



Regener8 Power

Rhigos Road Solar Farm **Landscape and Visual** **Appraisal**

Final report

Prepared by LUC

November 2023



Regener8 Power

Rhigos Road Solar Farm
Landscape and Visual Appraisal

Project Number
12057

Version	Status	Prepared	Checked	Approved	Date
1.1	Second Draft Issue	EW / HG	DH	KL	15.12.2022
1.2	Third Draft Issue	JG	KL	KL	14.04.2023
1.3	Fourth Draft Issue	JG	KL	KL	08.06.2023
1.4	Fifth Draft Issue	JG	KL	KL	29.06.2023
1.5	Sixth Issue	JG	KL	KL	31.08.2023
1.6	Final Issue	JG	KL	KL	16.11.2023

Contents

Chapter 1			
Introduction	1	Landscape and Visual Effects During Operation	28
		Cumulative Effects	31
Chapter 2	2	Appendix A	
Methodology		ZTV and Visualisation Methodology	A-1
Consultation	2	Appendix B	
Approach to Appraisal	2	Figures and Visualisations	B-1
Basis of Appraisal	2		
Appraisal Process	3		
Chapter 3	7		
Baseline Conditions			
Landscape of the site and study area	7		
Designated Landscapes	7		
Landscape Character	8		
Visual Baseline	11		
Routes	11		
Chapter 4	12		
The Proposed Development			
Construction Phase Sources of Effects	12		
Operational Phase Sources of Effects	12		
Embedded Mitigation Measures	12		
Chapter 5	14		
Appraisal of Effects on Landscape Receptors			
Landscape Character	14		
Designated Landscapes	17		
Chapter 6	19		
Appraisal of Effects on Visual Receptors			
Representative Viewpoints	19		
Chapter 7	27		
Summary of Residual Effects			
Landscape and Visual Effects During Construction	27		

Chapter 1

Introduction

This report is an appraisal of the potential effects of the proposed Rhigos Road Solar Farm, on the landscape and visual resource of the site and the surrounding area.

Plan 2022-2037, Delivery Agreement March 2022² has been published in order to provide basic agreement to deliver a revised LDP.

1.1 This Landscape and Visual Appraisal (LVA) considers and describes the potential landscape and visual effects of the proposed Rhigos Road Solar Farm (the 'proposed development'). The site of the proposed development ('the site') is located on the lower slopes of the Cynon Valley within the administrative boundaries of Rhondda Cynon Taf County Borough Council.

1.2 An LVA is used as a means of identifying the landscape and visual effects which may arise from a project which does not require Environmental Impact Assessment (EIA), in which case a formal Landscape and Visual Impact Assessment (LVIA) will be required. Whilst not a formal LVIA, the methods and principles applied in this LVA are similar to those of an LVIA, but with the policy context being distinct. This is explained in more detail in **Chapter 2: Methodology**.

1.3 This report presents baseline information on existing landscape and visual conditions, established through desktop study and supplemented by fieldwork. The report sets out the range of potential landscape and visual effects which may occur as a result of the proposed development.

1.4 The LVA has been undertaken by Chartered Members of the Landscape Institute (CMLI) at LUC and landscape professionals with extensive experience in the appraisal and assessment of landscape and visual effects for a range of development types. It contains the following sections:

- 1. Introduction;**
- 2. Methodology;**
- 3. Baseline Conditions;**
- 4. The Proposed Development;**
- 5. Appraisal of Effects on Landscape Receptors;**
- 6. Appraisal of Effects on Visual Receptors; and**
- 7. Summary of Residual Effects.**

1.5 The LVA is supported and informed by accompanying visualisations which are referenced throughout and appended at the rear of the report. Further information on the preparation of the supporting visuals is provided in **Appendix A**.

1.6 The LVA should be read in conjunction with the Planning, Design and Access Statement supporting the application, which makes reference to the key landscape policies as outlined in the Rhondda Cynon Taf Local Development Plan (LDP) up to 2021, Adopted March 2011¹. This document has not been replaced yet; however, a Rhondda Cynon Taf Revised Local Development

¹ <https://www.rctcbc.gov.uk/EN/Resident/PlanningandBuildingControl/LocalDevelopmentPlans/RelateddocumentsLDP20062021/AdoptedLocalDevelopmentPlan.pdf> [accessed 05/10/2022].

² <https://www.rctcbc.gov.uk/EN/Resident/PlanningandBuildingControl/RelatedDocuments/Pdfs/RCTRevisedLDPDeliveryAgreementMarch2022.pdf> [accessed 05/10/2022].

Chapter 2
Methodology

This chapter sets out how the LVA has been carried out, the sources of information which have been referred to and the processes which have shaped it.

2.1 The objectives of the appraisal are to identify and assess the potential for landscape and visual effects arising as a result of the proposed development. The identification of landscape and visual effects is the result of applying professional judgement within an evidence-based appraisal process.

Consultation

2.2 Details of the approach to the LVA and the selected viewpoints were shared via email with the Rhondda Cynon Taf Planning Services Team on 13th September 2022. A further email highlighting the information was sent on 21st September 2022. No response has yet been received.

2.3 A copy of the report (December 2022) was shared via email with the Bannau Brycheiniog (Brecon Beacons) National Park Authority (BBNPA). A response was received on 3rd January 2023, with a request for some points of clarification about a viewpoint selection and likely in combination effects. A response was emailed to BBNPA on the 5th January 2023. An acknowledgement of the email and its content was received on 5th January 2023. Further responses were received by post on 15th August 2023, and these points have been addressed in this report.

2.4 A response was received from Cyfoeth Naturiol Cymru / Natural Resources Wales (NRW) on 25th September. Points relating to the LVA have been addressed in this report.

Approach to Appraisal

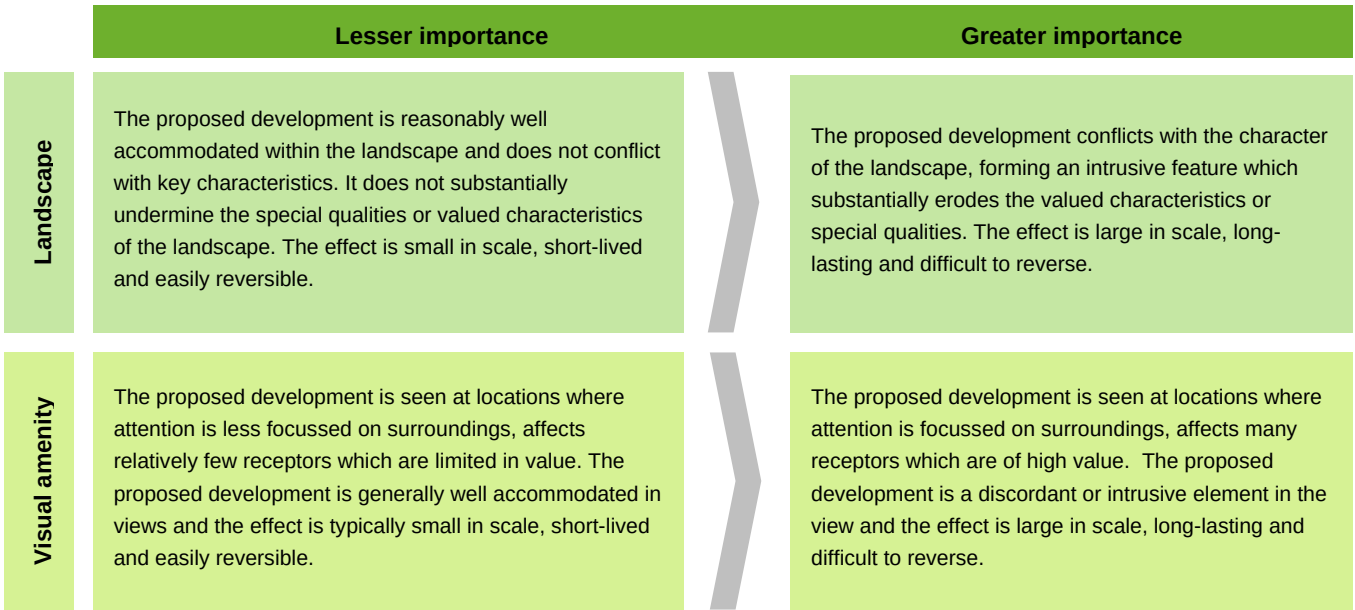
2.5 The methods and approach used to carry out the appraisal were informed by the ‘Guidelines for Landscape and Visual Impact Assessment’ (Third Edition) (GLVIA3)³. LVA is distinct from LVIA in that it is not a requirement of the EIA Regulations⁴. In reference to LVA, GLVIA3 states that ‘The principles and processes of LVIA can also be used to assist in the ‘appraisal’ of forms of land use change or development that fall outside the requirements of the EIA Directive and Regulations. Applying such an approach in these circumstances can be useful in helping to develop the design of different forms of development or other projects that may bring about change in the landscape and in visual amenity.’

2.6 Although an LVA describes effects, it is not required to determine ‘significance’, which is a term with specific meaning related to formal EIA processes. The term ‘importance’ is used in this LVA to describe potential effects and the diagram below is intended to assist the decision-maker in understanding the weight to be given to these.

³ Landscape Institute and Institute of Environmental Management & Assessment (2013), Guidelines for Landscape and Visual Impact Assessment (Third Edition).

2.7 The basis of identifying and describing effects is a consideration of the nature of receptors, and the nature of the effect. The factors considered in describing landscape and visual effects include susceptibility of receptors to the type of change proposed and the value of the receptor affected (which combine to form a judgement on sensitivity); and the scale, geographical extent, duration and reversibility of effect (which combine to form a judgement on magnitude of change). The sensitivity of the receptor and the magnitude of change are then considered together to form a judgment on overall level of effect.

Inset 1: Key Principles in Identifying Importance of Landscape and Visual Effects



2.8 The most important effects are those which should, relatively speaking, be given greatest weight in decision making. They typically concern substantial, long-lasting and irreversible changes to receptors of the greatest sensitivity. However, there may be cases where, for example, a receptor is of such sensitivity that even a small change might constitute a more important effect. There is no clear threshold whereby an effect becomes more or less important. Rather there is a gradual, blurred transition in level of importance.

Basis of Appraisal

2.9 The location of the site and study area is shown on **Figure 1**. Further information of the proposed development is included in **Chapter 4** of this report.

2.10 The principal aspects considered within this appraisal are the likely landscape and visual effects which are predicted to arise, namely:

- Direct and indirect effects during construction and operation on landscape character;

⁴ The Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017.

- Indirect effects on designated landscapes, including on:
 - The special qualities of the Bannau Brycheiniog (Brecon Beacons) National Park; and
 - the primary qualities and features of locally designated landscapes.
- Effects during construction and operation on visual amenity of surrounding receptors, including the local community and people using recreational and transport routes (sequential effects), informed by an assessment of nine representative viewpoints.
- Cumulative effects during operation on landscape character, visual amenity and designated landscapes.

2.11 The assessment scenarios considered for this topic are as follows:

- During construction of the proposed development;
- During operation (at Year 1) – the proposed development upon completion of all elements including the implementation of mitigation planting; and
- During operation (at Year 10) – the proposed development at 10 Years post-completion upon which mitigation planting will have matured sufficiently to provide mitigation to the degree which it was designed for.

2.12 On the basis of the desk-based and field survey work undertaken, the professional judgement and experience of the LVA team, the following topic areas have been ‘scoped out’ of the appraisal:

- Effects on landscape character and designated landscapes beyond a 5km radius from the site;
- Effects on visual receptors beyond a 5km radius from the site; and
- Effects on landscape and visual receptors that have minimal or no theoretical visibility (as predicted by the Zone of Theoretical Visibility (ZTV) - refer to **Figure 2**) – and confirmed through field survey, and which are therefore unlikely to experience effects.

Appraisal Process

2.13 In undertaking this LVA, the following activities have been carried out:

- Definition of a study area and preparation of a ZTV (see **Figure 2**) to establish the extent from which the proposed development may be theoretically visible;
- Analysis of the site and surrounding study area, in terms of baseline landscape character and overall sensitivity;
- Identification of representative viewpoints which encompass the range of views and types of viewer (visual receptors) likely to experience views of the proposed development; and
- Identification of likely effects on landscape and visual receptors, taking account of embedded design features within the proposed development and all proposed mitigation and enhancement measures.

Information Sources

2.14 The following information sources have been used to inform the collation of baseline information and appraisal process:

- Rhondda Cynon Taf Local Development Plan (LDP) up to 2021, Adopted March 2011⁵;
- LANDMAP landscape baseline information (accessed via the NRW website⁶);
- Dyfydol Y Bannau The Future -The Management Plan For Bannau Brycheiniog National Park 2023-2028;
- Brecon Beacons National Park (2012) Landscape Character Supplementary Planning Guidance;
- Rhondda Cynon Taf County Borough Council (2008) Proposals for Designation of Special Landscape Areas in Rhondda Cynon Taf;
- Dark Skies and Light Pollution in Wales (accessed via the NRW website⁷);
- Tranquillity and Place in Wales⁸;
- Ordnance Survey (OS) Landranger (1:50,000) and Explorer (1:25,000) maps;
- Field surveys;
- Aerial photography and historic mapping;
- ZTV mapping which illustrates theoretical visibility of the proposed development across the study area (analysis was performed on a ‘bare ground’ computer generated digital terrain model (DTM), with additional screening for buildings and woodland); and
- Baseline photography, including from the identified appraisal viewpoints.

Study Area

2.15 Following field survey visits in September 2022 to verify the extent of potential landscape and visual effects, a 5km study area around the site has been adopted for this appraisal and is shown on **Figure 1**. It is considered that landscape and visual effects will not occur beyond this distance. Details of the extent of the study area were emailed to Rhondda Cynon Taf Planning Services Team for agreement in September 2022 with a follow-up reminder. No response has yet been received.

Consideration of Relevant Receptors

2.16 Based on the information sources outlined above, the current baseline characteristics of the site and the surrounding area were considered. This led to the identification of relevant landscape and visual receptors to be considered within the appraisal, as detailed in **Chapter 3: Baseline Conditions**.

⁵ <https://www.rctcbc.gov.uk/EN/Resident/PlanningandBuildingControl/LocalDevelopmentPlans/RelateddocumentsLDP20062021/AdoptedLocalDevelopmentPlan.pdf> [accessed 05/10/2022].

⁶ Natural Resources Wales, Wales Environmental Information Portal - <https://smnr-nrw.hub.arcgis.com/apps/c7770d2881394c899123bae210afe370/explore> [accessed 29/09/2022].

⁷ <https://naturalresources.wales/about-us/news-and-events/news/new-map-casts-light-on-wales-dark-skies/?lang=en>

⁸ <https://storymaps.arcgis.com/stories/865c1876d9f64280a3dfc6e2769a46a5>

Identification of Landscape Units (Landscape Receptors)

2.17 Natural Resources Wales' (NRW's) LANDMAP in Landscape and Visual Impact Assessments Guidance Note 46, recommends that LANDMAP is used as a starting point for creating suitably scaled character-based reporting units and suggests that reporting units may be LANDMAP visual and sensory aspect areas (VSAAs). This recommended approach has been applied to the LVA and 'landscape units' have been identified based on VSAAs. The method and process for identifying which landscape units to assess is based on the filtering process contained in NRW's Guidance Note 46 as follows:

- **Filter 1** Identify all VSAAs within the search area (3km recommended for structures below 25m)⁹.
- **Filter 2** If a Zone of Theoretical Visibility (ZTV) map is available, retain all filtered VSAAs that are visible with the proposed development up to the limit of the search area (3km).
- **Filter 3** Retaining all VSAAs in which the development is located irrespective of their evaluation, also identify and retain filtered VSAAs that are evaluated as outstanding or high in:
 - Visual & Sensory overall evaluation (survey question 50), and/or scenic quality (question 46) and/or character (question 48) if the overall evaluation is moderate.

Also identify and retain filtered VSAAs that are evaluated as moderate or low in:

- Visual & Sensory overall evaluation (survey question 50) and there is potential for a large magnitude of change and opportunities for restoration and enhancement.
- **Filter 4** Retain all filter 3 VSAAs that are within the study area (2km is recommended in the LANDMAP guidance for proposed structures below 25m) plus those VSAAs outside the study area that might contain highly sensitive visual receptors within the search area (3km).

Sensitivity of Receptors

2.18 Receptors considered in this appraisal include landscape units (landscape receptors) and people (visual receptors) whose views and visual amenity may be affected by the proposed development. The susceptibility of receptors (to the type of change proposed) and the value of the landscape receptor or view is determined in order to inform an overall judgement of receptor sensitivity.

Susceptibility

2.19 For the specific proposed development, the susceptibility of landscape receptors has been determined with consideration of criteria such as scale; landcover, pattern and complexity; settlement and other human influences; skylines and inter-visibility with adjacent landscapes; and perceptual aspects. Information contained within LANDMAP surveys has also been used to inform susceptibility.

2.20 For visual receptors, susceptibility is based on the activities those people may be engaged in whilst experiencing the view (e.g., engaged in outdoor recreation, commuting, or residing at home), and the according susceptibility those receptors may have to changes in their views and visual amenity.

2.21 Susceptibility is recorded as **high, medium** or **low**.

Value

2.22 The value of landscape receptors has been determined using criteria such as scenic quality, rarity, recreational value, representativeness, conservation interests, perceptual aspects and artistic associations. Landscape value is also determined with reference to a review of designations and the level of policy importance that they signify (such as landscapes designated at a national or local level); and a review of the relevant LANDMAP evaluation information for the Visual and Sensory aspect layer (predominantly relating to the 'overall' evaluation score but also a consideration of 'scenic quality' and 'character' which influence the 'overall evaluation' score).

2.23 The value of the view experienced by visual receptors is determined using criteria such as the importance of the view, as indicated by reference in relation to designations or heritage assets, appearance in guidebooks or tourist maps and provision of visitor facilities.

2.24 Receptor value is recorded as **high, medium** or **low**.

Overall sensitivity

2.25 The overall sensitivity of landscape and visual receptors to the type of change proposed is defined as **high, medium** or **low** and is informed by a consideration of professional judgements in relation to susceptibility and value. The sensitivity of identified receptors is presented in **Chapter 5: Appraisal of Effects on Landscape Receptors** and **Chapter 6: Appraisal of Effects on Visual Receptors**.

Magnitude of Change

2.26 The appraisal considers the potential magnitude of change likely to be experienced by the landscape or visual receptor. When determining the magnitude of change, an overall judgement takes account of a combination of factors including; scale, geographical extent, duration and reversibility.

Scale

2.27 The scale of change depends on:

- the loss or addition of features in the landscape or view and changes in its composition, including the proportion of the landscape/view occupied by the proposed development;
- the degree of contrast or integration of any new features or changes in the landscape or view with the existing or remaining landscape elements and characteristics in terms of form, scale and mass, line, height, colour and texture; and
- the nature of the view of the proposed development, in terms of the relative amount of time over which it will be experienced and whether views will be full, partial or glimpsed.

2.28 The scale of landscape or visual change is described as being **large, medium, small** or **barely perceptible**.

⁹ NRW's Guidance Note 46 recommends that a search area of 3km is considered for proposed structures that are below a height of 25m.

Geographical Extent

2.29 The geographical extent of a landscape or visual change records the extent of the area over which the changes will be experienced/visible, e.g., whether this is at the site level or from a viewpoint from where the proposed development can be glimpsed, or whether it effects a wider area in terms of effects on landscape character or represents a large area from which similar views are gained. Geographical extent is described as being **large**, **medium** or **small**.

Duration

2.30 GLVIA3 states that '*Duration can usually be simply judged on a scale such as short-term, medium-term or long-term.*' For the purposes of the appraisal, the duration of effects is reported as **short-term**, **medium-term** or **long-term**, as defined below:

- Short-term or temporary effects are those that occur during construction, and may extend into the early part of the operational phase, e.g., construction activities, lasting < 2 Years (the construction phase is approximately 16 weeks);
- Medium-term effects are those that occur during part of the operational phase, generally lasting 2 - 5 Years; and
- Long-term effects are those which occur throughout the operational phase, e.g., presence of the development, or effects which continue after the operational phase, generally lasting 5 - 10 Years, or beyond.

2.31 This LVA considers effects arising during both the construction phase and operational phase (at Years 1 and 10) of the proposed development.

Reversibility

2.32 In accordance with the principles contained within GLVIA3, the reversibility of the changes which will arise is reported as **reversible**, **partially reversible** or **irreversible** (i.e., permanent), and is related to whether the change can be reversed at the end of the phase of development under consideration (i.e., at the end of construction or at the end of the operational lifespan of the development).

2.33 The overall judgement of magnitude of change/effect is informed by consideration of professional judgements in relation to size and scale, geographical extent, duration and reversibility. The magnitude of change/effect is recorded as **high**, **medium**, **low** or **barely perceptible**.

Landscape and Visual Effects

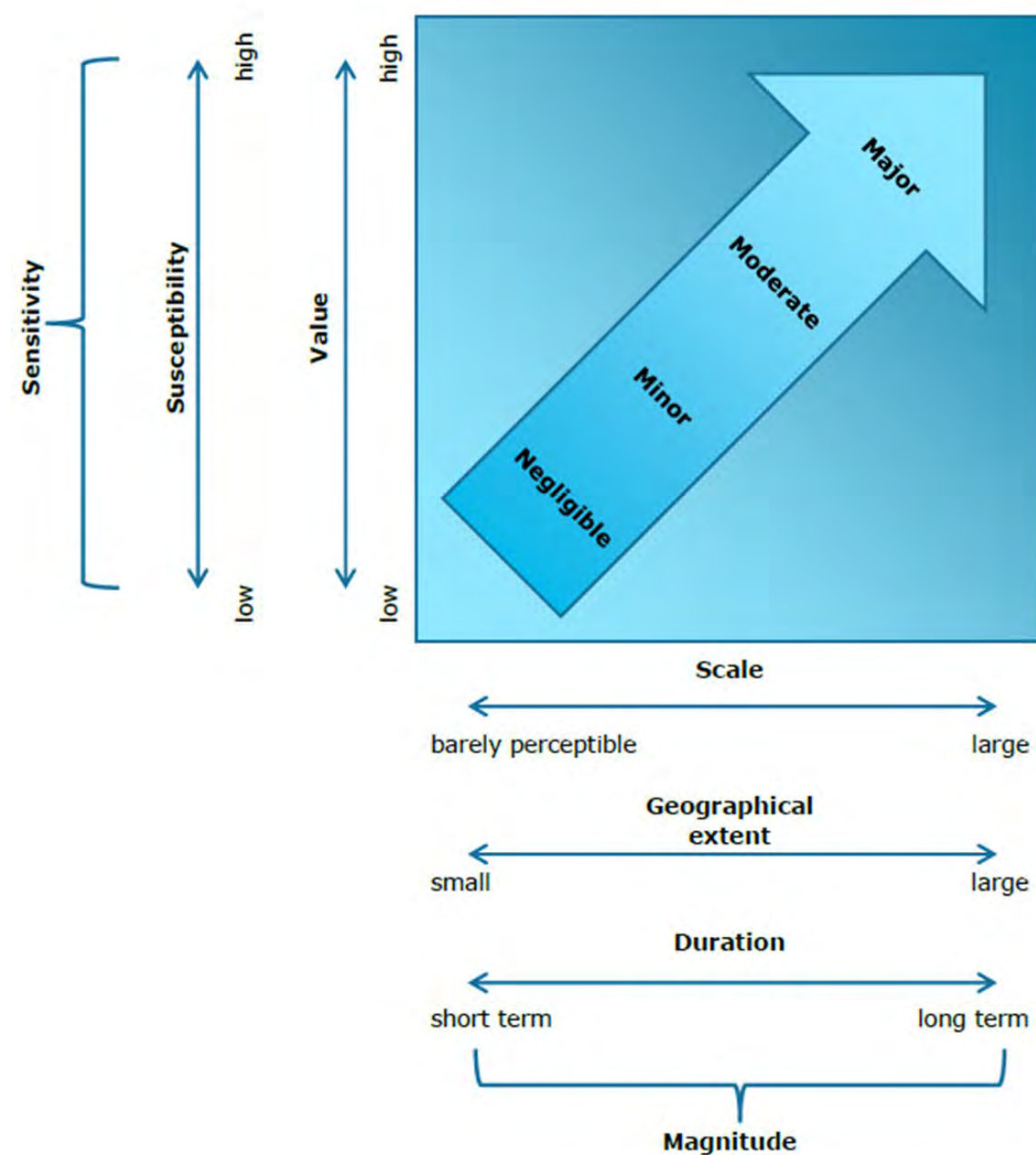
2.34 Judgements on sensitivity and magnitude of change are then considered together to form an overall judgement on level of effect. This determination requires the application of professional judgement and experience to recognise the many different variables which are considered, and which are given different weight according to site-specific and location-specific considerations in each instance. Judgements are made on a case by case basis, guided by the principles set out in the inset 2 below.

2.35 Sensitivity and magnitude are typically weighted evenly so that a medium sensitivity and medium magnitude will result in a moderate overall effect, while a high sensitivity combined with a high magnitude will result in a major effect, and a low sensitivity combined with a low magnitude

will result in a minor effect. However, there are many possible combinations and in some cases a weighting to either sensitivity or magnitude may be required to come to an overall level of effect e.g. a high sensitivity combined with a medium magnitude could result in either a major or a moderate effect.

2.36 Levels of effect are identified as **negligible**, **minor**, **moderate** or **major**. Effects of major are considered to be of 'greater importance', whilst effects of moderate can be either of 'greater importance' or 'lesser importance' depending site-specific and location-specific considerations. Professional judgement has been applied at all stages of the assessment, with a clear narrative setting out the basis of judgements. Effects of 'greater importance' are those which should, relatively speaking, be given greatest weight in decision making. They typically concern substantial, long-lasting and irreversible changes to receptors of the highest sensitivity. However, there may be cases whereby, for example, a receptor is of such sensitivity that even a small change might constitute an 'important' effect.

Inset 2: Judging levels of landscape and visual effect



Direction of Effects

2.37 The direction of landscape and visual effects (**beneficial**, **adverse** or **neutral**) is determined in relation to the degree to which the proposal fits with the existing character of the landscape or view and the contribution that the proposed development makes, even if it is in contrast to the existing character of the landscape or view. With regard to the type of development proposed, whilst there is a broad spectrum of response that people may take this appraisal is required to take an objective approach. Therefore, to cover the 'worst case scenario', potential landscape and visual effects have been assumed to be **adverse** (negative) and have been determined as such within the appraisal unless otherwise stated.

Assumptions and Limitations

2.38 No substantial information gaps have been identified during the preparation of baseline information or undertaking of the appraisal, and it is considered that there is sufficient information to enable an informed decision to be taken in relation to the identification and appraisal of likely effects on landscape, views and visual amenity.

Supporting Visualisations

2.39 Supporting visualisations have been prepared for each of the appraisal viewpoints and are presented in **Appendix B**. Simple block visualisation of the proposals have been prepared for Viewpoints 1, 6 and 7, illustrating operational effects at Year 1 post completion of all construction and restoration works. For all other viewpoints illustrative baseline images are provided, indicating the approximate extent of the site and proposed development within the view.

2.40 Further information on the production of these visualisations is included in **Appendix A**.

Chapter 3

Baseline Conditions

This chapter describes the baseline of the site and surrounding area; it identifies potential landscape and visual receptors.

3.1 The landscape baseline of the site is described below. There is also a general description of the area surrounding the site. Following this, the baseline of other landscape receptors within the study area, i.e., designated landscapes and landscape character is described.

3.2 The visual baseline sets out the different visual receptor types included in the appraisal and describes the individual receptors and receptor groups. There is also a description of the representative viewpoints which have been used to inform the appraisal and a description of baseline views from routes taken forward for sequential appraisal.

3.3 The site boundary, the location of the proposed development and study area for the LVA are shown on **Figure 1**. A ZTV, indicating the potential visibility of the proposed development is presented on **Figure 2** (with viewpoint locations mapped).

Landscape of the site and study area

3.4 The site lies along the lower slopes of the Cynon Valley. The valley is defined by the southern uplands of the Bannau Brycheiniog (Brecon Beacons) National Park (including the summit at Moel Penderyn) to the north, and a series of hills/mountains (including a steep escarpment at Hirwaun Common, which sits above the open cast mine workings at Hirwaun) to the south.

3.5 The topography across the site reflects the wider landform by falling by around 15m from south to north, as illustrated on **Figure 3**. Land to the south of the site lies at approximately 235m above ordnance datum (AOD), whilst that to the north lies at around approximately 220m AOD.

3.6 The site is part of a wider area of pasture to the west of Rhigos. Field patterns are generally delineated by hedgerows and small clusters of deciduous trees. The site itself is largely defined by low hedgerows centrally, but with clusters of mixed woodland along its south-eastern and south-western edges. A large pond is located to the north-east, surrounded by scattered clumps of woodland.

3.7 Land use within the study area is varied, with agricultural land, coniferous forest cover, settlement and industrial uses. A large industrial estate (Rhigos Industrial Estate) characterises the wider landscape on lower ground in the valley to the north of the site, situated between Rhigos Road and the A465. Surface mining has historically altered the landscape and a large open cast coal mine operates in the valley directly to the east of the site. To the south of the site, the land ascends steeply, and on higher ground associated with Hirwaun Common there is a mix of open ground and coniferous forestry. Slightly beyond the common and approximately 2.5km south of the site are existing wind turbines at Mynydd Bwlfa and Maerdy. Other existing turbines are present on elevated land to the south-west of the site at Pen y Cymoedd. Approximately 2.5km to the west of the site beyond Rhigos lies the existing Hendre Fawr Solar Farm, which comprises two distinct

arrays of solar panels. The consented (though not yet built) Bryngolwg Solar Farm will form part of the future baseline, sitting to the west of the proposed Rhigos Road Solar Farm.

3.8 Settlement in the surrounding area is largely restricted to the valley bottoms. The site is located approximately 850m east of the small village of Rhigos, which is the nearest settlement to the site. Other settlements along the valley include the village of Hirwaun, 1.5km east; Pontneddfechan, 3.5km to the north-west; Glynneath, 4.5km to the west; and Aberdare, 4.8km to the east. Elsewhere scattered properties extend along roads, including two properties along Rhigos Road to the immediate north of the site.

3.9 The A465 runs broadly parallel with the northern boundary of the site, approximately 0.5km away. Rhigos Road runs broadly parallel with the northern boundary of the site, at a distance of approximately 75m. It then follows into the A4061 close to the eastern and south-eastern boundary of the site, before climbing the higher ground of Hirwaun Common to the south.

3.10 In addition to these main A roads, there are a number of minor roads such as Main Ave, Fourth Ave and Fifth Ave which run alongside industrial areas to the north of the site. There is also a lane leading from the south-east edge of the site boundary around south of the site and connecting to Ty Draw Farm in the west.

Designated Landscapes

3.11 In terms of nationally designated landscape, the southern extents of part of the Bannau Brycheiniog (Brecon Beacons) National Park (BBNP) falls within the study area and is located approximately 0.7km north of the site as shown on **Figure 4**. The Brecon Beacons National Park Landscape Character Assessment (August 2012)¹⁰ defines the character, identity and 'sense of place' of each character area within the national park and is referenced in the landscape assessment in this report. The ten special qualities of the national park relate to landscapes, communities, experiences and nature as outlined in 'Dyfydol Y Bannau The Future -The Management Plan For Bannau Brycheiniog National Park 2023-2028'¹¹. These are as follows:

- *"Natural Beauty: Sweeping grandeur and outstanding natural beauty. 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.*
- *Living Patterns: Contrasting patterns, colours and textures. 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,*

¹⁰ Bannau Brycheiniog (Brecon Beacons) National Park Authority (2012) Brecon Beacons Landscape Character Assessment.

¹¹ Bannau Brycheiniog (Brecon Beacons) National Park Authority (2023) Dyfydol Y Bannau The Future -The Management Plan For Bannau Brycheiniog National Park 2023-2028.

hedgerows and stone walls and scattered settlements. grouped around landscape, community, experiences and wildlife.

- *Rugged Landscapes: Rugged, remote and challenging in the context of the UK, geographically rugged, remote and challenging landscapes.*
- *Sense of Place and Cultural Identity: "Welshness" - characterised by the indigenous Welsh language, religious and spiritual connections, unique customs and events, traditional foods and crafts, relatively unspoilt historic towns and villages, family farms and continued practices of traditional skills developed by local inhabitants to live and earn a living here, such as common land practices and grazing.*
- *Intimate Sense of Community: An intimate sense of community where small, pastoral towns and villages are comparatively safe, friendly, welcoming and retain a spirit of cooperation.*
- *Enjoyable and Accessible: Peace, tranquillity, and darkness. A National Park offering, dark, night time skies, peace and tranquillity with opportunities for quiet enjoyment, inspiration, relaxation and spiritual renewal.*
- *Sounds, sights, 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.*
- *Sense of discovery: A sense of discovery where people explore the National Park's hidden secrets and stories such as genealogical histories, prehistoric ritual sites, relic medieval rural settlements, early industrial sites, local myths and legends and geological treasures from time immemorial.*
- *Peace, tranquillity and darkness: A National Park offering, dark, night time skies, peace and tranquillity with opportunities for quiet enjoyment, inspiration, relaxation and spiritual renewal"*

3.12 In terms of locally designated landscapes, there are a number of Special Landscape Areas (SLA) across the 5km study area, as shown on **Figure 4**. Closer proximity visibility is likely from the Hirwaun Common SLA to the south of the site. The primary landscape qualities and features of this SLA, as identified in the 'Proposals for Designation of Special Landscape Areas in Rhondda Cynon Taf – Draft Report' (2008), are as follows:

- *"High scarp along northern edge of coalfield.*
- *Series of well-defined steep glacial cirques cut into scarp.*
- *Very dramatic scenery, overlooking Heads of Valleys, and dwarfing the small settlement of Cwmaman in the valley bottom to south.*
- *Spectacular views from the Rhigos Road to north and Graig Road over from Aberdare.*
- *Important for intervisibility with peaks of Brecon Beacons National Park.*
- *Edge of Craig-y-Llyn geological SSSI showing Westphalian stratigraphy.*
- *Llyn Fawr is typical glacial lake.*
- *Forestry on slopes below Llyn Fawr are being opened up and more in keeping with special scenery, and backdrop to Tower Colliery remains.*
- *Steep slopes and tops are mainly open common land, with grassland and heather habitats.*

- *Cairns and other ancient monuments on tops are part of widespread evidence of early settlement.*

- *Coed Morgannwg Way passes through area, from Dare Country Park.*

- *Areas of broadleaf woodland on lower slopes around Dare valley, blends with Country Park."*

3.13 This LVA will consider effects on the BBNP and Hirwaun Common SLA.

Landscape Character

3.14 At the local level, there is currently no landscape character assessment published for Rhondda Cynon Taf County Borough Council. Instead, the council cites LANDMAP as the information source for local landscape character.

3.15 LANDMAP is a Geographical Information System (GIS) based Welsh landscape resource where landscape characteristics, qualities, sensitivities and influences on the landscape are recorded and evaluated into a nationally consistent data set. LANDMAP separates information into five 'aspect layers' as follows:

- **Geological Landscape:** identifies those landscape qualities which are linked to the control or influence exerted by bedrock, surface processes, landforms and hydrology;
- **Landscape Habitats:** identifies the characteristics and spatial relationships of habitats and vegetation;
- **Visual & Sensory:** identifies perceptual landscape qualities as well as including information on individual physical attributes of landform and land cover, and the relationships between them;
- **Historic Landscape:** identifies those qualities that depend on key historic land uses, patterns and features; and
- **Cultural Landscape:** includes information on the relationship between people and places, meaning of places to people, how landscape has shaped peoples' actions and how peoples' actions have shaped the landscape.

3.16 These aspect layers are then divided into 'aspect areas', which form the reporting units for LANDMAP. Each aspect area is given an overall evaluation score defined as 'outstanding' (important at an international or national level), 'high' (important at a regional or county level), 'moderate' (important at a local level), or 'low' (little or no importance).

3.17 As mentioned in **Chapter 2**, NRW's Guidance Note 46 suggests that suitably scaled character-based reporting units for landscape assessment may be LANDMAP visual and sensory aspect areas (VSAAs). This recommended approach has been applied to this LVA (with 'landscape units' having been identified based on VSAAs).

3.18 **Figure 5** highlights the VSAAs across the study area with potential visibility of the proposed development. The method and process for identifying which landscape units to assess is based on the filtering process contained in NRW's Guidance Note 46 (and replicated in **Chapter 2**). Those that have been filtered in for assessment as landscape units are listed below and set out in **Table 3.1**:

- Tower Colliery (CYNONVS001) – as it encompasses the site;
- Hirwaun Common (CYNONVS430) – due to a high overall evaluation; and

■ Cadair Fawr (CYNONVS735) – due to a high overall evaluation.

N.B. The Gelliceibryn / Pont Walby (NPTVS430) VSAA has been filtered in (moderate overall evaluation but a high scenic quality) but not taken forwards for assessment as the ZTV indicates very limited theoretical visibility from this area.

3.19 Landscape effects on these landscape units are considered in **Chapter 5**.

Table 3.1: VSAs that have been filtered in as 'landscape units' along with their baseline description and LANDMAP evaluation scores

VSAA UID	Landscape Unit Name (and distance from the site)	Baseline Description					LANDMAP Evaluation		
		Landform	Landcover	Skylines and inter-visibility	Settlement and human influences	Perceptual aspects	Scenic Quality	Character	Overall Evaluation
CYNONVS001	Tower Colliery (the site falls within this landscape unit)	A medium-scale open landscape influenced by a large area of opencast mining in the east. The landform has been disturbed due to a long history of deep mining. The site and much of the landscape unit occupy the more gentle slopes of the lower Cynon valley (between 210 and 250m AOD). The landscape in the south-west is more steeply sloping, ascending to the south-east towards the adjacent Hirwaun Common.	Landcover pattern comprises a mixture of restored grassland (with fields defined by hedgerow boundaries), small areas of mixed woodland (including to the south-west of the site) and opencast mining.	The landscape unit is visually back-clothed by surrounding uplands including at Hirwaun Common to the south, the hills associated with the Pen y Cymoedd Wind Farm to the south-west, and Moel Penderyn to the north. The landscape unit is therefore not visually prominent on skylines. There is intervisibility with the surrounding uplands and valleys and views north towards the Brecon Beacons National Park.	There is no settlement within this landscape unit; however, human influence is evident through the extensive history of deep mining and workers' takeover. Clutters of scattered buildings, yards, overhead cables and conveyors can be found within the landscape, and a zip wire tourist attraction is located in the south-west.	The opencast mining and associated buildings/ infrastructure form detractive elements in views into the landscape unit and affect perceptual character, although there are some attractive views out to adjacent scarp. The landscape unit experiences some locally dark skies (0.5-4 Nano Watts/cm2/sr) ¹² and is within visually tranquil categories of 6 to 8 (where 1 is least visually tranquil and 10 is most visually tranquil) ¹³ .	Low <i>“Generally disturbed land, with vehicles, buildings and other clutter”</i>	Moderate <i>“Distinct but unattractive character”</i>	Low <i>“Although distinct and relatively rare, its disturbed and unattractive qualities means that it is overall low”</i>
CYNONVS430	Hirwaun Common (0.6km south)	High hills/ mountains form this dramatic and large-scale open landscape. The land starts to rise steeply from approximately 1km south of the site between 200m and 515m AOD and the area comprises dramatically undulating topography and steep terrain.	Open rough grazed grassland dominates the landcover pattern. Clusters of trees are scattered across the undulating topography. Boundaries are defined by stone walls, marking boundaries between rock outcrops and some marshy areas.	Open skyline with a strong degree of exposure due to undulating topography. Some developed skylines with turbines at Mynydd Bwlfa located within the landscape and other turbines at Maerdy adjacent to the landscape unit. There is intervisibility with the surrounding uplands and valleys and views north towards the Brecon Beacons National Park.	There is no settlement within this landscape; however, some human influence is evident through existing turbines and pylons.	Strong sense of place, due to rough ground, rocky outcrops, exposure and wildness. There are attractive upland views within the landscape unit and attractive rolling landscape is visible to the north. Turbines, pylons and the A475 form detractive elements in views. The landscape unit experiences dark skies (<0.5-1 Nano Watts/cm2/sr) ¹⁴ and is within visually tranquil categories of 7 to 8 (where 1 is least visually tranquil and 10 is most visually tranquil) ¹⁵ .	High <i>“Attractive upland views”</i>	High <i>“Strong upland fell giving sense of place...”</i>	High <i>“Attractive largely unspoilt upland area with strong sense of place and good views”</i>
CYNONVS735	Cadair Fawr (2.9km north-east)	High hills/ mountains form this dramatic and large-scale open landscape. The land starts to rise steeply from approximately 3km north-east of the site between 300m and 485m AOD and the area comprises undulating and relatively steep terrain.	Open rough grazed grassland dominates the landcover pattern. Boundaries are defined by stone walls in places, marking boundaries between rock outcrops and some marshy areas.	Open skyline with a strong degree of exposure due to undulating topography. There is a strong visual link with the Brecon Beacons.	There is no settlement within this landscape and limited human influence.	Strong sense of place, due to rough ground, rocky outcrops, exposure and wildness, and augmented by views of the Brecon Beacons. There are spectacular upland views within the landscape unit and to the north. The landscape unit experiences dark skies (<0.5-1 Nano Watts/cm2/sr) ¹⁶ and is within visually tranquil categories of 7 to 8 (where 1 is least visually tranquil and 10 is most visually tranquil) ¹⁷ .	High <i>“Attractive views of upland areas, particularly north”</i>	High <i>“Strong sense of place”</i>	High <i>“Attractive largely unspoilt upland area with strong sense of place and good views”</i>

¹² <https://luc.maps.arcgis.com/apps/opsdashboard/index.html#/1cd6ba8a1d7d4a62aff635cfcbaf4aec>

¹³ <https://storymaps.arcgis.com/stories/865c1876d9f64280a3dfc6e2769a46a5>

¹⁴ <https://luc.maps.arcgis.com/apps/opsdashboard/index.html#/1cd6ba8a1d7d4a62aff635cfcbaf4aec>

¹⁵ <https://storymaps.arcgis.com/stories/865c1876d9f64280a3dfc6e2769a46a5>

¹⁶ <https://luc.maps.arcgis.com/apps/opsdashboard/index.html#/1cd6ba8a1d7d4a62aff635cfcbaf4aec>

¹⁷ <https://storymaps.arcgis.com/stories/865c1876d9f64280a3dfc6e2769a46a5>

Visual Baseline

3.20 The site is located on the lower slopes of the Cynon Valley, which lies between defined upland areas to the north and south. Land to the north forms part of the southern fringes of the Bannau Brycheiniog (Brecon Beacons) National Park. Recreational receptors to the north include visitors to Moel Penderyn and users of footpaths that cross the southern extent of the national park (Viewpoint 7), who experience long-distance views south over the Cynon Valley. Longer distance views north over the valley are also available from higher ground at Hirwaun Common, including from a promoted viewpoint off the A4061 at Mynydd Beili-glas (Viewpoint 6). A number of footpaths also pass through the landscape in the vicinity of the site to the south-west (Viewpoint 3 and 8), and National Cycle Route 46 also passes to the north of the site along Rhigos Road (Viewpoint 2).

3.21 Settlement in the surrounding area is largely restricted to the valley bottoms and lower valley sides. The site is located approximately 850m east of the small village of Rhigos (Viewpoints 4a and 4b), which is the nearest settlement to the site. Other settlements along the valley include the village of Hirwaun, 1.5km west; Pontneddfechan, 3.5km to the north-west; Glynneath, 4.5km to the west; and Aberdare, 4.8km to the east, although views towards the site from these settlements are largely screened by intervening landform and vegetation. Elsewhere scattered properties occur alongside roads, including two properties along Rhigos Road to the immediate north and north-west of the site and properties along Mount Road approximately 1.95km to the west (Viewpoint 5).

3.22 In terms of receptors travelling on transport routes, Rhigos Road passes close to the northern boundary of the site (Viewpoint 2) and the A4061 passes close to the east and south-east of the site (Viewpoint 1) before ascending towards Hirwaun Common and Mynydd Beli-glas (Viewpoint 6).

3.23 Representative viewpoints have been identified to illustrate the change in views which will be experienced by the range of different visual receptors across the study area, as described in Table 3.2:below. The location of the viewpoints is shown on **Figure 2**. The various visual receptors groups identified are shown on **Figure 6**.

Table 3.2: Representative Appraisal Viewpoints

Ref	Location	Potential Receptors	Approx. Distance ¹⁸	Coordinates
1	A4061 Rhigos Road	Cyclists, and road users looking north-west towards site	250m	51°44'11.21"N 3°32'33.31"W
2	Rhigos Road/Cynlas Drive	Road users, receptors on the edge of settlement looking south, and users of National Cycle Route 46	240m	51°44'36.26"N 3°32'54.31"W
3	Public Footpath nr Ty Draw Farm	Users of the public footpath looking north-east	450m	51°44'7.01"N 3°33'16.64"W

Ref	Location	Potential Receptors	Approx. Distance ¹⁸	Coordinates
4a	Hoel Gwrangfryn FP, Rhigos	Users of the public footpath and edge of settlement looking east/ north-east	875m	51°44'14.28"N 3°33'39.45"W
4b	Hoel Esgyn, Rhigos	Road users and receptors on the nearby edge of settlement looking east	875m	51°44'24.66"N 3°33'35.98"W
5	Maesyffynpn	Road users, settlement and users of public footpaths looking east	1.95km	51°44'36.18"N 3°34'29.81"W
6	A4061 Rhigos Viewpoint above Hirwaun Common	Road users and recreational users looking north from elevated areas to the south near the A4061 and Hirwaun Common	2.27km	51°42'57.81"N 3°33'14.82"W
7	Moel Penderyn	Recreational users of the public footpath and visitors to the Brecon Beacons National Park looking south	2.53km	51°45'54.15"N 3°32'31.28"W
8	PRoW Glyncastle Forest	Users of PRoW looking north-east	1.46km	51°43'50.52"N 3°33'59.31"W

Routes

3.24 As noted above, National Cycle Route 46 is a popular route used by cyclists, which passes to the north of the site. Sequential effects from this route will be considered further. The A4061, which links the Bridgend with Hirwaun via Ogmore and Rhondda Valley, is also a well-used route and is considered further in the sequential appraisal. Rhigos Road passes east-west along the valley bottom to the north of the site.

¹⁸ Approximate distance between the viewpoint and the nearest component of the proposed development.

Chapter 4

The Proposed Development

This chapter provides an overview of the proposed development, the components which are considered likely to result in landscape and visual effects during the construction and operation phases, and embedded mitigation measures.

Proposed Development Description

4.1 The main components of the proposed development, as shown on **Figure 7**, will comprise:

- Ground mounted solar photovoltaic (PV) panels, which will be lifted approximately 0.8m off the ground and will not exceed 3m in height;
- A 2.3m tall DNO Enclosure;
- A 2.3m tall Customer Switchgear Enclosure;
- 4 Low Voltage Transformer Stations measuring 2445mm tall;
- A new 4m wide access road;
- A new 2.05m high post and wire Perimeter fence (deer fence) along the site boundary with associated access gates, hereon in referred to as the perimeter fence; and
- Fixed security cameras at intervals along the boundary.

4.2 The proposed development will have an operational period of 40 Years.

Construction Phase Sources of Effects

4.3 During the proposed 16 week construction phase, there will be potential short-term landscape and visual effects arising from the presence of partially constructed infrastructure and the undertaking of construction activities on the site. These activities include:

- Clearance of vegetation and landcover (grassland, pastoral fields and small sections of hedgerow to accommodate access);
- The installation of 3m (maximum) high PV panels (supported by piled posts), perimeter fencing and CCTV cameras;
- Construction of DNO, Customer Switchgear and Low Voltage Transformer Stations;
- Temporary lighting;
- Movement and activity of construction vehicles and machinery on the site; and
- Site restoration after completion of the works including the implementation of proposed planting.

Operational Phase Sources of Effects

4.4 The main effects of the proposed development on landscape and visual amenity once it is built and is operational will be as a result of:

- The presence of new PV panels, DNO and Customer Switchgear, 4 Low Voltage Transformers, perimeter fencing and CCTV cameras, present for 40 Years;
- Presence of a new access road;
- The occasional movement of maintenance vehicles; and
- Proposed mitigation planting.

Embedded Mitigation Measures

4.5 These mitigation measures will be implemented as part of good construction practice or have been embedded into the design of the proposed development. These embedded mitigation measures have been considered in the construction phase and from Year 1 of operational landscape and visual appraisals:

Construction Phase (<2 Years)

- Forestry, trees and vegetation to be retained around the site will be fenced and protected in accordance with best practice during the construction period (BS5837).
- Materials and machinery will be stored tidily during the works. Machinery will not be left in place for longer than required for construction purposes, in order to minimise its impact in views.
- Lighting of works sites will be restricted to agreed working hours and that which is necessary for security.
- On completion of construction, all remaining construction materials and equipment will be removed from the site, and any disturbed areas surrounding the site and including temporary storage areas restored.

Operational Phase (Year 1>)

- Existing vegetation within and adjacent to the site will be retained as far as possible. The retention of this vegetation will help to screen the proposed development in certain views.
- As far as possible, site won topsoil and turves will be retained and used to restore vegetation cover across the site. This will allow the restored ground cover to reflect the vegetation surrounding the site.
- The PV panels are to be mounted on posts, the underlying landcover will be restored to grass through seeding with a species-rich meadow mix of local provenance (to be grazed by sheep using a conservation grazing method).
- Existing hedgerows are to be reinforced with a range of native species into species-rich hedgerows and a narrow strip of small growing native trees and shrubs are proposed along the northern site boundary, to provide both additional screening of the proposed development and to improve habitat connectivity.

- The palette of materials used for new buildings, components and fencing will respond to the hues of the local landscape (as far as practicable) using muted greens and browns to help reduce the perceptibility of these features.
- Any external lighting required for maintenance purposes will be carefully designed so as not to contribute to excessive glare and light pollution.

Chapter 5

Appraisal of Effects on Landscape Receptors

This chapter describes the potential effects upon the landscape character of the site and surrounding area, as well on the special/ primary landscape qualities and features of designated landscapes, which will result from the proposed development during the construction and operational phases.

Landscape Character

5.1 Tables 5.1 to 5.3 identify the importance of the effect for each landscape receptor following the methodology (as described in **Chapter 2**). The tables establish the sensitivity of the receptor (by considering susceptibility and value); the magnitude of effect (including the scale, geographical extent, duration and reversibility of the effect) and concludes with the overall level, importance and direction of the effect. Consideration is given to the effects during construction and during operation (at Years 1 and 10). Commentary is also provided on potential cumulative impacts that may arise as a result on of the introduction of the proposed development and the consented Bryngolwg Solar Farm (consented as of November 2022), which is located immediately adjacent to the western site boundary (location shown on **Figure 8**).

Table 5.1: Tower Colliery

Tower Colliery (CYNONVS001)
Location and baseline description This landscape unit is located within the centre of the study area and encompasses all of the site. The baseline description of this landscape unit is set out in Table 3.1 .
Judgement of landscape sensitivity <i>Landscape susceptibility</i> The landscape susceptibility of this landscape unit is judged to be medium due to a balance of indicators of lower, medium and higher susceptibility. The indicators of lower susceptibility include: ■ human-influence of open cast coal mining and associated structures; ■ non-prominent skylines (the landscape unit is back-clothed by adjacent uplands); and ■ presence of visible and audible signs of human activity associated with open cast mining. The indicators of medium susceptibility include: ■ medium scale and some topographical variety of valley slopes, although landform has been historically disturbed by historic mining activity; ■ relatively simple landcover pattern of agriculture (with small-medium irregular fields), hedgerow field boundaries, small and intermittent woodland and open cast mining, although with limited semi-natural habitats; and ■ some attractive views out to adjacent scarp.

Tower Colliery (CYNONVS001)
The indicators of higher susceptibility include: ■ intervisibility with surrounding uplands and valleys (including the Brecon Beacons National Park); and ■ some sense of tranquillity and dark skies (as evidenced through NRW studies). <i>Landscape value</i> The landscape unit is judged to be of low value, as it is not designated and is recorded in LANDMAP as having a low scenic quality and overall evaluation. The conservation interest has partly been eroded as a consequence of mining (although noting that there is a long history of this activity in the landscape and that the Engine House, Fan House, Headframe and pithead at Tower Colliery are Grade II listed in the south-west of the landscape unit). This has resulted in the generally poor condition to parts of the landscape although areas have been restored with grassland, hedgerows and small woodland. It does have some recreational value with a public rights of way/NCR running through it and the zip wire tourist attraction located in the south-west. Despite the agricultural fields (used for pasture), hedgerows and woodland contributing towards rural character in some parts of the landscape unit, the scenic quality is considered to be low due to the disturbance from mining activity and associated buildings/ infrastructure. <i>Landscape sensitivity</i> By combining the separate judgements on landscape susceptibility and landscape value, the landscape sensitivity of this landscape unit is judged to be at the lower end of medium . The site forms part of the landscape unit and displays many of its key characteristics. The medium landscape sensitivity also applies to the Site.
Judgement of magnitude of landscape change <i>Scale of effect</i> During construction there will be direct effects upon part of this landscape unit as a result of the implementation of PV panels and perimeter fencing; the construction of an access road in the south east of the site, the DNO and Customer Switchgear in the east of the site, 4 Low Voltage Transformers, as well as excavations associated with the implementation of underground cables connecting the Low Voltage Transformers to the Customer Switchgear Enclosure. Changes will include the removal and alteration of existing landscape elements including pastoral landcover; limited removal of vegetation (see accompanying LEMP for further information); some subtle changes to the topography; the introduction of partially constructed infrastructure; transport and storage of materials; additional movement and activity through construction vehicles and plant; and a perceived change from a partly agricultural landscape to a construction site (although experienced in context of the adjacent open cast mining areas and existing energy infrastructure and industrial development to the north of the site). The scale of landscape change at construction is judged to be medium within the area directly affected by the works, declining with distance from the works. Direct operational effects (at Year 1) will arise for the extent of the site within this landscape unit, as a result of the introduction of new energy generating infrastructure, slight changes to the topography (to accommodate the DNO and Customer Switchgear, 4 Low Voltage Transformers and underground cables) and limited loss of vegetation. Generally, the existing field pattern within the site will be retained although will become slightly altered in places by perimeter fencing around the panels (in areas where the perimeter fences do not extend up to the edge of field boundaries) and by the access road. The gently sloping landform will overall be retained, and the PV panels are unlikely to notably alter the skyline in views from the wider landscape. As the PV panels are to be mounted on posts, the underlying landcover will be restored to grass through seeding with a species-rich meadow mix of local provenance (to be grazed by sheep using a conservation grazing method). The proposed planting designed to provide landscape and visual mitigation will be implemented, but at Year 1 this planting will still be immature and yet to have established. In terms of wider effects on the landscape unit, the proposed development will be theoretically visible from the majority of the landscape unit, although in reality visibility will be further reduced by the mature vegetation which surrounds the site including the existing network of field boundary vegetation and woodland to the south-west. The proposed development will increase the

Tower Colliery (CYNONVS001)
presence of modern man-made influence within the landscape, partly affecting the rural character (of the site and western part of the landscape unit) but will be seen in context of the industrialised character of the overall landscape unit. The topographical variety of valley slopes, the relatively simple landcover pattern, the hedgerow field boundaries, and the small and intermittent woodland will remain, along with other key characteristics such as the intervisibility with surrounding upland and valleys, the attractive views out to adjacent scarp, the dark skies and the sense of tranquillity of the landscape (although with some human activity on the site from occasionally maintenance operations). Overall, it is considered that there will be a medium change to the area directly affected by the proposed development (i.e. the site) and in its immediate setting to the west and south-west, changing this part of the landscape unit to an energy generating landscape adjacent to an open cast coal mine. The scale of effect will reduce with distance from the proposed development (the medium scale of change will occur no more than 0.5km from the site), and in terms of the wider effects on the landscape unit there will be a small change to the perceptual character. <i>Geographical Extent</i> The medium scale of effect will occur at the level of the site and its immediate surroundings (i.e. a small geographical extent). The proposed development will theoretically be visible across the majority of the landscape unit (although actual visibility will be reduced by vegetation), so the small scale of effect to the perceptual character of the landscape unit will occur over a medium geographical extent. <i>Duration/ Reversibility</i> During construction the changes to the landscape character will be short-term (up to 2 Years) and largely reversible. During operation land that has undergone excavations will be reinstated, but other parts of the proposed development will remain for the long-term (beyond 10 Years). The long-term changes will be partially reversible as the PV panels, perimeter fencing, DNO and Customer Switchgear and 4 Low Voltage Transformers will be dismantled and removed from the site once the operational period has ceased. The proposed planting will remain in place. The road will either be left in situ providing a continuation of improved access for farmers or removed depending on the requirement of the landowner at the time. <i>Overall judgement on magnitude of landscape change</i> During operation (at Year 1), the medium scale of effect over a small geographical area (over a long term) for the site and its immediate surroundings is judged to result in an overall medium magnitude of change. The small scale of effect over a medium geographical area (over a long term) for the wider landscape unit is judged to result in an overall low magnitude of change. Although the construction period is shorter in duration, the nature of construction can be more detracting than at operation because of on-site activity and part-built structures. Therefore, the overall magnitude of effect at construction is also judged to be medium for the site and its immediate surroundings and low for the wider landscape unit. At Year 10, the planting will have established and will be close to maturity resulting in some positive effects on the landscape character in terms of landcover, although the magnitude of effect will remain as medium for the site and its immediate surroundings.
<u>Overall level, importance and direction of effect</u> A sensitivity at the lower end of medium combined with a medium magnitude is judged to result in an effect at the lower end of moderate (lesser importance) for the site and its immediate surroundings during construction and during operation (at Years 1 and 10). A sensitivity at the lower end of medium combined with a low magnitude is judged to result in a minor (lesser importance) effect for the wider landscape unit during construction and during operation (at Years 1 and 10). The proposed development is considered to result in both negative and positive effects on the landscape character, as it will introduce man made elements to a partially rural area (negative) but will also improve the quality of the landscape through new planting (positive). On balance, however, the overall effect is expected to be perceived as negative as a result of the introduction of new infrastructure into the partly rural landscape.
<u>Additional cumulative effects</u>

Tower Colliery (CYNONVS001)
The consented solar PV development at Bryngolwg (location shown on Figure 8) is located close to the west of the site and within this landscape unit, and will be visible from the majority of the landscape unit. Cumulative impact will largely relate to the increased presence of built form within the landscape unit, although the two developments will fit together without obvious visual conflict – it is likely that the two developments together will assume the appearance of one large solar PV development. The introduction of the proposed development at Rhigos Road will still result in a medium scale of effect to the site and its immediate surroundings and a low scale of the effect for the wider landscape unit when considered against a baseline containing the consented PV development at Bryngolwg so there will be no additional cumulative effects over and above those set out in the LVIA above.

Table 5.2: Hirwaun Common

Hirwaun Common (CYNONVS430)
<u>Location and baseline description</u> This landscape unit is located in the south-east of the study area, approximately 0.6km to the south of the site. The baseline description of this landscape unit is set out in Table 3.1.
<u>Judgement of landscape sensitivity</u> <i>Landscape susceptibility</i> The landscape susceptibility of this landscape unit is judged to be high due to the presence of a number of indicators of higher susceptibility which includes: ■ strong topographical variety of high hills/ mountains and steep slopes; ■ open prominent skylines (although containing some existing turbines); ■ intervisibility with surrounding uplands and valleys (including the Brecon Beacons National Park); ■ some sense of tranquillity and dark skies (as evidenced through NRW studies); ■ wild and attractive character; and ■ attractive views both in and out the landscape unit. In comparison there are a few indicators of lower susceptibility including a simple landcover pattern and human influence from turbines and pylons. <i>Landscape value</i> The landscape unit is judged to be of high value, as it is locally designated (falling within the Hirwaun Common SLA) and is recorded in LANDMAP as having high scenic quality, character and overall evaluation. It has conservation interest (with cairns and other ancient monuments on tops), recreational value (with public rights of way running through it and designated as open access land), and a sense of rurality (although slightly affected by the presence of pylons and existing turbines). <i>Landscape sensitivity</i> By combining the separate judgements on landscape susceptibility and landscape value, the landscape sensitivity of this landscape unit is judged to be high.
<u>Judgement of magnitude of landscape change</u> <i>Scale of effect</i> During construction there will be indirect effects from construction activities as a result of the limited views (0.6-4km to the north-west) towards the site. Construction activity will be seen in context of the activity occurring within the adjacent open cast coal mine to the east of the site. There will be a small change to the visual and sensory characteristics during construction. During operation (at Year 1) there will be indirect effects as a result of the proposed development being introduced within a landscape unit 0.6km+ away. The proposed development will be seen as a man-made element in limited views from elevated parts

Hirwaun Common (CYNONVS430)
along the northern edge of the landscape unit, including from the summits of Twyn Canwyllyr and Mynydd Cefn-y-gyngon. The proposed development will increase the presence of modern human development seen from the landscape affecting part of the attractive views out of the landscape unit. However, the high hills/ mountains, open prominent skylines, intervisibility with surrounding uplands and valleys, sense of tranquillity and dark skies, the wild and attractive character and the attractive views to rolling landform north will continue to give the landscape its distinctive character. The proposed development will result in a small change to the visual and sensory character of from the summits of Twyn Canwyllyr and Mynydd Cefn-y-gyngon. The existing turbines within the landscape unit at Mynydd Bwlfa and Maerdy will have a greater influence on this area than the proposed development. At Year 10 the proposed planting will have established and be close to maturity providing further screening to the proposed development, although the scale of effect will remain as small. <i>Geographical Extent</i> The proposed development will theoretically be visible from across a small part of the landscape unit in the north (i.e., from the summits of Twyn Canwyllyr and Mynydd Cefn-y-gyngon), so the small scale of effect to the perceptual character of the landscape unit will occur over a small geographical extent. <i>Duration/ Reversibility</i> During construction the changes to the landscape character will be short-term (up to 2 Years) and largely reversible. During operation land that has undergone excavations will be reinstated, but other parts of the proposed development will remain for the long-term (beyond 10 Years). The long-term changes will be partially reversible as the PV panels, perimeter fencing, DNO and Customer Switchgear and 4 Low Voltage Transformers will be dismantled and removed from the site once the operational period has ceased. The proposed planting will remain in place. The access road will either be left in situ providing a continuation of improved access for farmers or removed depending on the requirement of the landowner at the time. <i>Overall judgement on magnitude of landscape change</i> During operation (at Years 1 and 10), the small scale of effect over a small geographical area (over a long term) is judged to result in an overall low magnitude of change. Although the construction period is shorter in duration, the nature of construction can be more detracting than at operation because of on-site activity and part-built structures. Therefore, the overall magnitude of effect at construction is also judged to be low.
<u>Overall level, importance and direction of effect</u> A high sensitivity combined with a low magnitude is judged to result in a minor (lesser importance) effect during construction and during operation (at Years 1 and 10). The proposed development is considered to result in both negative and positive effects on the surrounding landscape character, as it will introduce man made elements to the landscape (negative) but will also improve the quality of the landscape through new planting (positive). On balance, however, the overall effect is expected to be perceived as negative as a result of the introduction of new infrastructure into the landscape.
<u>Additional cumulative effects</u> The consented solar PV development at Bryngolwg (location shown on Figure 8) is located approximately 0.8km to the north-west of this landscape unit, and will be visible from limited areas in the north. Cumulative impact will largely relate to the increased presence of built form within the surrounding landscape, although the two developments will fit together without obvious visual conflict – it is likely that the two developments together will assume the appearance of one large solar PV development. The introduction of the proposed development at Rhigos Road will still result in a small scale of effects from the summits of Twyn Canwyllyr and Mynydd Cefn-y-gyngon, when considered against a baseline containing the consented PV development at Bryngolwg so there will be no additional cumulative effects over and above those set out in the LVIA above.

Table 5.3: Cadair Fawr

Cadair Fawr (CYNONVS735)
<u>Location and baseline description</u> This landscape unit is located in the north-east of the study area, approximately 2.9km to the north-east of the site. The baseline description of this landscape unit is set out in Table 3.1.
<u>Judgement of landscape sensitivity</u> <i>Landscape susceptibility</i> The landscape susceptibility of this landscape unit is judged to be high due to the presence of a number of indicators of higher susceptibility which includes: ■ strong topographical variety of high hills/ mountains and steep slopes; ■ open prominent skylines; ■ intervisibility with surrounding uplands and valleys (including a strong visual link with the Brecon Beacons); ■ sense of tranquillity and dark skies (as evidenced through NRW studies); ■ wild and attractive character with very limited human influence; and ■ attractive views both in and out the landscape unit. In comparison there are few indicators of lower susceptibility including a simple landcover pattern. <i>Landscape value</i> The landscape unit is judged to be of high value, as it is nationally designated (falling within the Brecon Beacons National Park) and is recorded in LANDMAP as having high scenic quality, character and overall evaluation. It has high conservation interest (with a large number of cairns and other ancient monuments on tops), recreational value (with public rights of way running through it and designated as open access land), and a sense of rurality. <i>Landscape sensitivity</i> By combining the separate judgements on landscape susceptibility and landscape value, the landscape sensitivity of this landscape unit is judged to be high.
<u>Judgement of magnitude of landscape change</u> <i>Scale of effect</i> During construction there will be indirect effects from construction activities as a result of the limited views (2.9-7.5km to the south-west) towards the site. Construction activity will be seen in context of the activity occurring within the adjacent open cast coal mine to the east of the site. There will be a small change to the visual and sensory characteristics during construction. During operation (at Year 1) there will be indirect effects as a result of the proposed development being introduced within a landscape unit 2.9km+ away. The proposed development will be seen as a man-made element in limited views from elevated parts along the southern and western edges of the landscape unit, including from the summits of Mynydd-y-glog and Cefn Cadlan. The proposed development will increase the presence of modern human development seen from the landscape affecting part of the attractive views out of the landscape unit. However, the high hills/ mountains, open prominent skylines, intervisibility with surrounding uplands and valleys, strong visual link with the Brecon Beacons, sense of tranquillity and dark skies, and the wild and attractive character will continue to give the landscape its distinctive character. The proposed development will result in a small change to the visual and sensory character of from the summits of Mynydd-y-glog and Cefn Cadlan. At Year 10 the proposed planting will have established and be close to maturity providing further screening to the proposed development, although the scale of effect will remain as small. <i>Geographical Extent</i>

Cadair Fawr (CYNONVS735)
The proposed development will theoretically be visible from across a small part of the landscape unit in the north (i.e. from the summits of Mynydd-y-glog and Cefn Cadlan), so the small scale of effect to the perceptual character of the landscape unit will occur over a small geographical extent. <i>Duration/ Reversibility</i> During construction the changes to the landscape character will be short-term (up to 2 Years) and largely reversible. During operation land that has undergone excavations will be reinstated, but other parts of the proposed development will remain for the long-term (beyond 10 Years). The long-term changes will be partially reversible as the PV panels, perimeter fencing, DNO and Customer Switchgear and 4 Low Voltage Transformers will be dismantled and removed from the site once the operational period has ceased. The proposed planting will remain in place. The access road will either be left in situ providing a continuation of improved access for farmers or removed depending on the requirement of the landowner at the time. <i>Overall judgement on magnitude of landscape change</i> During operation (at Years 1 and 10), the small scale of effect over a small geographical area (over a long term) is judged to result in an overall low magnitude of change. Although the construction period is shorter in duration, the nature of construction can be more detracting than at operation because of on-site activity and part-built structures. Therefore, the overall magnitude of effect at construction is also judged to be low.
Overall level, importance and direction of effect A high sensitivity combined with a low magnitude is judged to result in a minor (lesser importance) effect during construction and during operation (at Years 1 and 10). The proposed development is considered to result in both negative and positive effects on the surrounding landscape character, as it will introduce man made elements to the landscape (negative) but will also improve the quality of the landscape through new planting (positive). On balance, however, the overall effect is expected to be perceived as negative as a result of the introduction of new infrastructure into the landscape.
Additional cumulative effects The consented solar PV development at Bryngolwg (location shown on Figure 8) is located approximately 3.2km to the south-west of this landscape unit, and will be visible from limited areas along the southern and western edges of the landscape unit. Cumulative impact will largely relate to the increased presence of built form within the surrounding landscape, although the two developments will fit together without obvious visual conflict – it is likely that the two developments together will assume the appearance of one large solar PV development. The introduction of the proposed development at Rhigos Road will still result in a small scale of effects from the summits of Mynydd-y-glog and Cefn Cadlan, when considered against a baseline containing the consented PV development at Bryngolwg so there will be no additional cumulative effects over and above those set out in the LVIA above.

Designated Landscapes

5.2 Tables 5.4 and 5.5 identify the implications of the proposed development on the special qualities of the Bannau Brycheiniog (Brecon Beacons) National Park and on the primary landscape qualities and features of the Hirwaun Common SLA respectively.

Table 5.4: Bannau Brycheiniog (Brecon Beacons) National Park

Bannau Brycheiniog (Brecon Beacons) National Park
Location of the designated landscape and theoretical visibility of the proposed development The Bannau Brycheiniog (Brecon Beacons) National Park (BBNP) is located approximately 0.7km north from the site. A small part of this nationally designated landscape falls within the northern extent of the study area. The ZTV in Figure 2 indicates pockets of theoretical visibility of the proposed development (within the 5km study area) on the southern fringes of the BBNP and from elevated hill summits including Moel Penderyn (371m AOD) and Mynydd-y-glog (389m AOD). Viewpoint 7 is located within the BBNP (as illustrated on Figure 4) and represent views experienced by recreational receptors on popular walking routes and at hill summits within the southern fringes of the BBNP. A photomontage (provided in Appendix B) has been produced from this viewpoint (Viewpoint 7), to illustrate potential visibility of the proposed development. This viewpoint has informed the assessment of the proposed development on the Special Qualities of the BBNP.
Relevant Special Qualities of the designated landscape¹⁹ ■ <i>"A National Park offering... peace and tranquillity with opportunities for quiet enjoyment, inspiration, relaxation and spiritual renewal;</i> ■ <i>The Park's sweeping grandeur and outstanding natural beauty observed across a variety of harmoniously connected landscapes, ... and prominent hilltops with extensive views in all directions; and</i> ■ <i>A sense of discovery where people explore the National Park's hidden secrets and stories.</i> ■ <i>A feeling of vitality and wellbeing that comes from enjoying the National Park's fresh air, clean water, rural setting, open land."</i>
Discussion of the implications for the designated landscape The Bannau Brycheiniog (Brecon Beacons) Landscape Character Assessment indicates that the Waterfall Country and Southern Valleys and Fforest Fawr Landscape Character Areas (LCAs) are located within the study area and are afforded with theoretical visibility of the proposed development. The Waterfall Country and Southern Valleys LCA is described as "A dramatic landform of steep, enclosed valleys, separated by ridges of flatter, higher land" with "some intervisibility with settlements, roads and other development beyond the National Park boundary. It is also noted that "between the valleys are ridges of higher land with a more open quality and long views". The Fforest Fawr LCA is described as "An elevated, simple and expansive landscape" and the inaccessibility of the landscape and lack of human influence contributes to a "sense of tranquillity, remoteness and relative wildness." The landscape has "high scenic quality and a strong sense of place, particularly where there are views of distinctive summits and over surrounding lower land to provide a landscape context." It is described as having "high tranquillity, resulting from many factors including openness, perceived naturalness, low noise... landform and dark skies". Visibility of the proposed development from the BBNP will be limited to upland locations facing south towards the site (as shown on Figure 4). The proposed development will be seen as a man-made feature forming a small component of the panoramic views experienced from elevated locations within the national park (as illustrated in the visualisation for Viewpoint 7). Although perceptible in some of the views experienced from this landscape (alongside and of lesser prominence than other man-made elements including the turbines at Mynydd Bwlfa), the proposed development will not detract from the diverse landscape, sweeping uplands, green valleys, dramatic waterfalls, ancient woodland, caves, forests, reservoirs or spectacular and distinctive upland landforms for which the park is designated. Neither will it affect the special qualities of the BBNP; namely, it's peace and tranquillity, sweeping grandeur and outstanding natural beauty (including prominent hilltops with extensive views in all directions), and the sense of discovery and vitality it affords. Taking into account the observations above, it is considered that the proposed development will not prejudice the values or integrity of this designated landscape by adversely impacting on the special qualities for which it was designated.

¹⁹ As defined by Bannau Brycheiniog (Brecon Beacons) National Park Authority (2023) in Dyfydol Y Bannau The Future -The Management Plan For Bannau Brycheiniog National Park 2023-2028.

Bannau Brycheiniog (Brecon Beacons) National Park
<u>Proposed mitigation</u> The appearance of the proposed development from key locations within the BBNP was a key design consideration, including the views from hill summits such as Moel Penderyn (Viewpoint 7). Mitigation proposals include enhancement of existing hedgerows, in addition to tree and hedgerow planting adjacent to the northern edge of the solar panels array. Whilst mitigation will contribute locally to screening, these interventions will not screen views of the proposed development from elevated areas on higher ground, including the BBNP. This is due to the relative height of mature hedgerows and trees compared to the extent of the array, and the angle of view. Proposed mitigation will however contribute to a strengthening of existing field boundaries in the lower valley, helping to maintain and reinforce the patchwork nature of the pastoral fields at this location.
<u>Discussion of the cumulative implications for the designated landscape</u> There will be visibility of the consented solar PV development at Bryngolwg (location shown on Figure 8). The proposed development at Rhigos Road will be at a similar distance, and of similar prominence to this other development, and will fit with the scale and appearance of it (refer to Viewpoint 7: Moel Penderyn). In addition, the proposed development will be set adjacent to existing blocks of mature trees along field boundaries, which will help to visually accommodate the proposed development into the patchwork of fields in the lower valley landscape. This in term will reduce the landscape impact of the proposed development. The angle of view from elevated areas is such that the horizontal depth of both sites is foreshortened. The addition of the proposed development to a landscape containing this other cumulative scheme will make a small difference to some of the views to and from the landscape of the BBNP, on the edge of the national park near Rhigos.

Table 5.5: Hirwaun Common SLA

Hirwaun Common SLA
<u>Location of the designated landscape and theoretical visibility of the proposed development</u> The Hiwaun Common SLA is located 0.6km to the south of the site. The ZTV in Figure 2 indicates relatively patchy theoretical visibility of the proposed development across a small proportion of the SLA including from the north facing slopes and summits of Twyn Canwyllyr, Mynydd Cefn-y-gyngon, Mynydd Beili-glas and Craig y Llyn. Viewpoint 6 is located in the north-western part of the SLA (as illustrated on Figure 2) and represents views experienced by visitors to a promoted viewpoint along the A4061. A photomontage (provided in Appendix B) has been produced from this viewpoint, to illustrate potential visibility of the proposed development. This viewpoint has informed the assessment of the proposed development on the Primary Landscape Qualities and Features of the SLA.
<u>Relevant Primary Landscape Qualities and Features of the designated landscape²⁰</u> ■ <i>High scarp along northern edge of coalfield.</i> ■ <i>Series of well-defined steep glacial cirques cut into scarp.</i> ■ <i>Very dramatic scenery, overlooking Heads of Valleys, and dwarfing the small settlement of Cwmaman in the valley bottom to south.</i> ■ <i>Spectacular views from the Rhigos Road to north and Graig Road over from Aberdare.</i> ■ <i>Important for intervisibility with peaks of Brecon Beacons National Park.</i> ■ <i>Edge of Craig-y-Llyn geological SSSI showing Westphalian stratigraphy.</i> ■ <i>Llyn Fawr is typical glacial lake.</i>

Hirwaun Common SLA
■ <i>Forestry on slopes below Llyn Fawr are being opened up and more in keeping with special scenery, and backdrop to Tower Colliery remains.</i> ■ <i>Steep slopes and tops are mainly open common land, with grassland and heather habitats.</i> ■ <i>Cairns and other ancient monuments on tops are part of widespread evidence of early settlement.</i> ■ <i>Coed Morgannwg Way passes through area, from Dare Country Park.</i> ■ <i>Areas of broadleaf woodland on lower slopes around Dare valley, blends with Country Park.</i>
<u>Discussion of the implications for the designated landscape</u> Within the 5km study area, the landscape unit that mostly covers the SLA is: ■ Hirwaun Common (CYNONVS430) – which is assessed as being of high value (see Table 5.2) as it is designated at the local level, it is considered high for its scenic quality, character and overall evaluation score (as recorded in LANDMAP), and it has some conservation interest, has some recreational value and a rural character. The assessment of impacts on this landscape unit (see Table 5.2) concludes that there will be limited indirect effects upon the landscape unit (with visibility of the proposed development extending across a small part of the SLA), increasing the presence of modern human development seen from the landscape and partly affecting the attractive views out of the landscape unit (including from the summits of Twyn Canwyllyr and Mynydd Cefn-y-gyngon). The proposed development will not detract from the high hills/ mountains, open prominent skylines, intervisibility with surrounding uplands and valleys, sense of tranquillity and dark skies, the wild and attractive character and the attractive views to rolling landform north. Despite the effect on the landscape character of part of the SLA the proposed development will not affect the primary landscape qualities and features of the area which are the high scarp with steep glacial cirques and lake, the very dramatic scenery, spectacular views, intervisibility with peaks in the Bannau Brycheiniog (Brecon Beacons) National Park, geological features (Westphalian stratigraphy), areas of broadleaf woodland, opened up areas of forestry, common land with grassland and heathland, historic features and the Coed Morgannwg Way – these will remain.
<u>Proposed mitigation</u> The appearance of the proposed development from key locations within the SLA was a key design consideration, including the views from the summits at Mynydd Beili-glas (Viewpoint 6), Twyn Canwyllyr, Mynydd Cefn-y-gyngon, Mynydd-y-glog and Craig y Llyn. Proposed hedgerow planting with a small number of low growing hedgerow trees adjacent to the northern edge of the solar panels array and enhancement of the existing hedgerows will help integrate the proposed development into the landscape when seen from the SLA and minimise its visual impact.
<u>Discussion of the cumulative implications for the designated landscape</u> There will be visibility of the consented solar PV development at Bryngolwg (location shown on Figure 8). The proposed development at Rhigos Road will be at a similar distance, and of similar prominence to this other development, and will fit with the scale and appearance of it. In addition, the proposed development will be set adjacent to existing blocks of mature trees along field boundaries, which will help to visually accommodate the proposed development into the patchwork of fields in the lower valley landscape. This in term will reduce the landscape impact of the proposed development. The angle of view from elevated areas is such that the horizontal depth of both sites is foreshortened. The addition of the proposed development to a landscape containing this other cumulative scheme will make a small difference to some of the views to and from the SLA, on the edge of the SLA near Rhigos.

²⁰ As defined in Proposals for Designation of Special Landscape Areas in Rhondda Cynon Taf – Draft Report’ (2008)

Chapter 6

Appraisal of Effects on Visual Receptors

This chapter considers how the proposed development will alter views during the construction and operational phases.

Representative Viewpoints

6.1 Table 6.1 to Table 6.9 describe the baseline view from each of the representative viewpoints, shown in **Figures 9-14 at Appendix A**, and the sensitivity of associated visual receptors. Each table considers visual effects arising during the construction phase (<1 Year) and the operational phase (Year 1 and Year 10). Commentary is also provided on potential cumulative impacts that may arise as a result on of the introduction of the proposed development and the consented Bryngolwg Solar Farm, which is located immediately adjacent to the western site boundary (location shown on **Figure 8**).

Table 6.1: Viewpoint 1 – A4061 / Rhigos Road

Viewpoint 1 – A4061 Rhigos Road			
Grid Reference (NGR)	293570, 205317	Figure Number	9
Landscape Unit	Tower Colliery (CYNONVS001)	Designated Landscape	n/a
Direction of View to Proposed Development	North-west	Approx. distance	250m
Time of photograph	12:15	Level AOD	254m
Location and description of existing view and potential receptors: The viewpoint is located approximately 250m south of the site, at a junction of the A4061 (Rhigos Road) and an access road that runs parallel to it. The viewpoint is representative of sequential and oblique views experienced by travellers on the A4061, particularly those travelling northbound indicating lower susceptibility. Similar views will be experienced from users of the access road, albeit by relatively fewer people. The viewpoint is not located within a designated landscape, though there are views towards designated landscapes, including the BBNP and Hirwaun Common SLA. These views are experienced in the context of an opencast mine and other industrial elements in the lower valley, indicating medium value. The overall sensitivity is judged to be at the lower end of medium. The view north-west is partially elevated, with clear views across the wooded Cynon Valley toward the southern foothills and mountain ranges of Bannau Brycheiniog (Brecon Beacons) National Park. Pastoral fields are visible in the middle ground of the view, framed by blocks of coniferous and deciduous woodland to the west and east. Overhead electricity lines and associated wooden poles cross in the foreground of the view, running parallel to the A4061. Open fields of rough grassland across the foreground transition to pastoral fields of improved grassland defined by low hedgerows within the middle ground. The pastoral fields within the view are bound by low hedgerows with occasional hedgerow trees. Intervening landform in the foreground restricts views towards lower-lying fields to the south. To the north the landform gradually rises, with resulting clear views of more northerly fields. The wooded rising topography of the Moel Penderyn, provides a backcloth to the north. However, this is punctuated in places by existing larger overhead transmission lines, which run east-west across the view, and the rooftops of larger industrial buildings located to the north of the viewpoint. The Bannau Brycheiniog (Brecon Beacons) are visible on the skyline above Moel Penderyn. In addition, there are long views to distant upland areas to the north-east of the site.			
Construction Phase (<1 Year):			

Viewpoint 1 – A4061 Rhigos Road
During the construction phase (lasting approximately 16 weeks), activity associated with the construction of the proposed development will be visible in the middle ground of the view. This will include installation of PV panels and perimeter fencing; signage, the construction of the DNO and Customer Switchgear and 4 Low Voltage Transformers, as well as excavations associated with the implementation of underground cables connecting the Low Voltage Transformers with the Customer Switchgear Enclosure. The construction of an access road will be visible directly adjacent to the viewpoint, closer than the construction activity mentioned above. Other changes visible will include the removal and alteration of pastoral landcover and the limited removal of vegetation; and the transport and storage of materials, including the movement and activity of construction vehicles and plant using the site access point off the A4061 in proximity to the viewer. Whilst existing intervening woodland blocks and hedgerow trees along the south and south-eastern boundary of the site are likely to provide some partial filtering and screening (more so in the summer months), construction activities across the north and west of the site will be mostly visible, albeit viewed in context of the A road, existing energy infrastructure and industrial development to the north of the site. Views towards the southern foothills and mountain ranges of Bannau Brycheiniog (Brecon Beacons) National Park in the distance will be preserved. The scale of change will be medium, as the construction works will encompass a large portion of the pastoral fields seen in the middle ground of views. The geographical extent will be small, as this represents a glimpsed sequential view from a short section of the A4061 in a gap in trees/vegetation alongside the site. Effects will be short term as well as largely reversible. The overall magnitude of effect at construction is judged to be medium. A sensitivity at the lower end of medium combined with a medium magnitude of change is judged to result in an effect at the lower end of moderate (lesser importance).
Operational Phase (Year 1>): During the operational phase at Year 1, the proposed development will be visible in the middle ground of the view. The PV panels will cover the majority of the site, with those to the north clearly visible on the rising topography. Other features of the proposed development that will be visible are the DNO and Customer Switchgear , 4 Low Voltage Transformers, the access road and perimeter fencing. Generally, the existing field pattern within the site will be retained. Although the proposed PV panels will not exceed 3m in height and will not breach the skyline in the views (i.e., views towards the southern foothills and mountain ranges of Bannau Brycheiniog (Brecon Beacons) in the distance will remain), their colour and reflective nature will contrast against the green hue of the underlying pastoral fields and surrounding vegetation. However, this new energy generating infrastructure will be viewed in context of the A road, the existing energy infrastructure and industrial development to the north of the site. The proposed re-seeding and planting designed to provide landscape and visual mitigation will have been implemented, but at Year 1 will not yet be established. The scale of change will be medium, and the geographical extent will be small, as this represents a glimpsed sequential view from a relatively short section of the A4061. Effects will be longer term, but largely reversible. This will result in an overall medium magnitude of change. A sensitivity at the lower end of medium combined with a medium magnitude is judged to result in a moderate effect (lesser importance).
Operational Phase (Year 10): Proposed mitigation includes hedgerow planting with a small number of low growing hedgerow trees along the northern boundary of the site, south of the residential properties along Rhigos Road, as well as enhancing and filling gaps within existing in-field hedgerows within the site. Whilst this vegetation will help integrate the proposed development into its pastoral context, it will not contribute to screening and filtering of views of the proposed development from this viewpoint location. There is unlikely to be much change from Year 1 to Year 10 in the views from the A4061, owing to the slightly elevated nature of views, and mitigation is unlikely to provide any appreciable additional screening/filtering of views towards the proposed development. The scale of change will remain medium, and the geographical extent will be small. Effects will be longer term, but reversible. This will result in an overall medium magnitude of change.

Viewpoint 1 – A4061 Rhigos Road
A sensitivity at the lower end of medium combined with a medium magnitude is judged to result in a moderate effect (lesser importance) .
Cumulative: Road users travelling along the A4061, particularly those travelling south, are likely to have glimpsed sequential views towards both the proposed development and consented Bryngolwg Solar Farm, adjacent to the western site boundary subject to the presence of any intervening vegetation on boundaries, and landform. Cumulative impact will largely relate to the increased presence of built form within the view, although the two developments being almost adjacent to one another are likely to be viewed as a single larger solar PV development from this location. Hedgerows and woodland bands along the western site boundary are likely to provide some screening of the consented Bryngolwg Solar Farm from Rhigos Road to the south and south-west (including from where this viewpoint is located). Longer views to upland areas will remain. For these reasons, there will be no additional cumulative effects over and above those set out above. Effects are judged to remain as being of lesser importance.

Table 6.2: Rhigos Road / Cynlas Drive

Viewpoint 2 – Rhigos Road / Cynlas Drive			
Grid Reference (NGR)	293199, 206102	Figure Number	10
Landscape Unit	Tower Colliery (CYNONVS001)	Designated Landscape	n/a
Direction of View to Proposed Development	South-east	Approx. distance	240m
Time of photograph	17:00	Level AOD	221m
Location and description of existing view and potential receptors: The viewpoint is located on Rhigos Road at the junction with Cynlas Drive, a private track leading to Cynlas Farm. The view is representative of sequential and oblique views experienced by people travelling along the road, including motorists, pedestrians and cyclists using National Cycle Route 46, and to an extent receptors on the edge of settlement looking south, indicating a medium susceptibility overall. The viewpoint is not within any designated landscapes, nor is it identified as an important view, indicating that it is of lower value. The overall sensitivity is judged to be at the lower end of medium. Bunding to the south of Rhigos Road, along with mature vegetation lining the road to the north, tend to channel the view and lead the eye to the east. The oblique views to the south and south-east are across an area of slightly raised artificial bunding running adjacent to Rhigos Road. This features scrub vegetation which the gives way to scattered deciduous and coniferous trees and shrubs. Further to the east the rooves of two residential properties and associated outbuildings are visible, partially obscured by the intervening bunding. The intervening buildings and vegetation largely restrict views to the lower pastoral land in the middle ground to the south and south-east. Large-scale transmission pylons and overhead electrical lines run east-west across the view, clearly visible breaking the skyline and forming prominent vertical features. Upland areas are visible on the skyline to the south and south-east, including the steep escarpment at Hirwaun Common and wooded hills of Mynydd Beili-glas. These form a scenic backdrop to the views.			
Construction Phase (<1 Year): During the construction phase (lasting approximately 16 weeks), activity associated with the construction of the proposed development will be mostly screened by intervening vegetation and buildings in views from this location. Only occasional glimpsed views will be available towards construction works (including installation of the PV panels and perimeter fencing; the construction of the access roadthe DNO and Customer Switchgear, 4 Low Voltage Transformers, groundworks associated with the installation of underground cables between the Low Voltage Transformers and the Customer Switchgear Enclosure; and transport and storage of materials, including the movement and activity of construction vehicles and plant (which will access the site from the A4061 to the south). However, this will be seen in context of Rhigos Road and a series of large-scale transmission pylons and overhead electrical lines running across views from this location.			

Viewpoint 2 – Rhigos Road / Cynlas Drive
The scale of change will be small , as the construction works will be mostly screened in views along this section of road. The geographical extent will be small , as this represents a glimpsed sequential view from a short section of Rhigos Road, with extensive filtering from intervening vegetation. Effects will be short term as well as largely reversible . This will result in an overall low magnitude of change.
A sensitivity at the lower end of medium combined with a low magnitude of change is judged to result in a minor effect (lesser importance) .
Operational Phase (Year 1>): During the operational phase of the project at Year 1, views towards the proposed development will be mostly screened in views from the Rhigos Road. Only occasional glimpses views will be available towards the back of proposed PV panels and perimeter fencing along the northern perimeter of the site. However, the proposed perimeter fencing will be 2.05m high and the proposed PV panels will not be greater than 3m tall, and will therefore not breach the skyline in views. In addition, as the PV panels will be aligned to the south meaning that their reflective nature will not be apparent from this location. The existing vegetation to the north of the site will provide filtering and screening of views towards the site along this section of Rhigos Road, and will minimise changes in views from this location, particularly in the summer months. The scale of change will be small, as views will be largely unchanged. The geographical extent will be small, as this represents a glimpsed sequential view from a short section of the A4061/Rhigos Road. Effects will be longer term, but reversible. This will result in an overall low magnitude of change. A sensitivity at the lower end of medium combined with a low magnitude of change is judged to result in a minor effect (lesser importance).
Operational Phase (Year 10): During the operational phase of the project at Year 10, views towards the proposed development will remain mostly screened from the A4061/Rhigos Road, as described above. Additional hedgerow infill and planting of a small number of low growing trees along the northern boundary of the site will provide additional screening, and further reduce effects on receptors. The scale of change will remain small, as views will be largely unchanged. The geographical extent will be small, as this represents a glimpsed sequential view from a short section of the A4061/Rhigos Road. Effects will be longer term, but reversible. This will result in an overall low magnitude of change. A sensitivity at the lower end of medium combined with a low magnitude of change is judged to result in a minor effect (lesser importance).
Cumulative: Road users travelling along Rhigos Road, particularly those travelling east, and receptors on the edge of settlement are likely to have largely screened sequential views/views towards both the proposed development and consented Bryngolwg Solar Farm, adjacent to the western site boundary. Cumulative impact will largely relate to the increased presence of built form within views, although the two developments being adjacent to one another are likely to be viewed (where they are visible) as a single larger solar PV development from Rhigos Road. In addition, views towards the consented Bryngolwg Solar Farm will be mostly restricted by roadside bunding and vegetation, although some occasional glimpses of the perimeter fencing and PV panels may be available in places, particularly in winter months. For these reasons, there will be no additional cumulative effects over and above those set out above. Effects are judged to remain as being of lesser importance.

Table 6.3: Public Footpath Ty Draw Farm

Viewpoint 3 – Public Footpath Ty Draw Farm			
Grid Reference (NGR)	292757, 205208	Figure Number	10

Viewpoint 3 – Public Footpath Ty Draw Farm			
Landscape Unit	Tower Colliery (CYNONVS001)	Designated Landscape	n/a
Direction of View to Proposed Development	North-east	Approx. distance	450m
Time of photograph	14:10	Level AOD	250m
Location and description of existing view and potential receptors: This viewpoint is located on a public footpath which passes to the south-west of the site, connecting Rhigos Road (A4061) and Rhigos. It is representative of sequential views experienced by recreational users of the footpath, indicating a high susceptibility. The viewpoint is not within any designated landscapes landscape (though there are distant views towards designated landscapes), nor is it identified as an important view, indicating lower value. The overall sensitivity is judged to be medium. Views north-west towards the site from this location are partially elevated across the wooded Cynon Valley toward the southern foothills and mountain ranges of Bannau Brycheiniog (Brecon Beacons) National Park in the distance. The steeply rising escarpment of Hirwaun Common is visible to the east of the view which, along with a coniferous woodland on its lower slopes, curtails longer range views in this direction. Views north-west are across the undulating lower valley side, featuring a series of pastoral fields defined by low hedgerows and/or mature blocks of trees in places. Intervening landform and hedgerows and woodland blocks limit views to the middle ground (where the proposed site will be). These intervening elements also largely restrict views towards Rhigos Industrial Estate to the north of the site, situated between Rhigos Road and the A465. However, a series of transmission pylons and overhead electrical lines located along the northern boundary of the site are visible running east-west across the landscape in the middle ground. These large-scale vertical elements do not, however, break the skyline due to the wooded rising topography of Moel Penderyn and Mynydd-y-glog providing a backcloth to the north and north-east.			
Construction Phase (<1 Year): Construction activity (lasting approximately 16 weeks) will be mostly screened from view by the intervening landform and hedgerows and woodland blocks lying along the western and south-western boundaries of the site. Only construction activities occurring in the south-western corner of the site are likely to be visible, filtered through intervening hedgerow vegetation. This will include the installation of the PV panels and perimeter fencing; the construction of a Low Voltage Transformer in the south-west of the site; and the movement and activity of construction vehicles and plant (which will access the site from the A4061 to the south). Overall, the scale of change will be small, as the construction works will be mostly screened in views from this footpath. The geographical extent will be small, as this represents a glimpsed sequential view with extensive screening and filtering from intervening vegetation. Effects will be short term as well as largely reversible. This will result in an overall low magnitude of change. A sensitivity of medium combined with a low magnitude of change is judged to result in a minor effect (lesser importance).			
Operational Phase (Year 1): The proposed development will be almost entirely screened from view by the intervening landform and hedgerows and woodland blocks lying along the western and south-western boundaries of the site. However, there are likely to be filtered views of the proposed PV panels within the south-west of the site, a Low Voltage Transformer in the south-west of the site, and the perimeter fencing along the western and the south-western boundaries of the site, particularly in winter months. The scale of change will be small, as the proposed development will be largely screened from views. The geographical extent will be small, as this represents a glimpsed sequential view with extensive screening and filtering from intervening vegetation. Effects will be longer term but reversible. This will result in an overall low magnitude of change. A sensitivity of medium combined with a low magnitude of change is judged to result in a minor effect (lesser importance).			
Operational Phase (Year 10):			

Viewpoint 3 – Public Footpath Ty Draw Farm			
There is unlikely to be a noticeable change between Year 1 and Year 10, as views towards the proposed development will remain mostly screened from this footpath. Additional hedgerow infill and planting of trees along the western and south-western boundaries of the site will provide additional screening, and further reduce effects on receptors. The scale of change will remain small, as the proposed development will be mostly screened in views from this footpath. The geographical extent will be small, as this represents a glimpsed sequential view with extensive screening and filtering from intervening vegetation. Effects will be longer term but reversible. This will result in an overall low magnitude of change. A sensitivity at the lower end of medium combined with a low magnitude of change is judged to result in a minor effect (lesser importance).			
Cumulative: This public right of way passes along the south-eastern site boundary of the consented Bryngolwg Solar Farm, which is located immediately adjacent to the western boundary of the site. The proposed PV panels within the south-east of the Bryngolwg Solar Farm site will be clearly visible across the middle ground of the view. Whilst this will cause a medium to high magnitude of change, it is due almost entirely to the visibility of the Bryngolwg Solar Farm rather than a cumulative impact related to the additional presence of the proposed development, which will be largely screened from view at this location. For this reason there will be no additional cumulative effects related to the proposed development, and effects are judged to remain of lesser importance.			

Table 6.4: Hoel Gwranfryn

Viewpoint 4a – Hoel Gwranfryn FP – Rhigos			
Grid Reference (NGR)	292263, 205449	Figure Number	11
Landscape Unit	Penderyn (CYNONVS83)	Designated Landscape	n/a
Direction of View to Proposed Development	East	Approx. distance	875m
Time of photograph	16:15	Level AOD	230m
Location and description of existing view and potential receptors: This viewpoint is located along a minor road (Heol Gwranfryn), located within the village of Rhigos to the west of the site. It is representative of views experienced by the local community on the eastern edge of Rhigos, as well as sequential views experienced by road users, indicating a higher susceptibility overall. The viewpoint is not within any designated landscapes, nor is it identified as an important view (though there are some partial and distant views towards designated landscapes), indicating lower value. The overall sensitivity is judged to be medium. Views east from Heol Gwranfryn and the southern end of Heol-Y-Bryn are across undulating farmland, with fields defined by hedgerows and/or blocks of woodland. The intervening landform and vegetation largely restrict views towards the site, which sits at a lower elevation within the Cynon Valley. However, from the far south-eastern edge of the village a series of transmission pylons and overhead electrical lines located along the northern boundary of the site are visible running east-west across the landscape in the middle ground. These large-scale vertical elements do not, however, break the skyline due to the wooded rising topography, providing a backcloth to the north-east. Further to the north of the village (i.e., the northern end of Heol-Y-Bryn) views are largely curtailed by mature woodland fringing the settlement on its eastern edge.			
Construction Phase (<1 Year): Views from Rhigos towards construction activities (lasting approximately 16 weeks), will be mostly screened from view by intervening landform and vegetation. Taller construction plant may be sporadically visible above intervening hedgerows from the south-eastern edge of the village, although where visible this will be viewed in context of existing transmission pylons and overhead electrical lines which run along the northern boundary of the site.			

Viewpoint 4a – Hoel Gwraŋgfryn FP – Rhigos			
The scale of change will be small, as the construction works will be mostly screened in views. The geographical extent will be small, as this represents the views available from the south-eastern edge of the settlement, with extensive filtering from intervening vegetation and landform. Effects will be short term as well as largely reversible. This will result in an overall low magnitude of change. A sensitivity of medium combined with a low magnitude of change is judged to result in a minor effect (lesser importance)..			
Operational Phase (Year 1>): The proposed development will be almost entirely screened by intervening landform and vegetation. The proposed PV panels will not exceed 3m in height and are therefore unlikely to be seen over the existing intervening hedgerows. The scale of change will be barely perceptible, as the proposed development will be largely screened in views from Rhigos. The geographical extent will be small, as this represents the views available from the south-eastern edge of the settlement with extensive screening and filtering from intervening vegetation. Effects will be longer term but partly reversible. This will result in an overall barely perceptible magnitude of change. A sensitivity of medium combined with a low magnitude of change is judged to result in a minor effect (lesser importance)..			
Operational Phase (Year 10): There is unlikely to be a noticeable change from Year 1 to Year 10, as the proposed development will remain almost entirely screened by intervening landform and vegetation. Additional hedgerow infill and planting of trees and shrubs along the western boundary of the site will provide additional screening, and further reduce effects on receptors. The scale of change will remain barely perceptible, as the proposed development will be screened in views along this route. The geographical extent will be small, as this represents the views available from the south-eastern edge of the settlement with extensive screening and filtering from intervening vegetation. Effects will be longer term but partly reversible. This will result in an overall barely perceptible magnitude of change. A sensitivity of medium combined with a barely perceptible magnitude of change is judged to result in a negligible effect (lesser importance)..			
Cumulative: From the south-eastern edge of Rhigos, partial views will be available towards the consented Bryngolwg Solar Farm, which is located immediately adjacent to the western boundary of the site. Whilst this will cause a larger magnitude of change than set out above, it is due almost entirely to the visibility of the consented Bryngolwg Solar Farm rather than a cumulative impact related to the additional presence of the proposed development, which will be largely screened from view at this location. For this reason, there will be no additional cumulative effects related to the proposed development, and effects are judged to remain of lesser importance.			

Table 6.5: Hoel Esgyn

Viewpoint 4b – Hoel Esgyn – Rhigos			
Grid Reference (NGR)	292395, 205831	Figure Number	11
Landscape Unit	Penderyn (CYNONVS83)	Designated Landscape	n/a
Direction of View to Proposed Development	East	Approx. distance	875m
Time of photograph	13:45	Level AOD	239m
Location and description of existing view and potential receptors:			

Viewpoint 4b – Hoel Esgyn – Rhigos			
The viewpoint is located at the Rhigos Recreation Ground to the west of the site. It is representative of views experienced by the local community of Rhigos, as well as recreational users of the recreation ground, indicating a higher susceptibility overall. The viewpoint is not within any designated landscapes landscape (though there are distant views towards designated landscapes), nor is it identified as an important view, indicating lower value. The overall sensitivity is judged to be medium. The foreground view from this location is open, comprising a sports/playing field. Mature woodland fringing the eastern extent of Rhigos is visible to the east, and this restricts views in this direction (including towards the proposed site). Views north-east are less restricted, with a series of pastoral fields bounded by hedgerows visible in the middle ground. This gives way to a more wooded valley bottom, which also features large-scale transmission pylons and overhead electrical lines visible crossing the view east-west. These vertical elements break the skyline in views to the north-east and are therefore visually prominent. In the distance to the north and north-east the rising hills of the Bannau Brycheiniog (Brecon Beacons) National Park, including Moel Penderyn and Mynydd-y-glog, form a backdrop to views. Views towards the site are mostly screened by intervening landform and vegetation.			
Construction Phase (<1 Year): Construction activity (lasting approximately 16 weeks) will be mostly screened by intervening landform and vegetation and will likely not be visible in views towards the site. Taller construction plant may be sporadically visible above intervening hedgerows from some areas, although where visible this will be viewed in context of existing transmission pylons and overhead electrical lines which run along the northern boundary of the site. The scale of change will be small, as the construction works will be mostly screened in views by intervening vegetation and landform to the east. The geographical extent will be small, as this represents the views available from the north-eastern edge of the settlement, with extensive filtering from intervening vegetation. Effects will be short term as well as partly reversible. This will result in an overall low magnitude of change. A sensitivity of medium combined with a low magnitude of change is judged to result in a minor effect (lesser importance)..			
Operational Phase (Year 1>): The proposed development is unlikely to be visible in views to the east, due to intervening landform and vegetation. The proposed PV panels will not exceed 3m in height and are therefore unlikely to be seen over the existing intervening vegetation. The scale of change and geographical extent will be barely perceptible, as views towards the proposed development will be screened by layers intervening landform and vegetation. Effects will be longer term but partly reversible. This will result in an overall barely perceptible magnitude of change. A sensitivity of medium combined with a barely perceptible magnitude of change is judged to result in a barely perceptible effect (lesser importance)..			
Operational Phase (Year 10): There is unlikely to be a noticeable change from Year 1 to Year 10, as the proposed development will remain almost entirely screened by intervening landform and vegetation. Additional hedgerow infill and planting of trees and shrubs along the western boundary of the site will provide additional screening, and further reduce effects on receptors. The scale of change and geographical extent will remain small, as the proposed development will be screened in views. Effects will be longer term but partly reversible. This will result in an overall low magnitude of change. A sensitivity of medium combined with a barely perceptible magnitude of change is judged to result in a barely perceptible effect (lesser importance).			
Cumulative: The recreation ground lies approximately 50m from the north-western boundary of the consented Bryngolwg Solar Farm. The proposed PV panels within the north-west of the consented Bryngolwg Solar Farm site will be clearly visible across the middle ground of the view. Whilst this is likely to cause a medium to high magnitude of change, it is due entirely to the visibility of the Bryngolwg Solar Farm rather than a cumulative impact related to the additional presence of the proposed development, which will be largely screened from view at this location. For this reason, there will be no additional cumulative effects related to the proposed development, and effects are judged to remain of lesser importance.			

Table 6.6: Maesyffynon

Viewpoint 5 – Maesyffynon			
Grid Reference (NGR)	291361, 206129	Figure Number	12
Landscape Unit	Penderyn (CYNONVS83)	Designated Landscape	n/a
Direction of View to Proposed Development	East	Approx. distance	1.95km
Time of photograph	15:55	Level AOD	219m
Location and description of existing view and potential receptors: This viewpoint is located on Mount Road (a minor road), approximately 1.95km west of the site and close to the existing solar farm at Hendre Fawr. It is representative of views experienced by the local community along Mount Road in the vicinity of Maesyffynon House, as well as sequential and oblique views experienced by people travelling along the road (including motorists, cyclists and pedestrians), indicating a higher susceptibility. The viewpoint is not within any designated landscapes (though there are distant views towards designated landscapes), nor is it identified as an important view, indicating lower value. The overall sensitivity of these receptors is judged to be medium. In views east towards the proposed site, the foreground comprises a series of undulating pastoral fields bounded by hedgerows with numerous mature trees. This, along with several infield trees, heavily filters views to the lower lying land within the middle ground beyond (which will include the proposed site). Large-scale transmission pylons and overhead electrical lines are clearly visible crossing the view east-west, extending from the foreground into the middle ground. These vertical elements break the skyline and are visually dominant, despite the visual scaling effect of the intervening mature trees. Rising landforms can be partially seen over and through the treeline, forming a distant backdrop to the east and north-east. The existing Hendre Fawr Solar Farm is largely screened from visual receptors on Mount Road due to intervening landform and vegetation of field boundaries.			
Construction Phase (<1 Year): Construction activity (lasting approximately 16 weeks), within and around the site is unlikely to be visible in views east from Mount Road due to the site being approximately 1.95km away and the extensive screening provided by intervening landform and bands of hedgerows and mature trees. The scale of change will be barely perceptible, as the construction works will be mostly screened in views along this section of road. The geographical extent will be small, as this represents views available from a small part of Mount Road in the vicinity of Maesyffynon House, with extensive filtering from intervening vegetation. Effects will be short term and largely reversible. This will result in an overall barely perceptible magnitude of change. A sensitivity of medium combined with a barely perceptible magnitude of change is judged to result in a barely perceptible effect (lesser importance)..			
Operational Phase (Year 1>): The proposed development is unlikely to be visible in views east along Mount Road, due to its distance from the site (approximately 1.95km) and the screening provided by intervening landform and vegetation. The scale of change will be barely perceptible, as the proposed development will be mostly screened in views along this section of the road. The geographical extent will be small, as this represents views available from a small part of Mount Road in the vicinity of Maesyffynon House, with extensive filtering from intervening vegetation. Effects will be long term but partly reversible. This will result in an overall barely perceptible magnitude of change. A sensitivity of medium combined with a barely perceptible magnitude of change is judged to result in a barely perceptible effect (lesser importance)..			
Operational Phase (Year 10):			

Viewpoint 5 – Maesyffynon			
There is unlikely to be a noticeable change from Year 1 to Year 10, as the proposed development will remain almost entirely screened by intervening landform and vegetation. Additional hedgerow infill and planting of trees along the western boundary of the site will provide additional screening, and further reduce effects on receptors.			
The scale of change will remain small , as the proposed development will be screened in views along this section of road. The geographical extent will be small , as this represents views available from a small part of Mount Road in the vicinity of Maesyffynon House, with extensive screening and filtering from intervening vegetation. Effects will be long term but partly reversible . This will result in an overall low magnitude of change.			
A sensitivity of medium combined with a barely perceptible magnitude of change is judged to result in a barely perceptible effect (lesser importance) .			
Cumulative: The existing Hendre Fawr Solar Farm is largely screened from visual receptors (residential and recreational receptors) on Mount Road due to intervening landform and vegetation of field boundaries. Despite the consented Bryngolwg Solar Farm site being located closer to Mount Road, it is still over 1km away and views will be almost entirely screened by intervening landform and vegetation. For this reason, there will be no additional cumulative effects.			

Table 6.7: Rhigos Viewpoint

Viewpoint 6 – A4061 Rhigos Viewpoint (above Hirwaun Common)			
Grid Reference (NGR)	292644, 203101	Figure Number	13
Landscape Unit	St Gwynno (CYNONVS580)	Designated Landscape	n/a
Direction of View to Proposed Development	North	Approx. distance	2.27km
Time of photograph	13:05	Level AOD	504m
Location and description of existing view and potential receptors: The viewpoint is located along Rhigos Road (A4061) at Mynydd Beli-glas, adjacent to Hirwaun Common, and is representative of recreational visitors to the Rhigos Viewpoint (Craig y Llyn) within Hirwaun Common, as well as people travelling along the A4061, indicating higher susceptibility. The viewpoint is located within Hirwaun Common SLA at a promoted viewpoint, indicated on OS mapping and with associated parking facilities, indicating a higher value. The overall sensitivity of these receptors is therefore judged to be high. The viewpoint is situated along the top of a steeply rising escarpment, adjacent to the A4061. The elevated location affords panoramic long-distance views north over the Cynon Valley toward the foothills and mountain ranges of Bannau Brycheiniog (Brecon Beacons) National Park, which form a scenic backdrop in the distance. The Cynon valley appears well-wooded in places and predominantly comprises a patchwork of pastoral fields interspersed with hedgerows and woodland blocks. However, development is evident on the lower slopes and valley bottom, with the village of Rhigos and Rhigos Industrial Estate visible in the middle ground to the north. The wider view also includes a number of existing energy infrastructure installations, including the Hendre Fawr Solar Farm and Maesgwyn Wind Farm to the north-west, a series of large-scale transmission pylons and overhead electrical lines running east-west along the valley bottom to the north, and a wind farm at Mynydd Bwlfa to the south-east (not visible in the viewpoint photography). The proposed site is partially visible within the middle ground, occupying a series of pastoral fields sloping gradually to the north; views towards the eastern half of the proposed site are screened by the steeply rising landform of Hirwaun Common in this location. Clearer views towards the site are likely to be obtainable from the escarpment edge within Hirwaun Common further to the north-east.			
Construction Phase (<1 Year):			

Viewpoint 6 – A4061 Rhigos Viewpoint (above Hirwaun Common)
During the construction phase (lasting approximately 16 weeks), construction activities (including the installation of the PV panels and perimeter fencing; the construction of a Low Voltage Transformer in the west of the site and the transport and storage of materials) is likely to be partially visible in the middle ground from this location. Construction activity associated with the equipment located in the east of the site will be screened by intervening landform. However, the site forms a small portion of valley floor in the wider panoramic views available from this location, and construction activities will not form a prominent feature. Construction works will be viewed at a distance of over 2km and in the context of existing energy infrastructure and industrial development to the north of the site. They will also occur on the lower valley sides meaning scenic views towards the southern foothills and mountain ranges of Bannau Brycheiniog (Brecon Beacons) National Park in the distance will be preserved. The scale of change will be just perceptible, as the construction works will occur at relative distance, will be viewed in context with existing energy infrastructure and industrial development, and views will be partially screened. The geographical extent will be small, as this represents views available from a discreet viewpoint location and a short section of the A4061/Rhigos Road. Effects will be short term as well as largely reversible. This will result in an overall barely perceptible magnitude of change. A sensitivity of high combined with a barely perceptible magnitude of change is judged to result in a minor effect (lesser importance). Whilst clearer views towards construction activities are likely to be obtainable from the escarpment edge within Hirwaun Common further to the north-east, effects are judged to be minor considering the nature of existing views. Construction activities will be viewed in context of existing energy infrastructure and industrial development to the north of the site, as well as open cast mining south of Hirwaun (not visible from the viewpoint location).
Operational Phase (Year 1>): The proposed development within the western half of the site is likely to be visible within in the middle ground of views from this location. The main elements likely to be visible from this location are the PV panels, and the Low Voltage Transformer in the west of the site. The equipment located in the east of the site (DNO and Customer Switchgear and Low Voltage Transformer) will be screened by intervening landform from this location. Whilst the site forms a small portion of the wider panoramic views available from this location, the PV panels will have their reflective sides oriented towards the south (i.e., towards the viewer) meaning they will form noticeable elements within the view. However, this will be viewed at a distance of over 2km and in the context of existing energy infrastructure and industrial development to the north of the site. The proposed development will be located on the lower valley sides meaning scenic views towards the southern foothills and mountain ranges of Bannau Brycheiniog (Brecon Beacons) National Park in the distance will be preserved and the overall character of the view will be largely unchanged. The scale of change will be small, as whilst the proposed development will be discernible it will be viewed at relative distance and in context with existing energy infrastructure and industrial development, and views will be partially screened by existing vegetation and intervening landform. The geographical extent will be small, as this represents views available from a discreet viewpoint location and a short section of the A4061/Rhigos Road. Effects will be long term but partly reversible. This will result in an overall small magnitude of change. A sensitivity of high combined with a small magnitude of change is judged to result in an effect at the lower end of moderate (lesser importance). Clearer views towards the proposed development are likely to be experienced from the escarpment edge within Hirwaun Common (SLA and open access land), to the north-east of this viewpoint. Existing views include existing energy infrastructure and industrial development to the north of the site, the open cast mining south of Hirwaun (which is not visible from the Rhigos Viewpoint), as well as longer views towards the BBNP. Effects are judged to be moderate (lesser significance).
Operational Phase (Year 10): There is unlikely to be a noticeable change from Year 1 to Year 10, as the proposed development within the western half of the site will remain visible in the middle ground. Whilst additional hedgerow infill and planting of trees along the northern, western and south-western boundary of the site will provide some additional screening and back clothing of the proposed development, this is unlikely to change the overall magnitude of change due to the elevation and direction of the views; the proposed development will remain partially visible. The scale of change will remain small, as whilst the proposed development will be discernible it will be viewed at relative distance in the lower valley, and in context with existing energy infrastructure and industrial development, and views will be partially screened. The geographical extent will be small, as this represents views available from a discrete viewpoint location and a short

Viewpoint 6 – A4061 Rhigos Viewpoint (above Hirwaun Common)
section of the A4061/Rhigos Road, with some screening from intervening landform and vegetation. Effects will be long term but partly reversible. This will result in an overall small magnitude of change. A sensitivity of high combined with a small magnitude of change is judged to result in an effect at the lower end of moderate (lesser importance). Effects from Hirwaun Common (SLA and open access land) are judged to remain moderate (lesser significance).
Cumulative: From this location, there will be partial views towards the proposed development and clear views towards the consented Bryngolwg Solar Farm, which is located to the west of the site. Whilst the two developments are likely to be viewed as a single larger solar PV development, owing to their proximity, cumulative impact will relate to the increased presence of built form within the view. Together the two developments will be visible as an area of PV panels (oriented southwards, towards the viewer) lying between the settlement of Rhigos and Rhigos Industrial Estate. The proposed development will be set adjacent to existing blocks of mature trees along field boundaries, which will help to visually accommodate the proposed development more into the patchwork of fields in the lower valley landscape. The angle of view from elevated areas is such that the horizontal depth of both sites is foreshortened. The amount of development within the view will increase, albeit viewed in the wider context of a valley containing existing built development and energy infrastructure, including Hendre Fawr Solar Farm visible to the north-west, and the open cast mining areas to the east (not visible from this particular viewpoint, but visible from other locations in Hirwaun Common). Overall, there will be a higher magnitude of change than that set out for the proposed development in isolation, however this will relate largely to the visibility of the consented Bryngolwg Solar Farm from this viewpoint. It is judged that this will result in additional cumulative effects which will be moderate (higher importance). This will affect views from a promoted viewpoint with visual receptors being of a high sensitivity. Note that this cumulative effect will be lessened elsewhere, particularly in locations where the open cast mining areas to the east (south of Hirwaun) form part of the existing view.

Table 6.8: Moel Penderyn

Viewpoint 7 – Moel Penderyn			
Grid Reference (NGR)	293434, 208497	Figure Number	14
Landscape Unit	Penderyn (CYNONVS83)	Designated Landscape	Brecon Beacons National Park Dyffrynoedd need a Mellte a Moel Penderyn Special Site of Scientific Interest (SSSI)
Direction of View to Proposed Development	South	Approx. distance	2.53km
Time of photograph	11:20	Level AOD	328m
Location and description of existing view and potential receptors: The viewpoint is located along a public footpath that passes east-west below the summit of Moel Penderyn. It is representative of sequential views across the Cynon Valley as experienced by recreational receptors using the footpath within the Bannau Brycheiniog (Brecon Beacons) National Park. Recreational receptors here are likely to be focused on views of the surrounding landscape, and as such their susceptibility to changes in the landscape is high. The viewpoint is located within the Bannau Brycheiniog (Brecon Beacons) National Park, and has a higher value. Therefore, the overall sensitivity is judged to be high. The viewpoint is located in an elevated position at Moel Penderyn. This affords panoramic long-distance views available south across the Cynon Valley towards an upland landscape, including the steeply rising escarpment of Hirwaun Common (part of an SLA), which forms a scenic backdrop in the distance. The foreground view is mostly open, comprising a southward sloping valley side of moorland with occasional trees and blocks of trees. In the middle distance, the valley floor appears well-wooded and			

Viewpoint 7 – Moel Penderyn
predominantly comprises a patchwork of pastoral fields interspersed with hedgerows and woodland blocks. Development is evident on the lower slopes and valley bottom, with the settlements of Rhigos and Hirwaun visible to the west and east respectively, and Rhigos Industrial Estate visible on the northern edge of the lower valley. The wider view also includes a number of existing energy infrastructure installations, including wind farm developments at Mynydd Bwllfa and TwYear Corrwg Fechan on elevated land in the distance to the south, and a series of large-scale transmission pylons and overhead electrical lines running east-west along the valley bottom to the north. Whilst the Hendre Fawr Solar Farm is not visible from the viewpoint location, it is likely to become visible on the valley bottom as users travel further west along the footpath. Additionally, an open cast mine is visible in the middle distance to the south of Hirwaun which, which detracts from the predominant pastoral nature of the valley. The site is partially visible within the middle ground, occupying a series of pastoral fields sloping gradually to the north; views towards the northern extents of the site are partially screened by intervening woodland and tree belts along Rhigos Road, much of which is coniferous.
Construction Phase (<1 Year): During the construction phase (lasting approximately 16 weeks), construction activities (including the installation of the PV panels and perimeter fencing; the construction of an access road; the DNO and Customer Switchgear ; the 4 Low Voltage Transformers; the implementation of underground cables between the Low Voltage Transformers and the Customer Switchgear Enclosure and the transport and storage of materials) will be visible in the middle ground of sequential views south from this public footpath. However, they will be viewed at a distance of over 2.5km and in the wider context of existing energy infrastructure, open cast mining and industrial development. The site forms a small portion of the wider panoramic views available, and construction activities will not form a prominent feature. Additionally, there is likely to be some limited screening of the northern half of the site due to mature coniferous woodland on the northern site boundary. Construction activities will also take place on the lower valley sides meaning scenic views towards the upland landscape in the distance to the south will be preserved. The scale of change is small, as whilst construction works will be visible, they will be viewed at relative distance and in context with existing energy infrastructure, open cast mining and industrial development. The geographic extent is small, as this represents a glimpsed sequential view along a relatively short section of the public footpath, and the site encompasses a small portion of the wider view and landscape. Effects will be short term and largely reversible. This will result in an overall small magnitude of change. A sensitivity of high combined with a small magnitude of change is judged to result in an effect at the lower end of moderate (lesser importance).
Operational Phase (Year 1>): The proposed development is likely to be visible in the lower valley, in the middle ground of sequential views south from this public footpath. The main elements likely to be discernible from this location are the PV panels, the DNO and Customer Switchgear and Low Voltage Transformers.. However, the PV panels will have their reflective sides oriented towards the south (i.e., away from the viewer), and intervening woodland will provide some screening of the northern extents of the site. Additionally, it will be viewed at a distance of over 2.5km and in the wider context of existing energy infrastructure, open cast mining and industrial development, meaning that the proposed development is unlikely to be prominent within views. The proposed development will be located on the lower valley sides meaning scenic views towards the upland landscape in the distance to the south will be preserved and the overall character of the view will be unchanged. The scale of change will be small, as whilst the proposed development will be visible it will be viewed at relative distance and in context with existing energy infrastructure, open cast mining and industrial development. The geographical extent will be small, as this represents a glimpsed sequential view along a relatively short section of the public footpath. Effects will be long term but partly reversible. This will result in an overall small magnitude of change. A sensitivity of high combined with a small magnitude of change is judged to result in an effect at the lower end of moderate (lesser importance).
Operational Phase (Year 10): There is unlikely to be a noticeable change from Year 1 to Year 10, as the proposed development will remain visible in the middle ground. As part of the mitigation plan, hedgerow planting with a small number of low growing hedgerow trees will be introduced along the northern and western site boundary which will have matured by Year 10. However, this is unlikely to provide significant additional screening from this location, as planting will consist of shorter tree species and hedgerow infills which are unlikely to form enough of a vertical element to provide additional screening or filtering.

Viewpoint 7 – Moel Penderyn
The scale of change will remain small , as whilst the proposed development will be visible it will be viewed at relative distance and in context with existing energy infrastructure, open cast mining and industrial development. The geographical extent will be small , as this represents a glimpsed sequential view along a relatively short section of the public footpath. Effects will be long term but partly reversible . This will result in an overall small magnitude of change.
A sensitivity of high combined with a small magnitude of change is judged to result in an effect at the lower end of moderate (lesser importance) .
Cumulative: From this viewpoint, recreational receptors including users of the Bannau Brycheiniog (Brecon Beacons) National Park will have clear views towards both the proposed development and the consented Bryngolwg Solar Farm, which is located immediately to the west of the site. Cumulative impact will relate to the increased presence of built form within the view, although the two developments being in proximity to one another will to some extent be viewed as a single larger solar PV development (oriented southwards, away from the viewer). Together, they will form an area of PV panels lying between the settlement of Rhigos and Rhigos Industrial Estate. This will increase the amount of development visible within the view, although it will be seen in the wider context of a relatively steep-sided valley with lower slopes comprising both areas of pasture and woodland, in addition to existing built development (residential and industrial areas, energy infrastructure and open cast mining). Scenic views towards the upland landscape in the distance to the south will also be preserved. Cumulatively there will be a barely noticeable change when compared to that set out for the proposed development in isolation above, this is judged to remain at the lower end of moderate (lesser importance) overall.

Table 6.9: ProW near Cwm-hwnt

Viewpoint 8 – ProW near Cwm-hwnt (at Glyncastle Forest)			
Grid Reference (NGR)	291945, 204709	Figure Number	12
Landscape Unit	Tower Colliery (CYNONVS001) / St Gwynno (CYNONVS580)	Designated Landscape	n/a
Direction of View to Proposed Development	North-east	Approx. distance	1.46km
Time of photograph	15:10	Level AOD	269
Location and description of existing view and potential receptors: The viewpoint is located along a section of a public footpath running through forestry (Glyncastle Forest) on sloping ground west of Tower Colliery and is representative of sequential views experienced by recreational receptors utilising the footpath network in the wooded/forested southern valley slopes near Tower Colliery, indicating higher susceptibility. The viewpoint is not within any designated landscapes, nor is it identified as an important view, indicating lower value. The overall sensitivity is judged to be medium. Despite its slightly elevated position, views out across the surrounding landscape are almost entirely restricted by woodland/forestry and dense hedgerows with understory vegetation enclosing the footpath. Views are generally channelled to the north and south along the axis of the footpath. The proposed site is located approximately 1.46km to the north-west but is not visible in views from the public footpath.			
Construction Phase (<1 Year): Construction activity (lasting approximately 16 weeks) is unlikely to be visible in views north-east from this public footpath, due to screening by intervening dense woodland vegetation.			

Viewpoint 8 – ProW near Cwm-hwnt (at Glyncastle Forest)
The scale of change will be barely perceptible, as the construction works will be screened in views along this public footpath. The geographical extent will be small, as this represents a sequential view from a short section of the footpath. Effects will be short term as well as largely reversible. This will result in an overall barely perceptible magnitude of change. A sensitivity of high combined with a barely perceptible magnitude of change is judged to result in a barely perceptible effect (lesser importance).
Operational Phase (Year 1>): The proposed development is unlikely to be visible in views north-east from this public footpath, due to screening by intervening dense woodland vegetation. The scale of change will be barely perceptible, as the proposed development will be screened in views along this public footpath. The geographical extent will be small, as this represents a sequential view from a short section of the footpath, with extensive filtering from intervening vegetation. Effects will be long term but partly reversible. This will result in an overall barely perceptible magnitude of change. A sensitivity of high combined with a barely perceptible magnitude of change is judged to result in a barely perceptible effect (lesser importance).
Operational Phase (Year 10): There is unlikely to be a noticeable change from Year 1 to Year 10, as views towards the proposed development will remain entirely screened by intervening vegetation from this location. The scale of change will be barely perceptible, as the proposed development will be screened in views along this public footpath. The geographical extent will be small, as this represents a sequential view from a short section of the footpath. Effects will be long term but partly reversible. This will result in an overall barely perceptible magnitude of change. A sensitivity of high combined with a barely perceptible magnitude of change is judged to result in a barely perceptible effect (lesser importance).
Cumulative: From this public footpath, views towards the consented Bryngolwg Solar Farm and towards the proposed Rhigos site will be screened by intervening dense vegetation and will not be visible in sequential views. Therefore, there will be no additional cumulative effects.

Chapter 7

Summary of Residual Effects

This chapter provides a summary of the landscape and visual effects during construction and at operation (at Years 1 and 10). It also provides a summary of the effects on designated landscapes as well as the anticipated cumulative effects.

Landscape and Visual Effects During Construction

Landscape Effects

7.1 The majority of the effects which will occur during the construction phase will be limited to the site and the immediate surrounding vicinity, from which construction activities may be perceptible.

The Site

7.2 Construction activities will result in direct landscape effects on the site. There will be a medium scale of effect on the area directly affected by the works, resulting in a change from an undeveloped agricultural landscape to a construction site. The construction works are expected to last approximately 16 weeks, so will be short-term and temporary. Re-establishment of any small areas of affected vegetation will take approximately three to five years, depending on the vegetation and soils, and will continue to mature. The level of reversibility will be varied, from fully reversible changes associated with construction plant and activity that will cease at the end of the construction period, to partially reversible changes (e.g., land undergoing excavations will be restored but not to the exact original condition), to non-reversible changes (such as loss of vegetation along the route of the new road). The overall magnitude of change to the landscape character within the site (which takes into consideration the scale of effect, geographical extent, duration and reversibility) is judged to be medium due to the medium scale of effect over a limited geographical extent (the site) for a temporary duration. Since the site is considered to have a sensitivity at the lower end of medium, an effect at the lower end of **moderate (lesser importance)** for the site during construction is anticipated.

Landscape Outside the Site

7.3 The construction activities will affect the perceptual character of the landscape around the site. There is likely to be a medium change in perceptual character of the landscape within the immediate context of the site (up to approximately 0.5km from the proposed development) and a small change to perceptual character beyond this. The medium change to the perceptual character of the Tower Colliery (CYNONVS001) landscape unit in the immediate context of the site (i.e., a small geographical extent) will result in an overall medium magnitude of change for a temporary duration. The landscape unit is considered to have a sensitivity at the lower end of medium, and therefore effects at the lower end of **moderate (lesser importance)** on the landscape unit within 0.5km of the site during construction is anticipated.

7.4 The overall level of effect during construction for landscape character beyond a 0.5km distance from the site will be **minor (lesser importance)**.

Visual Effects

7.5 The majority of the visual effects which will occur during the construction phase will be limited to receptors in the surrounding vicinity of the site, from which construction activities may be visible. Visual effects will also be experienced by receptors experiencing longer-range views from upland areas to the north and south.

7.6 Only the local community residing at properties along Rhigos Road to the north-west of the site are judged to experience effects of **greater importance** during the construction phase. All other effects are judged to be of **lesser importance**.

Recreational receptors

7.7 Construction activities will be visible within the middle ground of elevated long-distance views south from Moel Penderyn, including sequential views from nearby sections of footpaths that cross the southern extent of the Bannau Brycheiniog (Brecon Beacons) National Park (Viewpoint 7), as well as long-distance views north from Hirwaun Common SLA, including the promoted Rhigos Viewpoint (Craig y Llyn) at Mynydd Beili-glas (Viewpoint 6). The receptors at these locations are judged to have a high susceptibility to change, and views are judged to be of high value owing to their presence within designated landscapes (the Bannau Brycheiniog (Brecon Beacons) National Park and the Hirwaun Common SLA respectively) and in the case of the latter at a promoted viewpoint. Whilst visible from these locations, construction activities will be viewed at distance (generally greater than 2km) and in the wider context of a valley containing existing visible energy infrastructure, open cast mining and industrial development. The site forms a small portion of these wider panoramic views, and construction activities will not form a prominent feature. Construction activities will also take place in the lower valley meaning scenic views towards upland landscapes in the distance will be preserved from both the south and north. Within these types of views, the overall magnitude of change will be small or barely perceptible, which combined with a high sensitivity of the visual receptors, results in effects judged to be at the lower end of **moderate** or minor (**lesser importance**).

7.8 Views towards the site are also available from parts of the local footpath passing through the landscape to the south-west, connecting the A4061 and Rhigos (Viewpoint 3). Construction activities occurring within the south-western corner of the site are likely to be visible, filtered through intervening hedgerow vegetation. This will include the installation of the PV panels and perimeter fencing; the construction of an LV Transformer to the west of the site; and the movement and activity of construction vehicles and plant. Within these types of views, the overall magnitude of change will be low, which combined with a medium sensitivity, results in a **minor effect (lesser importance)**.

7.9 Views north-east towards the site from the footpath on sloping ground west of Tower Colliery (Viewpoint 8), are largely screened by intervening dense woodland and hedgerow vegetation. Construction activity is therefore unlikely to be visible in these types of views, resulting in a barely perceptible magnitude of change. Combined with the medium sensitivity of the visual receptors, this is judged to result in effects of **barely perceptible (lesser importance)**.

7.10 There will be occasional glimpsed sequential views of construction activities available to users of a short section of National Cycle Route 46 (following Rhigos Road) to the north of the site (Viewpoint 2). The majority of construction activities will be mostly screened by intervening vegetation and buildings along the south side of Rhigos Road, resulting in a low magnitude of change. This, combined with a sensitivity judged to be at the lower end of medium, gives rise to a **minor effect (lesser importance)**.

Local community

7.11 Views towards construction activities from the eastern edge of Rhigos (Viewpoints 4a and 4b), will be mostly screened from view by intervening landform and vegetation. Taller construction plant may be visible above intervening hedgerows from the south-eastern edge of the village, although where visible this will be viewed in context of existing transmission pylons and overhead electrical lines which run along the northern boundary of the site. This will result in an overall low magnitude of change, which alongside the medium sensitivity of the receptors, results in a **minor effect (lesser importance)**.

7.12 From properties along Rhigos Road located close to the north-western boundary of the site (those visible within Viewpoint 2), there are likely to be clear views towards construction activities occurring at proximity within the north-west corner of the site. Single hedgerows (with some mature trees) lie between the property curtilages and the site, offering only partial filtering to low-level views south. Whilst construction activities will detract from views south towards an upland landscape (including the escarpment of Hirwaun Common), they will be seen in context with a series of existing large-scale transmission pylons and overhead electrical lines running across the foreground views from this location. This is likely to cause a medium to high magnitude of change, which combined with a medium sensitivity will result in a **moderate effect (greater importance)**.

7.13 Views east towards the site from scattered properties on Mount Road in the vicinity of Maesyffynon House (Viewpoint 5) are generally restricted by intervening landform and mature vegetation. This, along with a distance of over 1.95km, mean that construction activity within and around the site is unlikely to be visible from these properties. There will be a barely perceptible magnitude of change, which combined with the medium sensitivity of the receptors results in a **barely perceptible effect (lesser importance)**.

Road users

7.14 Construction activity will be visible in the middle ground of sequential views experienced by people travelling along Rhigos Road (the A4061) to the south-east of the site (Viewpoint 1). Whilst existing intervening woodland blocks and hedgerow trees along the south and south-eastern boundary of the site are likely to provide some partial filtering, construction activities across the north and west of the site will be mostly visible, albeit viewed in context of existing energy infrastructure and industrial development to the north of the site. Views towards the upland areas of Bannau Brycheiniog (Brecon Beacons) National Park in the distance will be preserved. Overall, there will be a medium magnitude of change, which combined with a sensitivity at the lower end of medium, will result in effects of **moderate (lesser importance)**. As the road ascends the upland area of Hirwaun Common to the south, glimpsed partial views towards construction works will also be available (Viewpoint 6). However, this will be viewed at a distance of over 2km and in the context of existing energy infrastructure and industrial development. The focus of these distant views will remain the upland areas of the Bannau Brycheiniog (Brecon Beacons) National Park in

the distance. Overall, there will be a barely perceptible magnitude of change, which combined with a low sensitivity, will result in a **barely perceptible effect (lesser importance)**.

7.15 In views from Rhigos Road to the north of the site (Viewpoint 2), construction activities will be mostly screened by intervening bunding, vegetation and buildings. Occasional glimpses views will be available towards construction works, although these will be seen in context with a series of large-scale transmission pylons and overhead electrical lines running across views from this location. There will be a low magnitude of change which, combined with a sensitivity at the lower end of medium, will result in a **minor effect (lesser importance)**.

Landscape and Visual Effects During Operation

Landscape Effects

The Site

7.16 In areas directly affected/ hosting the proposed development, medium changes will occur to the character of the site as a result of changes to the fabric and some of its key features (changes to the pastoral field landcover, limited loss of hedgerow vegetation for access and introduction of man-made structures on the landform). The layout is designed to avoid impact on trees and hedgerows as much as possible. Additional planting will also be implemented including new shrub and tree planting along with the strengthening of existing hedgerows by infilling gaps and enhancing with trees and shrubs. The management of existing hedgerows along roads within and along the site boundary will allow them to grow taller (up to 3m in height). These measures are set out in the Landscape and Ecological Management Plan (LEMP).

7.17 The proposed development is expected to remain operational for 40 Years, so will be long-term, and partially reversible as the PV panels, perimeter fencing, DNO, Customer Switchgear and LV Transformers will be dismantled and removed from the site once the operational period has ceased. The road will either be left in situ providing a continuation of improved access for farmers or removed depending on the requirement of the landowner at the time. The overall magnitude of change to the landscape character within the site (which takes into consideration the scale of effect, geographical extent, duration and reversibility) is judged to be medium due to the medium scale of effect over a limited geographical extent (the site) for a long-term. Since the site is considered to have a sensitivity at the lower end of medium, an effect at the lower end of **moderate (lesser importance)** for the site during operation is anticipated.

7.18 At Year 10 the planting will have established and will be closer to maturity, resulting in some positive effects on the landscape character of the site in terms of landcover. However, the magnitude of effect will remain as medium.

Landscape Outside the Site

7.19 The presence of the operational components will affect the perceptual character of the landscape around the site. There is likely to be a medium change in perceptual character of the landscape up to 0.5km from the site, and a small change to perceptual character beyond. The medium change to the perceptual character of the Tower Colliery (CYNONVS001) landscape unit in the immediate context of the Site (i.e., a small geographical extent) over a long term will result in an overall medium magnitude of change. The landscape unit is considered to have a sensitivity at

the lower end of medium, and therefore effects at the lower end of **moderate (greater importance)** on the landscape unit within 0.5km of the site during operation is anticipated.

7.20 The overall level of effect during operation for landscape character beyond a 0.5km distance from the site will be **minor (lesser importance)**.

Visual Effects

7.21 The majority of the visual effects which will occur during the operational phase will be limited to receptors in the surrounding vicinity of the site from which the proposed development will be visible. Visual effects will also be experienced by receptors experiencing longer-range views from upland areas to the north and south.

7.22 The local community residing at properties along Rhigos Road to the north/north-west of the site are judged to experience effects of **greater importance** during the operational phase. All other effects are judged to be of **lesser importance**.

Recreational receptors

7.23 The proposed development will be visible within the middle ground of elevated long-distance views south from Moel Penderyn, including sequential views from nearby sections of footpaths that cross the southern extent of the Bannau Brycheiniog (Brecon Beacons) National Park (Viewpoint 7). The receptors at this location are judged to have a high susceptibility to change, and views are judged to be of high value owing to their presence within the Bannau Brycheiniog (Brecon Beacons) National Park. However, the PV panels will have their reflective sides oriented towards the south (i.e., away from the viewer), and intervening woodland will provide some screening of the northern extents of the site. Additionally, it will be viewed at a distance of over 2.5km and in the wider context of existing energy infrastructure, open cast mining and industrial development, meaning that the proposed development is unlikely to be prominent within views. The proposed development will also be located in the lower valley meaning scenic views towards the upland landscape in the distance to the south will be preserved and the overall character of the view will be unchanged in the longer term. Within these views the overall magnitude of change at Year 1 will be small, which combined with a high sensitivity of the visual receptors, results in a **moderate effect (lesser importance)**. There is unlikely to be a noticeable change from Year 1 to Year 10, as the proposed development will remain visible in the middle ground. As part of the mitigation plan, hedgerow planting with a small number of low growing hedgerow trees, will be introduced along the northern edge of the solar array and along the western site boundaries, and will be more mature by Year 10. However, this is unlikely to provide significant additional screening from this location, as planting will consist of shorter tree species and hedgerow infills which are unlikely to form enough of a vertical element to provide additional screening from this elevated view.

7.24 The proposed development will be partially visible within the middle ground of elevated long-distance views north from Hirwaun Common SLA (open access land), including the promoted Rhigos Viewpoint at Mynydd Beili-glas (Viewpoint 6). Whilst the site forms a small portion of the wider panoramic views available from this location, the PV panels will have their reflective sides oriented towards the south (i.e., towards the viewer) meaning they will form noticeable elements within the view. A separate glint and glare assessment has been prepared as part of the Rhigos Road Solar Farm planning application. However, this will be viewed at a distance of over 2km and in the context of existing energy infrastructure and industrial development to the north of the site. Views towards the Bannau Brycheiniog (Brecon Beacons) National Park in the distance will be

preserved and the overall character of the view will be unchanged in the longer term. Within these views the overall magnitude of change at Year 1 will be small, which combined with a high sensitivity of the visual receptors, results in a **moderate effect (lesser importance)**. There is unlikely to be a noticeable change from Year 1 to Year 10, as the proposed development within the western half of the site will remain visible in the middle ground. Whilst additional hedgerow infill and planting of trees along the northern, western and south-western boundary of the site will provide some additional screening and back clothing of the proposed development, this is unlikely to change the overall magnitude of change due to the elevation of the views; the proposed development will remain partially visible above this. Effects on views from Hirwaun Common are likely to be moderate (of lesser significance), since although views there are views towards the BBNP and the location is closer to the proposed development than Viewpoint 6, there are also more detracting features visible, including the open cast mining area.

7.25 Views towards the proposed development will be almost entirely screened in views from the local footpath passing through the landscape to the south-west of the site (Viewpoint 3). However, there are likely to be filtered views of the proposed PV panels within the south-west of the site, a Low Voltage Transformer in the west of the site and the perimeter fencing along the northern, western and the south-western boundaries of the site, particularly in winter months. Within these views the overall magnitude of change at Year 1 will be low, which combined with a medium sensitivity, results in a **minor effect (lesser importance)**. There is unlikely to be a noticeable change between Year 1 and Year 10, as views towards the proposed development will remain mostly screened from this footpath.

7.26 Views north-east towards the site from the footpath on sloping ground west of Tower Colliery (Viewpoint 8), are largely screened by intervening dense woodland and hedgerow vegetation. The proposed development is therefore unlikely to be visible in these views at both Year 1 and Year 10, resulting in a barely perceptible magnitude of change. Combined with the medium sensitivity of the visual receptors, this is judged to result in a **barely perceptible effect (lesser importance)**.

7.27 There will be occasional glimpsed sequential views towards proposed PV panels and perimeter fencing along the northern perimeter of the site available to users of a short section of National Cycle Route 46 (following Rhigos Road) to the north of the site (Viewpoint 2). The majority of the proposed development will however be mostly screened by intervening bunding, vegetation and buildings along the south side of Rhigos Road, resulting in a low magnitude of change. This, combined with a sensitivity judged to be at the lower end of medium, gives rise to a **minor effect (lesser importance)**. At Year 10, additional hedgerow infill and planting of trees along the north-western boundary of the site will provide additional screening, and further reduce effects on receptors. Although overall there will be no change to the assessment findings at Year 1.

Local community

7.28 Views towards the proposed development from the eastern edge of Rhigos (Viewpoints 4a and 4b), will be mostly screened from view by intervening landform and vegetation. The proposed PV panels will not exceed 3m in height and are therefore unlikely to be seen over the existing intervening hedgerows. This will result in an overall low magnitude of change, which alongside the medium sensitivity of the receptors, results in a **minor effect (lesser importance)**. There is unlikely to be a noticeable change from Year 1 to Year 10, as the proposed development will remain almost entirely screened by intervening landform and vegetation.

7.29 From properties along Rhigos Road located close to the north/north-western boundary of the site (those visible within Viewpoint 2), there are likely to be clear views towards the proposed PV panels in proximity within the north-west corner of the site. A single hedgerow (with trees) lies between the property curtilages and the site, offering only partial filtering to low-level views south. Whilst the proposed development will detract from views south towards an upland landscape (including the escarpment of Hirwaun Common), they will be seen in context with a series of existing large-scale transmission pylons and overhead electrical lines running across the foreground views from this location. This is likely to cause a medium to high magnitude of change, which combined with a medium sensitivity will result in a **moderate effect (greater importance)**. At Year 10 proposed planting along the northern and western boundary of the site will offer some additional screening to the PV panels located to the east of the site, which will serve to reduce the magnitude of change to medium and the overall effects to being **moderate (lesser importance)**.

7.30 Views east towards the site from scattered properties on Mount Road in the vicinity of Maesyffynon House (Viewpoint 5) are generally restricted by intervening landform and mature vegetation. This, along with a distance of over 1.95km, mean that the proposed development is unlikely to be visible from these properties. There will be a barely perceptible magnitude of change, which combined with the medium sensitivity of the receptors results in a **barely perceptible effect (lesser importance)**. There is unlikely to be a noticeable change from Year 1 to Year 10, as the proposed development will remain almost entirely screened by intervening landform and vegetation.

Road users

7.31 The proposed development will be visible in the middle ground of sequential views experienced by people travelling along Rhigos Road (the A4061) to the south-east of the site (Viewpoint 1). The PV panels will cover the majority of the site, with those to the north clearly visible on the rising topography. Other features of the proposed development that will be visible are the DNO and Customer Switchgear in the east of the site, Low Voltage Transformers, an access road and perimeter fencing along the site boundaries. However, the proposed PV panels will not exceed 3m in height and will not breach the skyline in the views (i.e., views towards the southern foothills and mountain ranges of Bannau Brycheiniog (Brecon Beacons), plus long-distance views to the north-west will remain). It will also be viewed in context of existing energy infrastructure and industrial development to the north of the site. Existing open cast mine workings are visible to the east of this viewpoint (not shown in the view). Overall, there will be a medium magnitude of change, which combined with a sensitivity judged to be at the lower end of medium, will result in a **moderate effect (lesser importance)**. There is unlikely to be much change from Year 1 to Year 10 in the views from the A4061, owing to the elevated nature of views.

7.32 As the road ascends the upland area of Hirwaun Common to the south, glimpsed partial views towards the proposed development will also be available (Viewpoint 6). Whilst the site forms a small portion of the wider panoramic views available from this location, the PV panels will have their reflective sides oriented towards the south (i.e., towards the viewer) meaning they will form noticeable elements within the view. However, this will be viewed at a distance of over 2km and in the context of existing energy infrastructure and industrial development. The focus of these distant views will remain the upland areas of the Bannau Brycheiniog (Brecon Beacons) National Park in the distance. Overall, there will be a small magnitude of change, which combined with a sensitivity at the upper end of medium, will result in a **moderate effect (lesser importance)**. There is unlikely to be a noticeable change from Year 1 to Year 10, as the proposed development within the

western half of the site will remain visible in the middle ground. Whilst additional hedgerow infill and planting of trees along the northern, western and south-western boundary of the site will provide some additional screening and back clothing of the proposed development, this is unlikely to change the overall magnitude of change due to the elevation of the views; the proposed development will remain partially visible above this.

7.33 In views from Rhigos Road to the north of the site (Viewpoint 2), the proposed development will be mostly screened by intervening bunding, vegetation and buildings. Occasional glimpsed views will be available towards the back of proposed PV panels and perimeter fencing along the northern perimeter of the site. However, these will be seen in context with a series of large-scale transmission pylons and overhead electrical lines running across views from this location. There will be a low magnitude of change which, combined with a sensitivity at the lower end of medium, will result in a **minor effect (lesser importance)**. At Year 10, views towards the proposed development will remain mostly screened from the A4061/Rhigos Road, as described above. Additional hedgerow infill and planting of trees along the northern and western boundaries of the site will provide additional screening, and further reduce effects on receptors.

Implications for the Special/ Primary Landscape Qualities and Features of Designated Landscapes

Bannau Brycheiniog (Brecon Beacons) National Park

7.34 Visibility of the proposed development from the Bannau Brycheiniog (Brecon Beacons) National Park will be limited to pockets of visibility in upland locations facing south towards the site (as shown on the ZTV **Figure 2**). Where visible, the proposed development will be seen as a distant man-made feature forming a small component of the panoramic views experienced from elevated locations within the BBNP. The proposed development will not detract from the diverse landscape within the BBNP, including the sweeping uplands, green valleys, dramatic waterfalls, ancient woodland, caves, forests, reservoirs or spectacular and distinctive upland landforms for which BBNP is designated. With regard to BBNP's special qualities, the proposed development is unlikely to affect the peace and tranquillity, sweeping grandeur and outstanding natural beauty, and the sense of discovery and vitality it affords. There will be a small difference to the extensive views experienced by prominent hilltops on the edge of the BBNP closest to the proposed development at Rhigos Road. The proposed development will introduce a low-lying man-made element into the lower valley area near Rhigos, framed by existing mature vegetation which will set adjacent to existing blocks of mature trees along field boundaries, which will help to visually accommodate the proposed development into the patchwork of fields in the lower valley landscape. The proposal will be seen in the context of other man-made elements such as industrial areas, open cast mining, electricity infrastructure and roads.

7.35 The representative viewpoint assessment from Moel Penderyn, in the national park, identified likely **moderate effects (of lesser importance)** during the construction and operation phases, with the proposed development viewed at a distance of some 2.5km, appearing as a small element in the view, and seen in the context of existing energy infrastructure, open cast mining and industrial development. It is likely these visual effects will diminish further with increased distance from the proposed development. Visual effects from locations in the national park that are closer to the proposed development but benefit from intervening topography and areas of trees and woodland that screen views towards the proposed development, are also likely to be of lesser significance.

7.36 Viewpoint 1: A4061 Rhigos Road and Viewpoint 6: Rhigos Viewpoint, indicate that the proposed development will be visible in some views towards the BBNP, particularly on the edge of the national park near Rhigos, and will result in localised **moderate visual effects (of lesser significance)**.

7.37 There will be no direct effects on the fabric of the designated landscape as a result of the proposals.

7.38 Overall, will not prejudice the values or integrity of this nationally designated landscape by adversely impacting on the special qualities for which it was designated.

Hirwaun Common Special Landscape Area

7.39 This SLA is situated 0.6km to the south of the site. The ZTV in **Figure 2** indicates relatively patchy theoretical visibility of the proposed development across a small proportion of the SLA. When viewed from the SLA, the proposed development at Rhigos Road will be set adjacent to existing blocks of mature trees along field boundaries, which will help to visually accommodate the proposed development into the patchwork of fields in the lower valley landscape. This in turn will reduce the landscape impact of the proposed development. The angle of view from elevated areas is such that the horizontal depth of the site is foreshortened. The proposed development will partly affect the attractive views out of the landscape unit, though it will be seen in most locations in the context of the open cast mine works which lies to the east of the proposed site; however, the primary landscape qualities and features, including its high scarp with steep glacial cirques and lake, the very dramatic scenery, spectacular views, intervisibility with peaks in the Bannau Brycheiniog (Brecon Beacons) National Park, geological features (Westphalian stratigraphy), areas of broadleaf woodland, opened up areas of forestry, common land with grassland and heathland, historic features and the Coed Morgannwg Way will remain.

7.40 Clearer views towards the proposed development are likely to be experienced from the escarpment edge within Hirwaun Common (SLA and open access land. Visual effects are judged to be **moderate (lesser significance)**.

7.41 There will be no direct effects on the fabric of the designated landscape as a result of the proposals.

7.42 Overall, whilst there will be some differences to views to and from the SLA, including those closest to the proposed development at Rhigos Road, it is concluded that likely effects resulting from the proposed development will not affect the primary landscape qualities and features of the area.

Cumulative Effects

Summary of Cumulative Landscape and Visual Effects

Scope

7.43 In response to the 2022 screening opinion from Rhondda Cynon Taf County Borough Council, this assessment has taken into account the existing photovoltaic farm at Hendre Fawr, and the consented solar PV development at Bryngolwg. Early studies demonstrated that there is little visual interaction between the proposed development and Hendre Fawr and cumulative effects will relate largely to the visibility of the consented Bryngolwg Solar Farm.

7.44 Large-scale improvements works to the A465 are currently underway, with works in Section 5 and 6 at Rhigos Junction (Rhigos Road / A465 roundabout) lying approximately 1km to the west of the site. Work commenced on this project in 2021, with an anticipated end date in 2025. This development was not included in the screening opinion from Rhondda Cynon Taf CBC, and the spatial separation of the developments, and the differences in temporal scope of the construction phases (16 weeks versus approximately 4 years) are such that the contribution of the proposed development to any cumulative effects are considered small and not significant.

Landscape effects

7.45 Although the consented solar PV development at Bryngolwg will inevitably increase the amount of development in the landscape around the site, the proposed development will be of similar prominence to, and will fit with the scale and appearance of it. In addition, the proposed development will be set adjacent to existing blocks of mature trees along field boundaries, which will help to visually accommodate the proposed development into the patchwork of fields in the lower valley landscape. It will not interact with the proposed development to the extent that there would be any additional effects on landscape character. There will be no additional cumulative landscape effects over and above those set out in Chapter 5 of this LVA.

Visual effects

7.46 In the majority of views from the surrounding landscape, there will be no additional cumulative effects related to the presence of the proposed development in combination with the consented Bryngolwg Solar Farm.

7.47 The public right of way that passes along the south-eastern site boundary of the consented Bryngolwg Solar Farm (near Viewpoint 3) is located immediately adjacent to the western boundary of the Bryngolwg site. The proposed PV panels within the south-east of the Bryngolwg Solar Farm site will be clearly visible across the middle ground of the view. Whilst this will cause a medium to high magnitude of change, it is due almost entirely to the visibility of the Bryngolwg Solar Farm rather than a cumulative impact related to the additional presence of the proposed development, which will be largely screened from view at this location. For this reason, there will be no additional cumulative effects related to the proposed development, and effects are judged to remain of **lesser importance**.

7.48 From the south-eastern edge of Rhigos, partial views will be available towards the consented Bryngolwg Solar Farm, which is located immediately adjacent to the western boundary of the site. Whilst this will cause a larger magnitude of change than set out above, it is due almost entirely to the visibility of the Bryngolwg Solar Farm rather than a cumulative impact related to the additional presence of the proposed development, which will be largely screened from view at this location. For this reason, there will be no additional cumulative effects related to the proposed development, and effects are judged to remain of **lesser importance**.

7.49 From the upper slopes of Mynydd Beili-glas near Hirwaun Common there will be partial views towards the proposed development and clear views towards the consented Bryngolwg Solar Farm, which is located to the west of the site. Whilst the two developments are likely to be viewed as a single larger solar PV development, owing to their proximity, cumulative impact will relate to the increased presence of built form within the view. Together the two developments will be visible as an area of PV panels (oriented southwards, towards the viewer) lying between the settlement of Rhigos and Rhigos Industrial Estate. This will increase the amount of development within the view,

albeit viewed in the wider context of a valley containing existing built development and energy infrastructure, including Hendre Fawr Solar Farm visible to the north-west, and the open cast mining areas to the east (not visible from this particular viewpoint, but visible from other locations in Hirwaun Common). Overall, there will be a higher magnitude of change than that set out for the proposed development in isolation, however this will relate largely to the visibility of the consented Bryngolwg Solar Farm from this viewpoint. It is judged that this will result in additional cumulative effects which will be of **moderate (higher importance)**. This will affect views from a promoted viewpoint with visual receptors being of a high sensitivity. Note that this cumulative effect will be lessened elsewhere, particularly in locations where the open cast mining areas to the east (south of Hirwaun) form part of the existing view.

7.50 From Moel Penderyn and surrounds, recreational receptors including users of the Bannau Brycheiniog (Brecon Beacons) National Park will have clear views towards both the proposed development and the consented Bryngolwg Solar Farm, which is located immediately to the west of the site. Whilst this will increase the amount of development visible within the view, it will be seen in the wider context of a relatively steep-sided valley with lower slopes comprising both areas of pasture and woodland, in addition to existing built development (residential and industrial areas, energy infrastructure and open cast mining). Scenic views towards the upland landscape in the distance to the south will also be preserved. Whilst cumulatively there will be a larger magnitude of change than that set out for the proposed development in isolation above, this is judged to remain of **lesser importance overall**.

Cumulative Implications on Designated Landscapes

7.51 There will be visibility of the proposed development and the consented solar PV development at Bryngolwg (location shown on Figure 8) in views to and from the Bannau Brycheiniog (Brecon Beacons) National Park and the Hirwaun Common SLA. When viewed from the BBNP, the proposed development at Rhigos Road will be seen at a similar distance from the consented solar PV development at Bryngolwg, be of similar prominence to, and will fit with the scale and appearance of it. In addition, the proposed development will be set adjacent to existing blocks of mature trees along field boundaries, which will help to visually accommodate the proposed development into the patchwork of fields in the lower valley landscape. This in turn will reduce the landscape impact of the proposed development. The angle of view from elevated areas is such that the horizontal depth of both sites is foreshortened. The addition of the proposed development to a landscape containing this other cumulative scheme will therefore make a small difference to some of the views to and from the landscape of the BBNP, particularly on the edge of the national park near Rhigos. From the Hirwaun Common Special Landscape Area, for the same reasons set out above, the proposals will make a small difference to views from the Hirwaun Common SLA.

7.52 Views from the elevated northern edge of Hirwaun Common SLA, where views of the cumulative developments are uninterrupted, will experience a higher magnitude of change and **moderate (higher importance)** effects will result. Cumulatively however, visual effects on designated landscapes are judged to remain of **moderate (lesser importance) overall**.

7.53 There will be no direct effects on the fabric of the designated landscapes as a result of the proposals.

Appendix A

ZTV and Visualisation Methodology

This appendix outlines the methodologies for the production of the ZTV and visualisations

Zone of Theoretical Visibility (ZTV) Mapping

A.1 Evaluation of the theoretical extent to which the proposed development will be visible within a 5km radius, was undertaken by establishing a Zone of Theoretical Visibility (ZTV) using ESRI's ArcMap 10.8.1 software. This software (Spatial Analyst/Visibility tool) enables the calculation of the theoretical visibility of the proposed development from their surroundings. The analysis was performed on a 'bare ground' computer generated digital terrain model (DTM), with additional screening for buildings and woodland. The DTM used for the analysis is OS Terrain 5 height data, obtained in August 2022. The root-mean-square error (RMSE) of this data is 2m. The DTM data is represented by 5m x 5m grids, which means that the software calculates visibility from the centre point of each 5m x 5m grid/square area. It should be noted that the software uses point height data, rather than continuous data, and assumes straight line topography between data points, and is therefore not able to take account of small scale, less than 5m in width, topographic features. As it uses a 'bare ground' model, it is considered to over emphasise the extent of potential visibility and therefore represents a 'maximum potential visibility' scenario.

A.2 The used DTM data has not been down-sampled or otherwise altered (i.e. by the addition of local surface screening features) for the production of the ZTV. We have not identified any significant discrepancies between the used DTM and the actual topography around the study area. The effect of earth curvature and light refraction has been included in the ZTV analysis and a viewer height of 2m above ground level has been used.

Visualisations

Viewpoint Photography

A.3 Photographs were taken in November 2022, in full compliance with Landscape Institute Technical Guidance Note 06/19^[1]. The camera used for the photography was a Nikon D750 full-frame digital SLR with a fixed 50mm focal length lens.

A.4 A tripod with vertical and horizontal spirit levels was used to provide stability and to ensure a level set of adjoining images. A panoramic head was used to ensure the camera rotated about the no-parallax point of the lens in order to eliminate parallax errors between the successive images and enable accurate stitching of the images. The camera was moved through increments of 15 degrees and rotated through a full 360 degrees at each viewpoint. 16 photographs were taken for each 360 degree view.

A.5 The Ordnance Survey coordinates of each viewpoint location were recorded with a GPS device and a photograph of the tripod position was taken in accordance with Landscape Institute guidance.

A.6 Weather conditions and visibility were considered an important aspect of the field visits for the photography. Where possible, visits were planned around clear days with good visibility. Viewpoint locations were visited at times of day to ensure, as far as possible, that the sun lit the scene from behind, or to one side of the photographer. South facing viewpoints can present problems particularly in winter when the sun is low in the sky and the sun is directly in the view, causing glare.

Photograph Stitching, Wireframes and Photomontages

A.7 PTGui© software was used to stitch together the adjoining images to create wider panoramic images of the development site and wider landscape.

A.8 43D Topos© software was used to create an accurate and reliable Digital Terrain Model (DTM) of the site and surrounding topography using Ordnance Survey Terrain 5 height data.

A.9 Viewpoints were micro-sited using hi-resolution aerial photography alongside the GPS photography positions and on-site tripod photographs. Views were then created within the software which replicated the camera parameters and perspective geometry of the baseline photography.

A.10 The proposed development layout provided to LUC was a combination of shape files and PDF plans. These were geo-referenced and the outline area where the solar PV array is proposed was digitised and added to the DTM. This outline area was then extruded to 2.9m above the topography surface to match the proposed maximum height of the Solar Panels within the development.

A.11 The next stage required the Topos view exports to be composited with the baseline photography using Adobe Photoshop© software to create the visualisations.

A.12 Adobe InDesign© software was used to present the figures. In order to illustrate the wider landscape and visual context the first image of each figure presents the baseline panorama, followed by the visualisation at 90 degree horizontal field of view. For baseline only views, the theoretical visible extents of the solar PV array have been indicated on an image with a 90 degree horizontal field of view.

^[1] Landscape Institute (2019) Technical Guidance Note 06/19: Visual Representation of Development Proposals.

Appendix B

Figures and Visualisations

Figure 1 – Site Location and LVA Study Area (5km radius study)

Figure 2 – Solar Farm Zone of Theoretical Visibility (ZTV) and Viewpoint Locations

Figure 3 – Site Topography

Figure 4 – Designated Landscapes

Figure 5 – Landscape Units (LANDMAP)

Figure 6 – Visual Receptors

Figure 7 – Proposed Development

Figure 8 - Other Proposed and Consented Developments within Study Area

Figure 9a & 9b – Viewpoint 1: A4061, Rhigos Road (Photograph and Visualisation)

Figure 10a – Viewpoint 2: Rhigos Road – Cynlas Drive

Figure 10b – Viewpoint 3: Public Footpath nr Ty Draw Farm

Figure 11a – Viewpoint 4a: Hoel Gwrangfryn – Rhigos

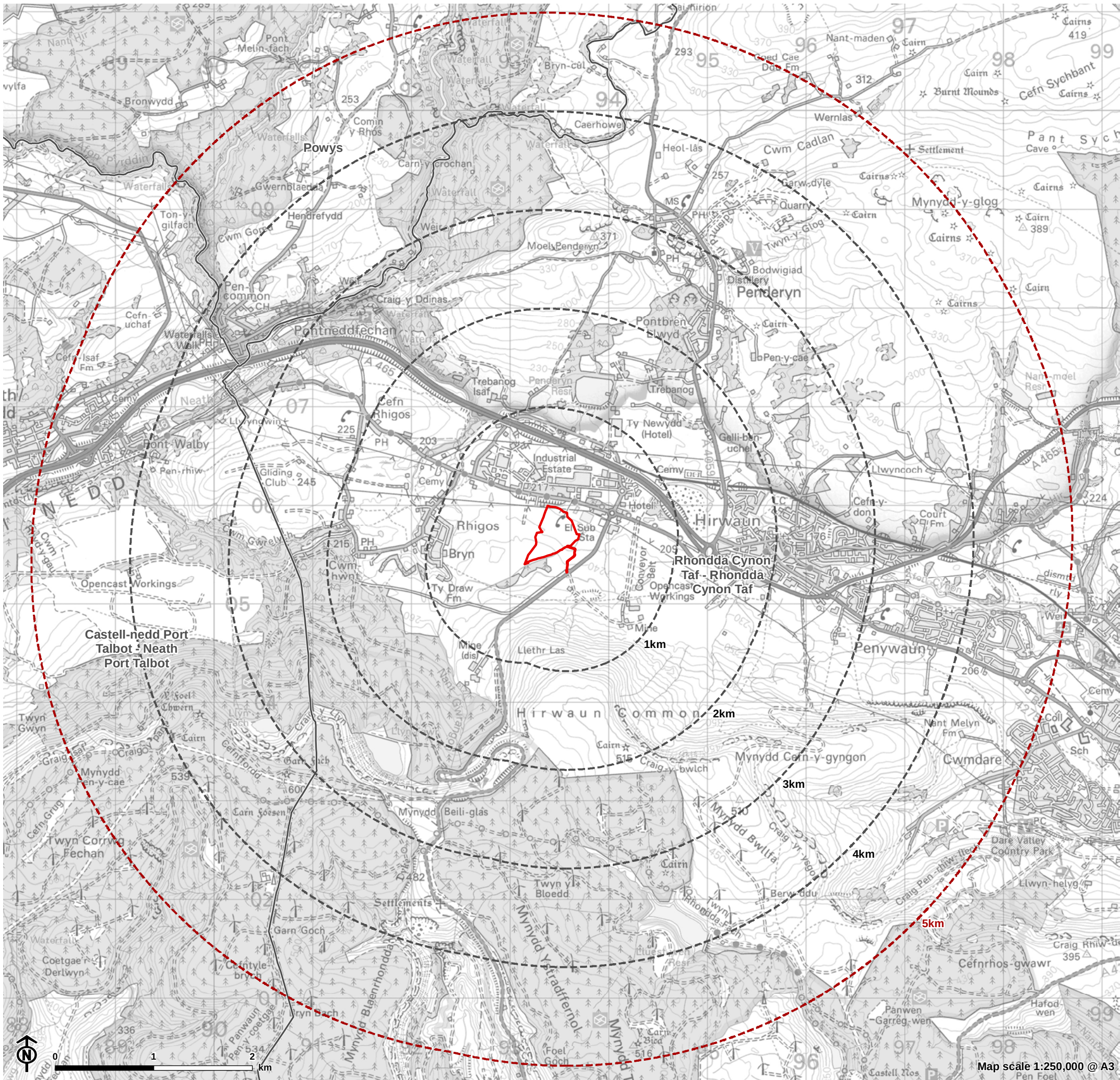
Figure 11b – Viewpoint 4b: Hoel Esgyn - Rhigos

Figure 12 – Viewpoint 5: Maesyffynon

Figure 13a, 13b & 13c – Viewpoint 6: A4061, Rhigos Viewpoint

Figure 14a, 14b & 14c – Viewpoint 7: Moel Penderyn (Photograph and Visualisation)

Figure 15 – Viewpoint 8: PRow Glyncastle Forest

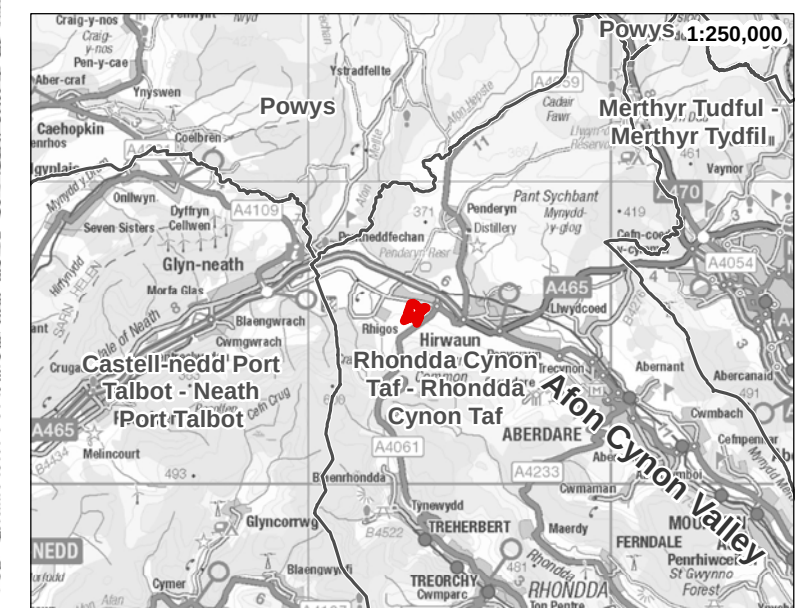


Rhigos Road Solar Farm
for Regener8 Power



Figure 1: Site Location and LVA Study Area

- Site Boundary
- Study Area
- Buffer - 1km interval
- Local Authority boundary



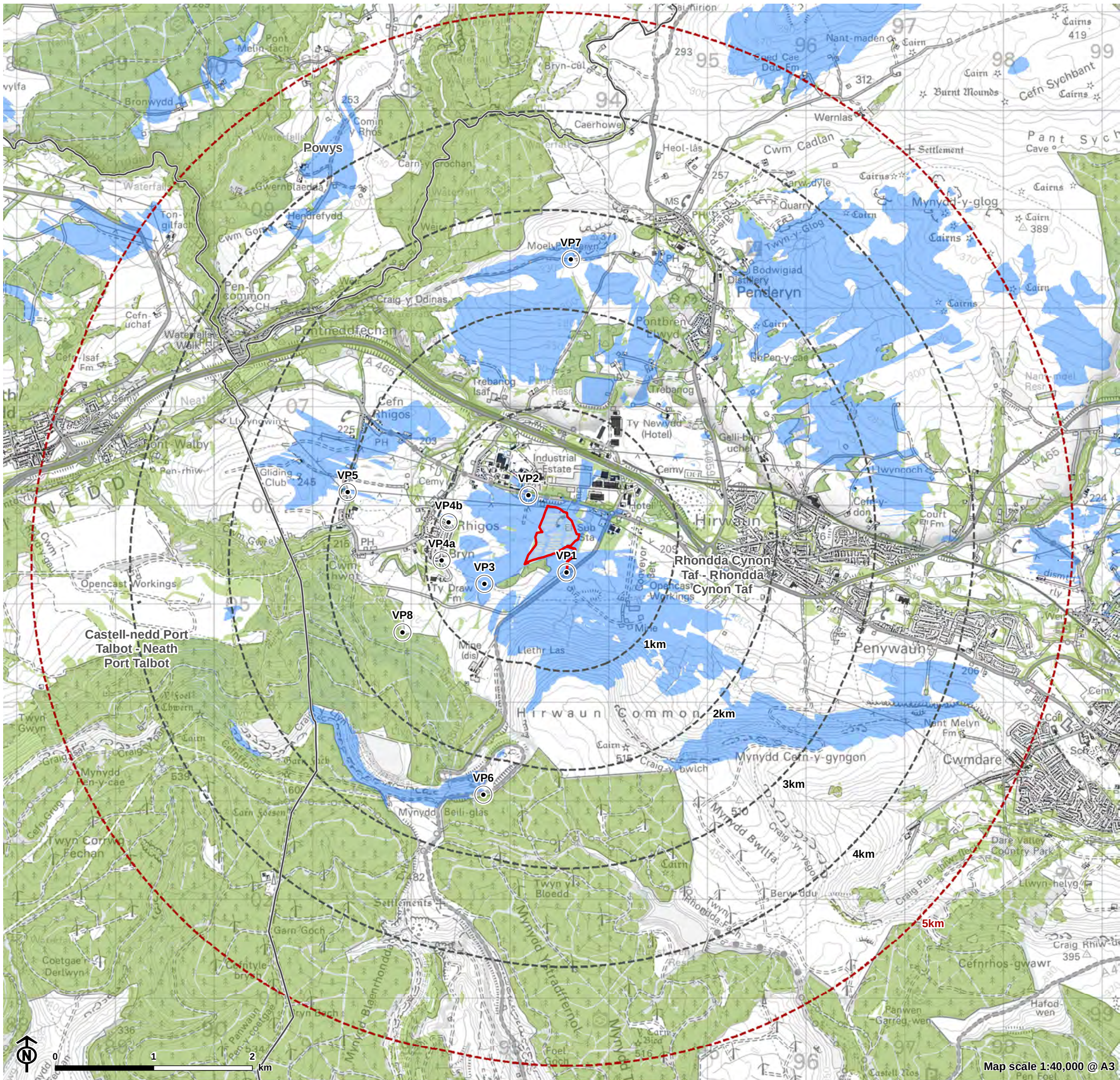


Figure 2: Solar Farm Zone of Theoretical Visibility (ZTV) and Viewpoint Locations

Site Boundary

Study Area

Buffer - 1km interval

Local Authority boundary

Solar Panels

Visibility with woodland and building screening

Screening Feature

Building

Woodland

Viewpoint

VP1: A4061 Rhigos Road

VP2: Rhigos Road / Cynlas Drive

VP3: Public Footpath Ty Draw Farm

VP4a: Hoel Gwvangfryn FP

VP4b: Hoel Esgyn

VP5: Maesyffynon (Cumulative)

VP6: Rhigos Viewpoint

VP7: Moel Penderyn

VP8: PRoW

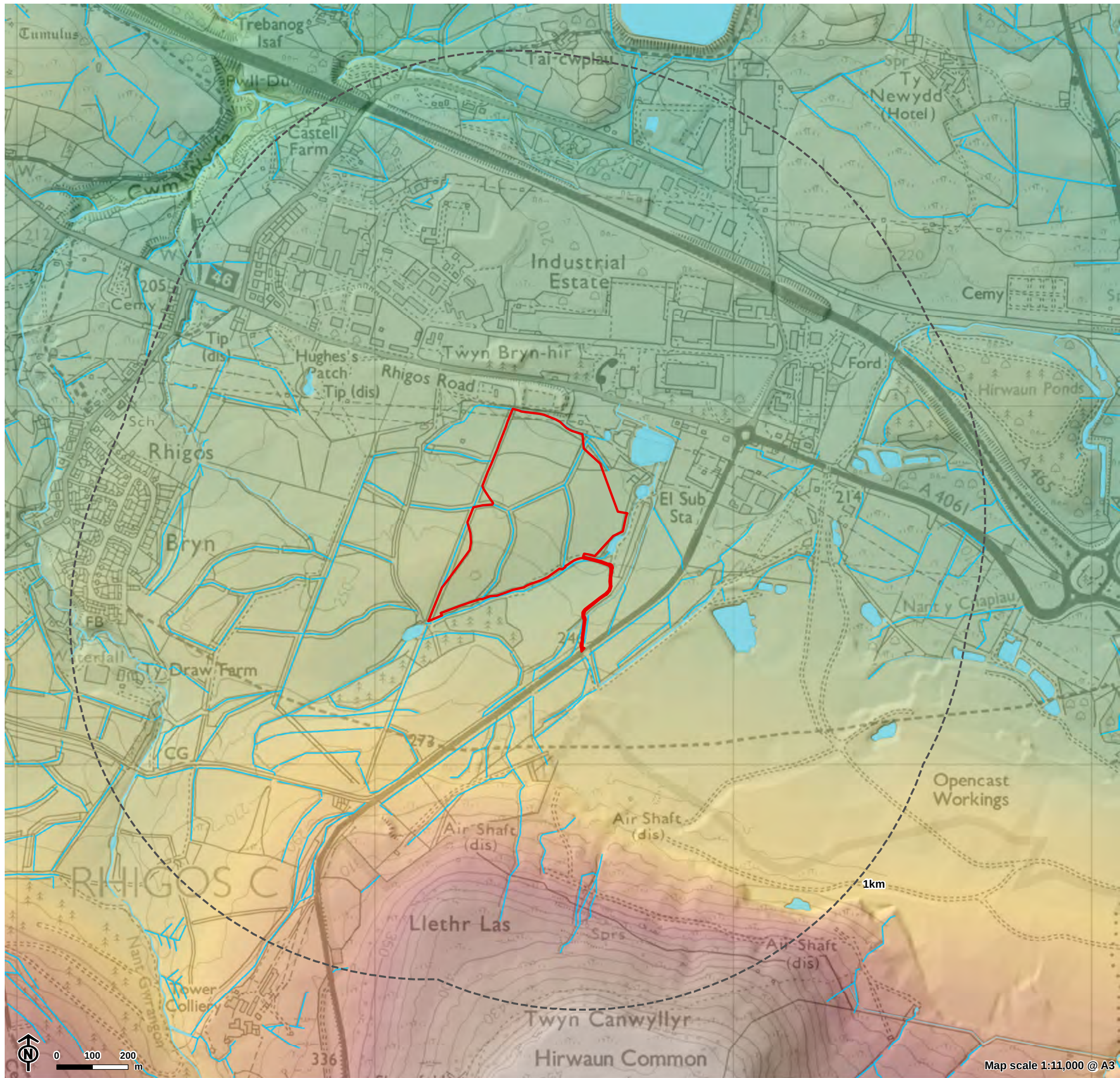
Notes:

The ZTV is calculated from a viewing height of 2m above ground level to the following values, Solar Panels (2.856m), Customer Switchgear (2.264m), DNO Substation (2.314m), TX Stations (2.445m), Perimeter Fence (2.05m).

The terrain model is derived from OS Terrain 5 height data (obtained from Ordnance Survey in August 2022) and assumes bare ground with additional screening for woodland (15m) and buildings (7.5m). Earth curvature and atmospheric refraction have been taken into account. The ZTV was calculated using ArcMap 10.8.1 software.

© Crown copyright and database rights 2023 Ordnance Survey 0100031673

CB:RW EB:Willshear_R LUC 12057_FIG_2_r0_ZTV_A3L 13/04/2023
Source: OS, LUC, RP



Rhigos Road Solar Farm
for Regener8 Power



Figure 3: Site Topography

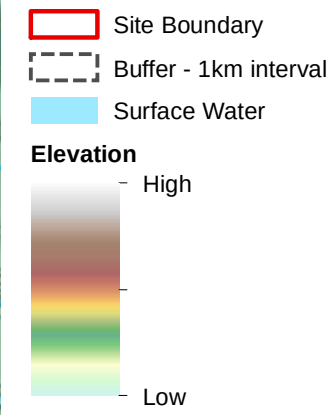
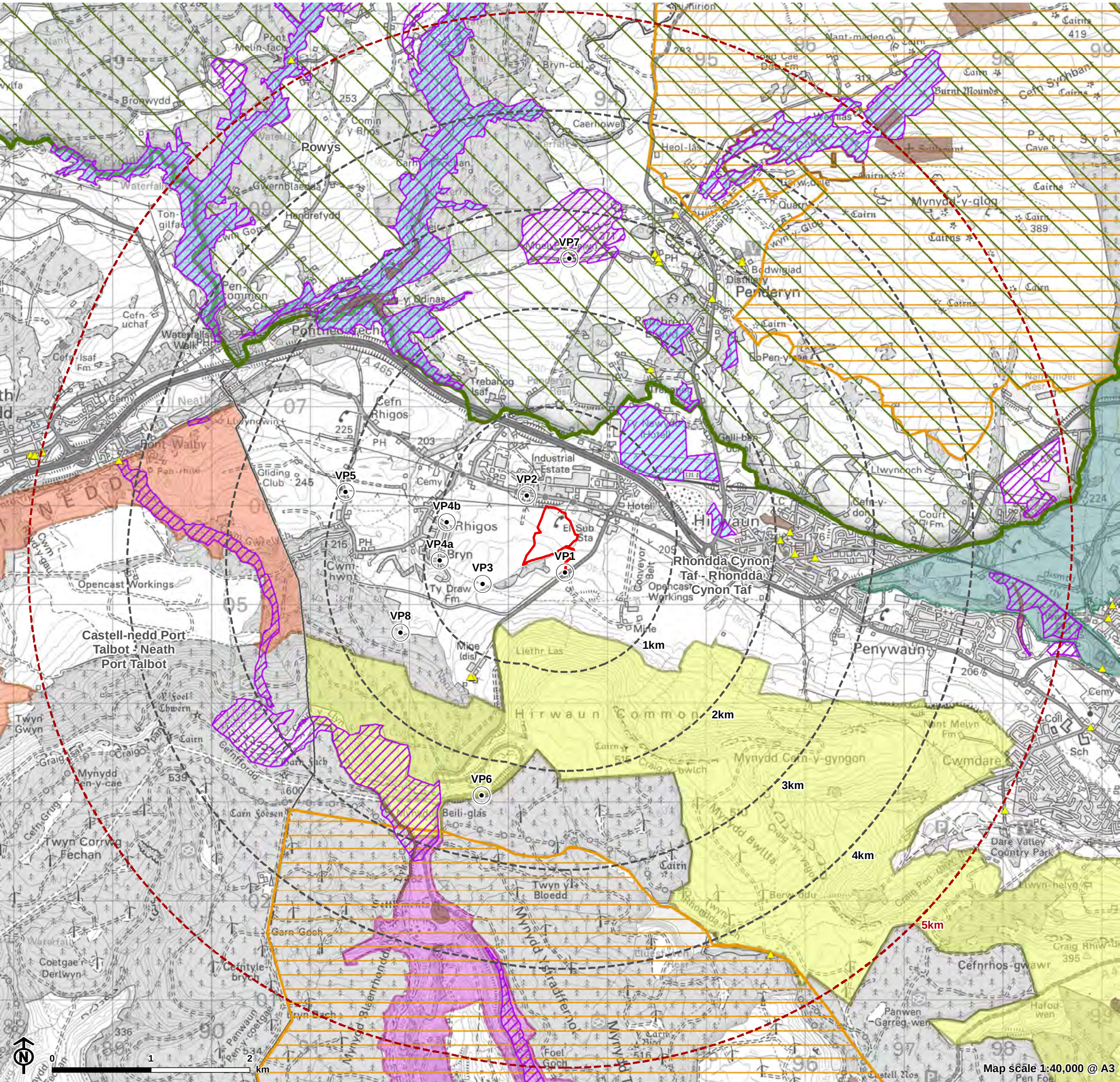


Figure 4: Designated Landscapes



- Site Boundary
- Study Area
- Buffer - 1km interval
- Local Authority boundary
- National Park
- Special Site of Scientific Interest (SSSI)
- Special Area of Conservation (SAC)
- National Nature Reserve (NNR)
- Scheduled monument
- Historic Landscapes

Listed building

- Grade II

Special Landscape Area

- Brecon Beacons Edge at Llwydcoed
- Hirwaun Common, Cwm Dare & Cwm Aman
- Rhondda Fawr Northern Cwm & Slopes
- Vale of Neath

- Viewpoint

- VP1: A4061 Rhigos Road
- VP2: Rhigos Road / Cynlas Drive
- VP3: Public Footpath Ty Draw Farm
- VP4a: Hoel Gwraigfryn FP
- VP4b: Hoel Esgyn
- VP5: Maesyffynon (Cumulative)
- VP6: Rhigos Viewpoint
- VP7: Moel Penderyn
- VP8: PRoW

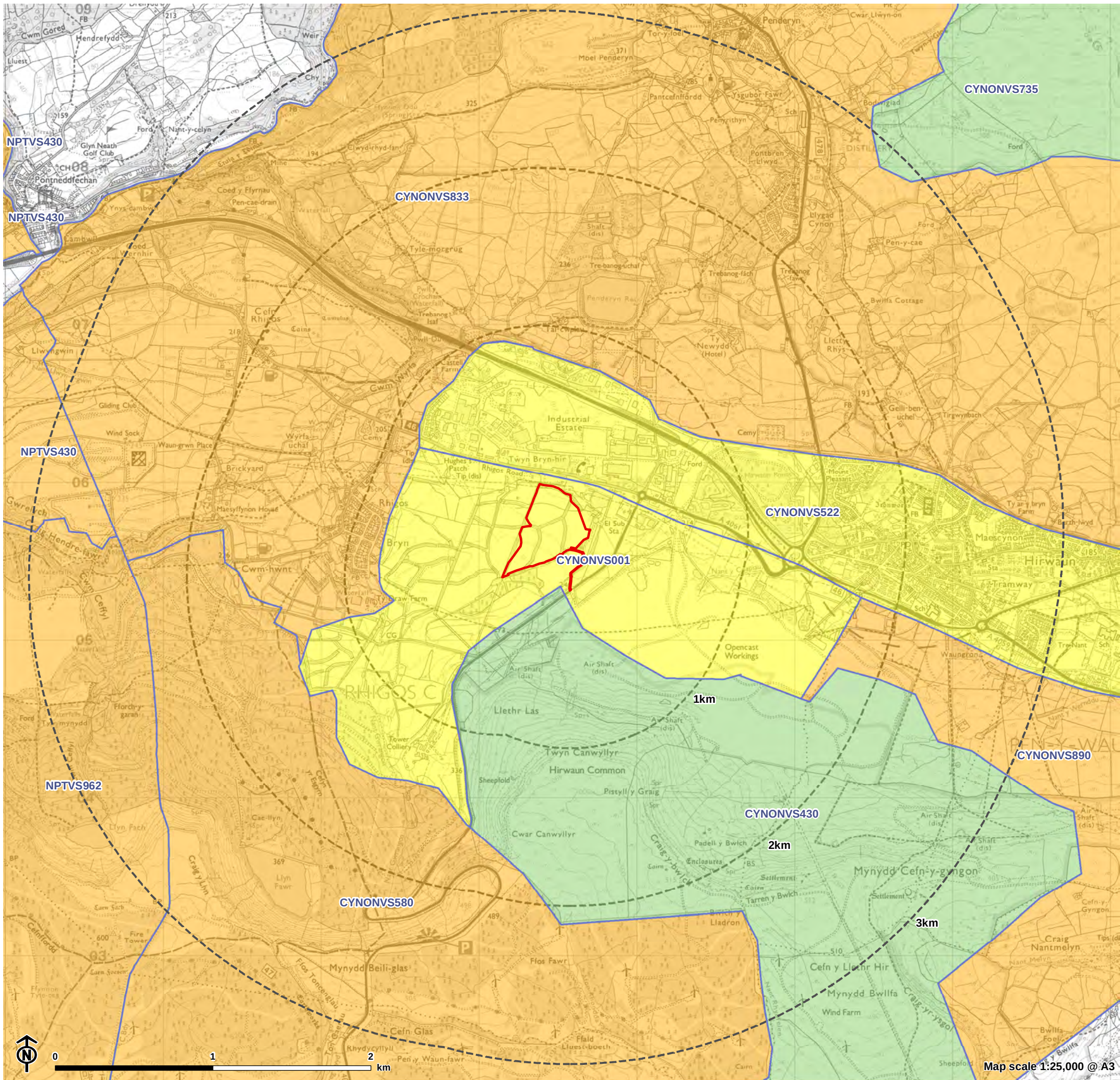


Figure 5: Landscape Units

- Site Boundary
- VSAA Search Area - 3km
- Buffer - 1km interval

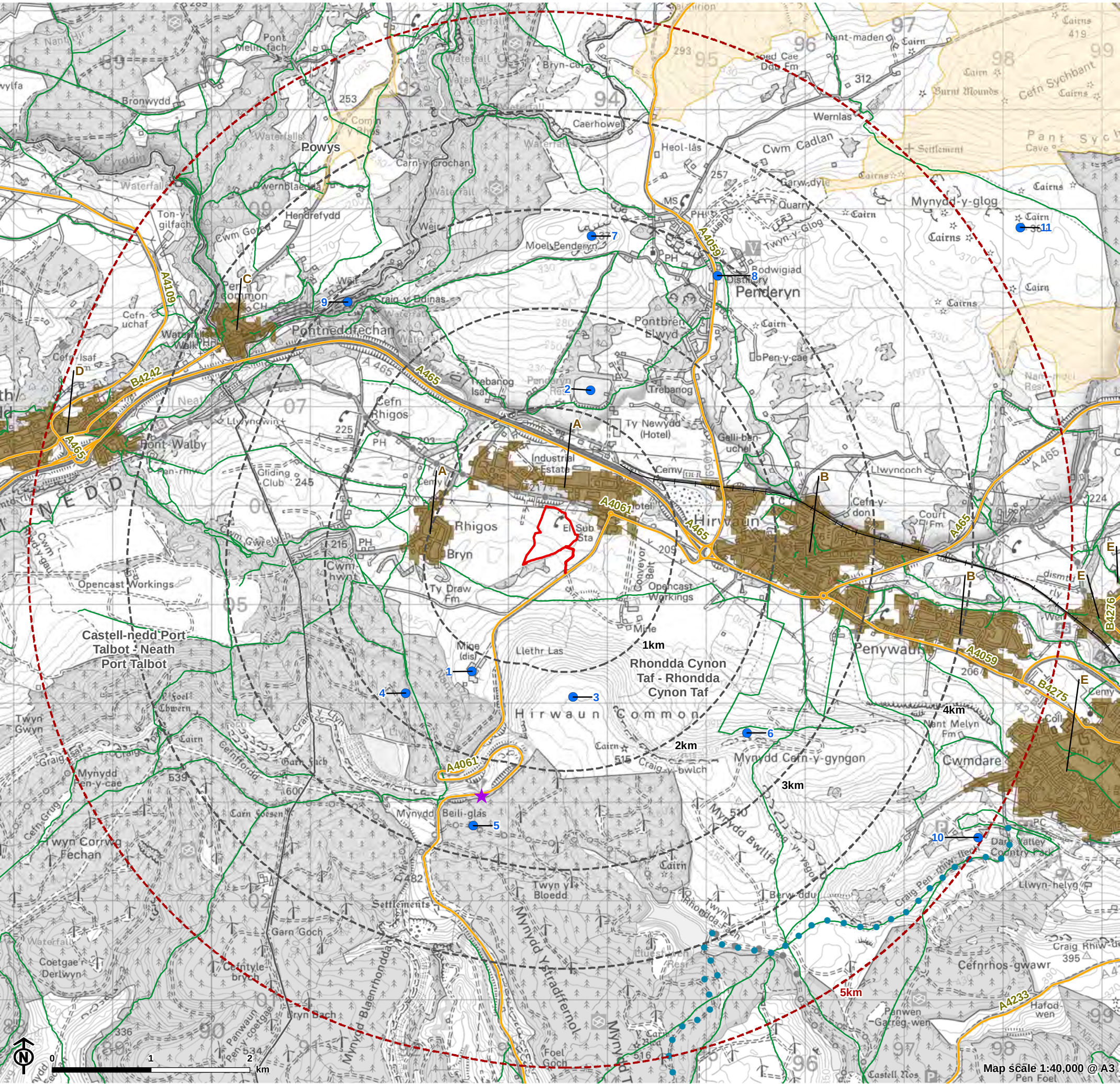
LANDMAP - Visual and Sensory

Overall Evaluation

- High
- Moderate
- Low

Notes:
Aspect areas not shown have been filtered out (based on NRW's filtering process) – some of these have still been assessed in the LVIA if they overlap with Historic Landscape Aspect Areas that have been filtered in and/or are located within a Special Landscape Area

Figure 6: Visual Receptors

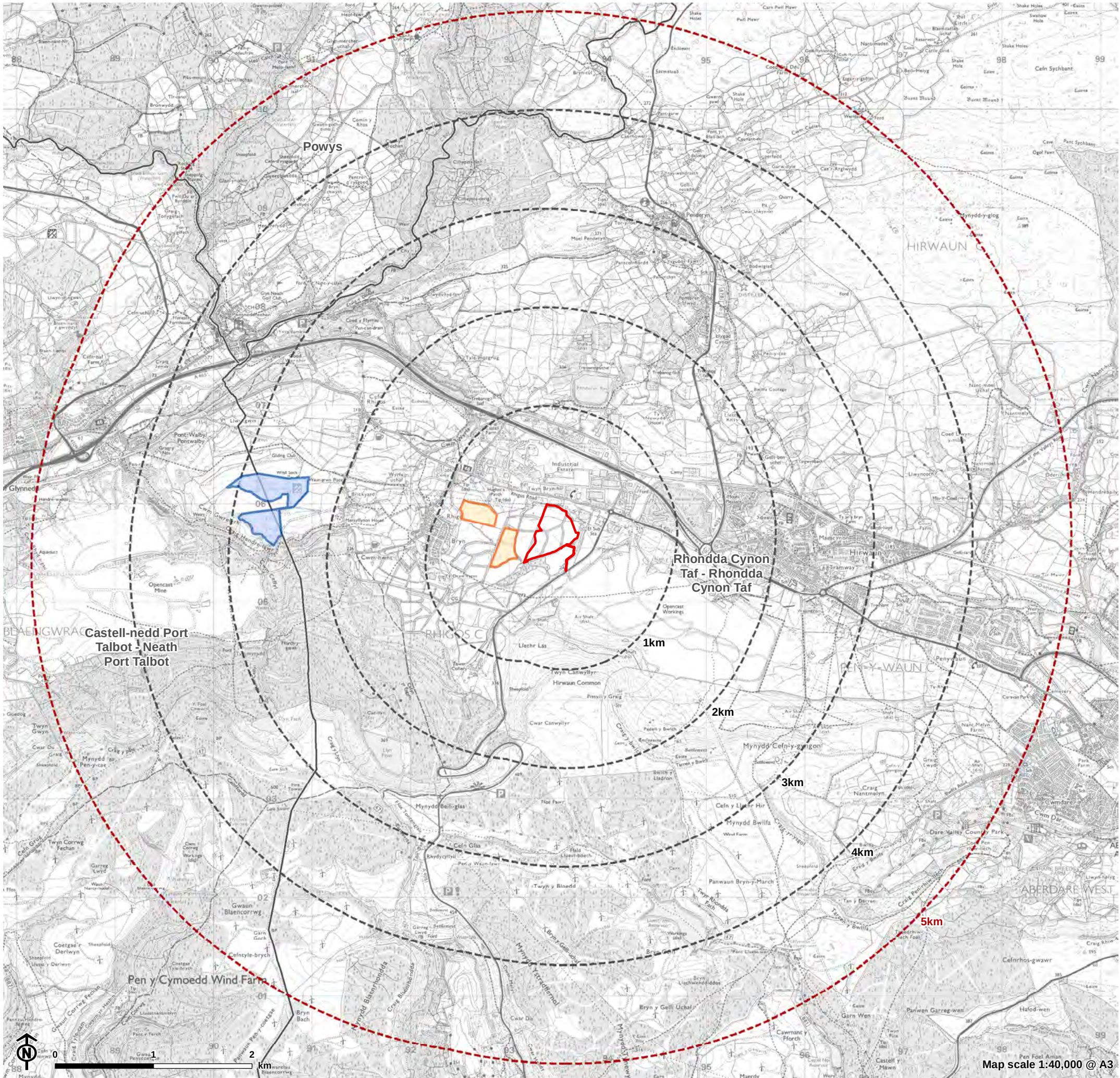


- Site Boundary
- Study Area
- Buffer - 1km interval
- Local Authority boundary
- Major Road
- Railway
- Open Access - Common Land
- Public right of way
- Long Distance Trail - Sky To Sea Walk
- Promoted Viewpoint - Rhigos Viewpoint (VP6)
- Visitor Attractions and Popular Hill Summits
- 1: Tower Colliery
- 2: Penderyn Reservoir
- 3: Hirwaiun Common
- 4: Cefn yr Esgryn
- 5: Mynydd Beili-glas
- 6: Mynydd Cefn-y-gyngon
- 7: Moel Penderyn
- 8: Distillery near Penderyn
- 9: Criad y Ddinas Hillfort (Dinas Rock)
- 10: Dare Valley Country Park
- 11: Mynydd-y-glog
- Local Communities
- A: Rhigos
- B: Hirwaun
- C: Pontneddfechan
- D: Glyn-neath
- E: Aberdare



Figure 7: Proposed Development

- Site Boundary
- Perimeter Fence
- Solar Panel
- Customer Switchgear Enclosure
- DNO Enclosure
- LV Transformer Station
- Access Road



Rhigos Road Solar Farm
for Regener8 Power



Figure 8: Other Proposed and Consented Developments
within Study Area

- Site Boundary
- Study Area
- Buffer - 1km interval
- Local Authority boundary
- Cumulative Solar Schemes**
- Hendre Fawr Farm (Existing)
- Bryngolwg (Consented)



Baseline Photograph



OS reference:	293562 E 205314 N
AOD (Above Ordnance Datum):	246 m
Direction of view:	335°
Horizontal field of view:	90° (cylindrical projection)

Vertical field of view:	27°
Image Enlargement Factor:	96%
Paper size:	841 x 297 mm (half A1)
Correct printed image size:	820 x 250 mm

Camera:	NIKON D750
Lens:	Nikkor AF 50mm f/1.8D
Camera height:	1.5 m (above AOD)
Date and time:	20/09/2022 12:17



Landscape Institute Visualisation Type: 4 showing proposed PV Layout areas extruded to maximum 2.9m frame height above AOD

	OS reference:	293562 E 205314 N	Vertical field of view:	27°	Camera:	NIKON D750
	AOD (Above Ordnance Datum):	246 m	Image Enlargement Factor:	96%	Lens:	Nikkor AF 50mm f/1.8D
	Direction of view:	335°	Paper size:	841 x 297 mm (half A1)	Camera height:	1.5 m (above AOD)
	Horizontal field of view:	90° (cylindrical projection)	Correct printed image size:	820 x 250 mm	Date and time:	20/09/2022 12:17



Landscape Institute Visualisation Type: 1 Annotated Baseline Photograph



OS reference: 293197 E 206100 N
AOD (Above Ordnance Datum): 219 m
Direction of view: 142°
Horizontal field of view: 90° (cylindrical projection)

Vertical field of view: 27°
Image Enlargement Factor: 96%
Paper size: 841 x 297 mm (half A1)
Correct printed image size: 820 x 250 mm

Camera: NIKON D750
Lens: Nikkor AF 50mm f/1.8D
Camera height: 1.5 m (above AOD)
Date and time: 20/09/2022 17:04



Landscape Institute Visualisation Type: 1 Annotated Baseline Photograph



OS reference:	292757 E 205208 N
AOD (Above Ordnance Datum):	251 m
Direction of view:	61°
Horizontal field of view:	90° (cylindrical projection)

Vertical field of view:	27°
Image Enlargement Factor:	96%
Paper size:	841 x 297 mm (half A1)
Correct printed image size:	820 x 250 mm

Camera:	NIKON D750
Lens:	Nikkor AF 50mm f/1.8D
Camera height:	1.5 m (above AOD)
Date and time:	20/09/2022 14:09



Landscape Institute Visualisation Type: 1 Annotated Baseline Photograph



OS reference: 292259 E 205446 N
AOD (Above Ordnance Datum): 243 m
Direction of view: 70°
Horizontal field of view: 90° (cylindrical projection)

Vertical field of view: 27°
Image Enlargement Factor: 96%
Paper size: 841 x 297 mm (half A1)
Correct printed image size: 820 x 250 mm

Camera: NIKON D750
Lens: Nikkor AF 50mm f/1.8D
Camera height: 1.5 m (above AOD)
Date and time: 20/09/2022 16:17



Landscape Institute Visualisation Type: 1 Annotated Baseline Photograph



OS reference:	292389 E 205826 N
AOD (Above Ordnance Datum):	231 m
Direction of view:	77°
Horizontal field of view:	90° (cylindrical projection)

Vertical field of view:	27°
Image Enlargement Factor:	96%
Paper size:	841 x 297 mm (half A1)
Correct printed image size:	820 x 250 mm

Camera:	NIKON D750
Lens:	Nikkor AF 50mm f/1.8D
Camera height:	1.5 m (above AOD)
Date and time:	20/09/2022 13:42



Landscape Institute Visualisation Type: 1 Annotated Baseline Photograph



OS reference: 291357 E 206127 N
AOD (Above Ordnance Datum): 219 m
Direction of view: 82°
Horizontal field of view: 90° (cylindrical projection)

Vertical field of view: 27°
Image Enlargement Factor: 96%
Paper size: 841 x 297 mm (half A1)
Correct printed image size: 820 x 250 mm

Camera: NIKON D750
Lens: Nikkor AF 50mm f/1.8D
Camera height: 1.5 m (above AOD)
Date and time: 20/09/2022 15:56



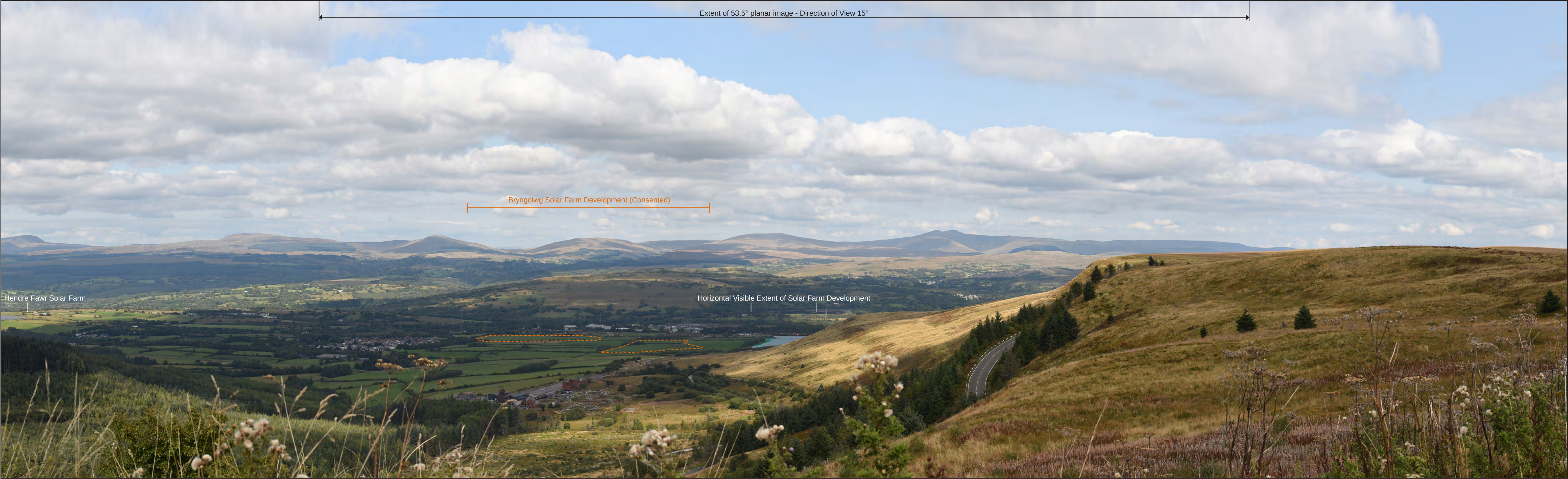
Baseline Photograph



OS reference:	292638 E 203099 N
AOD (Above Ordnance Datum):	491 m
Direction of view:	15°
Horizontal field of view:	90° (cylindrical projection)

Vertical field of view:	27°
Image Enlargement Factor:	96%
Paper size:	841 x 297 mm (half A1)
Correct printed image size:	820 x 250 mm

Camera:	NIKON D750
Lens:	Nikkor AF 50mm f/1.8D
Camera height:	1.5 m (above AOD)
Date and time:	20/09/2022 13:04



Landscape Institute Visualisation Type: 4 showing proposed PV Layout areas extruded to maximum 2.9m frame height above AOD

	OS reference:	292638 E 203099 N	Vertical field of view:	27°	Camera:	NIKON D750
	AOD (Above Ordnance Datum):	491 m	Image Enlargement Factor:	96%	Lens:	Nikkor AF 50mm f/1.8D
	Direction of view:	15°	Paper size:	841 x 297 mm (half A1)	Camera height:	1.5 m (above AOD)
	Horizontal field of view:	90° (cylindrical projection)	Correct printed image size:	820 x 250 mm	Date and time:	20/09/2022 13:04



Landscape Institute Visualisation Type: 4 showing proposed PV Layout areas extruded to maximum 2.9m frame height above AOD



OS reference: 292638 E 203099 N
AOD (Above Ordnance Datum): 491 m
Direction of view: 15°
Horizontal field of view: 53.5° (planar projection)

Vertical field of view: 18.2°
Image Enlargement Factor: 150%
Paper size: 841 x 297 mm (half A1)
Correct printed image size: 820 x 250 mm

Camera: NIKON D750
Lens: Nikkor AF 50mm f/1.8D
Camera height: 1.5 m (above AOD)
Date and time: 20/09/2022 13:04



Baseline Photograph



OS reference:	293605 E 208490 N
AOD (Above Ordnance Datum):	331 m
Direction of view:	180°
Horizontal field of view:	90° (cylindrical projection)

Vertical field of view:	27°
Image Enlargement Factor:	96%
Paper size:	841 x 297 mm (half A1)
Correct printed image size:	820 x 250 mm

Camera:	NIKON D750
Lens:	Nikkor AF 50mm f/1.8D
Camera height:	1.5 m (above AOD)
Date and time:	20/09/2022 11:20



Landscape Institute Visualisation Type: 4 showing proposed PV Layout areas extruded to maximum 2.9m frame height above AOD

	OS reference:	293605 E 208490 N	Vertical field of view:	27°	Camera:	NIKON D750
	AOD (Above Ordnance Datum):	331 m	Image Enlargement Factor:	96%	Lens:	Nikkor AF 50mm f/1.8D
	Direction of view:	180°	Paper size:	841 x 297 mm (half A1)	Camera height:	1.5 m (above AOD)
	Horizontal field of view:	90° (cylindrical projection)	Correct printed image size:	820 x 250 mm	Date and time:	20/09/2022 11:20



Landscape Institute Visualisation Type: 4 showing proposed PV Layout areas extruded to maximum 2.9m frame height above AOD



OS reference: 293605 E 208490 N
AOD (Above Ordnance Datum): 331 m
Direction of view: 180°
Horizontal field of view: 53.5° (planar projection)

Vertical field of view: 27°
Image Enlargement Factor: 150%
Paper size: 841 x 297 mm (half A1)
Correct printed image size: 820 x 250 mm

Camera: NIKON D750
Lens: Nikkor AF 50mm f/1.8D
Camera height: 1.5 m (above AOD)
Date and time: 20/09/2022 11:20



Landscape Institute Visualisation Type: 1 Annotated Baseline Photograph



OS reference:	291915 E 204709 N
AOD (Above Ordnance Datum):	267 m
Direction of view:	20°
Horizontal field of view:	90° (cylindrical projection)

Vertical field of view:	27°
Image Enlargement Factor:	96%
Paper size:	841 x 297 mm (half A1)
Correct printed image size:	820 x 250 mm

Camera:	NIKON D750
Lens:	Nikkor AF 50mm f/1.8D
Camera height:	1.5 m (above AOD)
Date and time:	20/09/2022 15:09