristic element in views

in different directions. Generally, such visibility would be restricted to the area of higher ground around St Illtyd, as illustrated by Viewpoint 10 and at Pen-y-fan Pond Country Park in the vicinity of Viewpoint 9. In these locations, significant cumulative effects would arise. The Mynydd Carn Y Cefn scheme also lies within Pre-Assessed Area for Wind Energy and there is no suggestion in Future Wales that multiple wind farms cannot be located within a Pre-Assessed Area for Wind Energy.

5.7.392 If the planning and scoping stage schemes are also included there would be a more notable presence of wind energy across the landscape to the north of the site, of which the proposed wind farm would be the most southerly element. Collectively the impact of the schemes would be such that the wind energy became a defining feature of the upland landscape in this part of South Wales, albeit views from the valleys in which the majority of the visual receptors are located would be more limited.

## 5.8 Mitigation

5.8.1 As discussed in best practice guidance for EIA, mitigation measures may include:

- avoidance of effects;
- reduction in magnitude of effects; and
- compensation for effects (which may include enhancements to offset any adverse effects).

5.8.2 The primary mitigation adopted in relation to the proposed wind farm is embedded within the design layout and relates to the consideration that was given to avoiding and minimising landscape and visual effects during the evolution of the layout. This is sometimes referred to as 'mitigation by design'. A detailed discussion of the design evolution and the iterative process underpinning it is provided in Chapter 2 of this ES. Design evolution is summarised below, in so far as landscape and visual matters have influenced the proposed wind farm.

5.8.3 Based on general good practice design principles (as set out in SNH/NatureScot guidelines) and an analysis of site-specific opportunities and constraints, the wind farm layout has evolved to take into consideration a number of landscape and visual constraints whilst maintaining an optimal development.

5.8.4 A design rationale has been adopted to avoid inconsistent turbine spacing, outliers or excessive overlapping turbines to minimise visual confusion and ensure a balanced / compact array from key views in the local landscape. The proposed turbines have been positioned within a bowl in the wider landscape, avoiding areas of higher ground ensuring that the proposed wind farm is perceived as being set down in the landscape as far as possible.

5.8.5 Appropriate offsets from all properties and settlements, have been maintained to ensure that no property would experience an overbearing visual impact such that it became an unattractive place to live.

5.8.6 The above principles have been applied as a number of iterations to the design were made. Taking all other engineering and environmental constraints into account, the final layout of the turbines on-site was specifically designed to achieve a balanced array of turbines when viewed from the surrounding landscape.

5.8.7 In considering the layout of other structures and ancillary features of the proposed wind farm, the design has sought to utilise existing tracks where possible.

5.8.8 The turbines themselves would be painted an off-white colour with a low reflectivity semi-matt finish (or similar as agreed). Such a finish is widely regarded to be the least intrusive in the landscape when seen against the sky in a host of weather conditions typically experienced within the UK.

5.8.9 In the long term, when the proposed wind farm is decommissioned, the turbines would be removed from site, and the hard-standing would be restored in accordance with a restoration plan to be approved by the local planning authority.

## 5.9 Summary of Effects

- 5.9.1 This chapter presents the findings of the Landscape and Visual Impact Assessment (LVIA) and identifies the likely significant effects arising from the proposed wind farm on landscape character and visual amenity. It has been informed by field visits carried out on three separate occasions at different times of the year and by consultation undertaken with statutory consultees.
- 5.9.2 The existing landscape and visual baselines have been documented and presented at Section 5.6 and the assessment has been supported by figures and visualisations (presented in Volume 3 of the ES) produced to NatureScot Visualisation Standards that show representative views from locations consulted on at Scoping that illustrate existing and proposed views.
- 5.9.3 The site straddles the administrative boundaries of Caerphilly County Borough Council and Torfaen County Borough Council. The site is centred approximately at British National Grid (BNG) 325565, 197597. The closest main settlements are Pontypool, located approximately 1.3 km to the north-east (approximately 2.2 km from the nearest turbine), Cwmbran located approximately 690 m to the east (approximately 1.4 km from the nearest turbine), Risca located approximately 4.5 km to the south, Blackwood located approximately 5.4 km to the west and Abercarn located approximately 3 km to the south-west. The city of Newport is also located over 7 km south-east of the site.
- 5.9.4 The nearest main highways are the A472 approximately 500 m to the north between Blackwood and Pontypool, the A467 that passes approximately 2.1 km to the west and the A4042 approximately 2.7 km to the east.
- 5.9.5 There are no international or national landscape designations covering the site or the immediate surroundings. The Bannau Brycheiniog National Park (BBNP) is located approximately 4.1 km to the north-east of the proposed wind farm at its closest point. Part of the south-eastern corner of the site overlaps with the South West Uplands SLA as identified by Torfaen County Borough Council. The site also lies adjacent to the Abercarn VILL as identified by Caerphilly County Borough Council.
- 5.9.6 The site extends across several upland ridges comprising Mynydd Llwyd, Mynydd Maen (and Mynydd Twyn glas and comprises an elevated open, grassland and heathland that is crossed by an overhead pylon line and two telecoms masts are located within the upland area.
- 5.9.7 The design of the proposed wind farm is the result of a considered iterative process which has sought to minimise landscape and visual effects whilst achieving the technical and commercial requirements to ensure project viability without public subsidy.
- 5.9.8 Appropriate offsets from all properties and settlements have been maintained to ensure that no property would experience an overbearing visual impact. However, as with almost any onshore wind farm development it is recognised that the proposed wind farm would give rise to some localised significant effects on landscape character and visual amenity.
- 5.9.9 The proposed wind farm would result in direct and significant effects on the Visual and Sensory Aspect Areas within which it is located and indirect significant effects on Visual and Sensory Aspect Areas extending to approximately 5 km north.
- 5.9.10 In relation to visual effects, it is accepted that the proposed wind farm would be visible from various nearby properties and settlements as well as the surrounding road network and footpath network.
- 5.9.11 It has been assessed that there would be significant visual effects experienced at 14 of the 37 representative viewpoints, as summarised above in Table 5.8.
- 5.9.12 All properties or groups of properties located within 2 km of a proposed turbine have been assessed in detail within the Residential Visual Amenity Study in Technical Appendix 5.6 and illustrated in Figure 1 of Technical Appendix 5.6.
- 5.9.13 In summary, of the properties within 2 km, those which would have a clear, open view of one or more turbines would experience a significant visual effect. However, none of the residents of any occupied private property would experience such an overbearing or overwhelming

- effect on their visual amenity that their properties would become unattractive places in which to live.
- 5.9.14 In relation to settlements, the assessment found that residents of Pantygasseg and parts of Cwmbran, Pontypool, Panside, Swffryd and Brynithel would experience significant visual effects.
- 5.9.15 The assessment of routes found that receptors would experience significant visual effects on short intermittent parts of the Cambrian Way, the Cistercian Way, the Torfaen Trail, the Sirhowy Valley Walk and National Cycle Route 423.
- 5.9.16 The assessment of roads found that receptors travelling along the A472 would not experience significant effects but significant effects would be experienced from the minor road at Pantygasseg.
- 5.9.17 In relation to cumulative effects, the assessment found that when the consented scheme at Mynydd Carn Y Cefn Wind Farm is added into the baseline, significant cumulative effects would arise in the intervening landscape between the proposed wind farms. The assessment found that the addition of the in planning and scoping stage schemes would add a notable presence of wind energy across the landscape to the north of the site, of which the proposed wind farm would be the most southerly element.
- 5.9.18 It is noted that localised significant effects on landscape character and visual amenity are inevitable as a result of commercial wind energy development anywhere in the UK. Whilst the LVIA identified some significant landscape and visual effects it is considered that the landscape has the capacity to accommodate the effects identified, especially given that it is located within an area that has been assessed by the Welsh Government as being capable of accommodating wind energy.
- 5.9.19 Wind turbines give rise to a wide spectrum of opinions, ranging from strongly adverse to strongly positive, with a wide range of opinions lying somewhere between these two positions. Some people view wind turbines as incongruous or industrial structures whilst others view them as aesthetically pleasing, elegant structures and a positive response to climate change. In the case of the proposed wind farm the turbines and associated ancillary development may be viewed by some as a symbol of continued progress by society towards a low carbon future.
- 5.9.20 However, in considering the effects of the proposed wind farm, a precautionary approach has been adopted and it is therefore assumed that the effects identified will be adverse in nature even though it is recognised that for some people the impacts could be perceived to be beneficial.
- 5.9.21 There are no definitive quantifiable thresholds of acceptability in landscape and visual impact assessment. The identified effects on landscape character and visual amenity therefore need to be balanced against the other benefits of the proposed wind farm and the planning context.

## 5.10 References

Landscape Institute and the Institute for Environmental Management and Assessment (2013). The Guidelines for Landscape and Visual Impact Assessment, 3rd Edition (GLVIA3). Routledge.

Landscape Institute (2019). Technical Guidance Note 06/19 Visual Representation of Development Proposals. Available at:

[https://landscapewpstorage01.blob.core.windows.net/www-landscapeinstitute-org/2019/09/LI\\_TGN-06-19\\_Visual\\_Representation.pdf](https://landscapewpstorage01.blob.core.windows.net/www-landscapeinstitute-org/2019/09/LI_TGN-06-19_Visual_Representation.pdf)

Landscape Institute (2019). Technical Guidance Note 2/19. Residential Visual Amenity Assessment (RVAA). Available at:

<https://landscapewpstorage01.blob.core.windows.net/www-landscapeinstitute-org/2019/03/tgn-02-2019-rvaa.pdf>

Landscape Institute (2021). Assessing Landscape Value Outside National Designations - Technical Guidance Note 02/21. Available at:

<https://www.landscapeinstitute.org/publication/tgn-02-21-assessing-landscape-value-outside-national-designations/>

Natural Resources Wales (2023). Using LANDMAP in Landscape and Visual Impact Assessments GN46. Available at: <https://naturalresources.wales/guidance-and-advice/business-sectors/planning-and-development/evidence-to-inform-development-planning/using-landmap-in-landscape-and-visual-impact-assessments-gn46/?lang=en>

NatureScot (March 2021). Assessing the Cumulative Impact of Onshore Wind Energy Developments. Available at: <https://www.nature.scot/doc/guidance-assessing-cumulative-landscape-and-visual-impact-onshore-wind-energy-developments>

NatureScot (February 2017). Visual Representation of Wind farms - Version 2.2. Available at: <https://www.nature.scot/doc/visual-representation-wind-farms-guidance>

NatureScot (2017). Siting and Design of Wind farms in the Landscape, Version 3a. Available at: <https://www.nature.scot/doc/siting-and-designing-wind-farms-landscape-version-3a>

Natural England (2019). An approach to landscape sensitivity assessment - to inform spatial planning and land management. Available at: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/817928/landscape-sensitivity-assessment-2019.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/817928/landscape-sensitivity-assessment-2019.pdf)