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LANDSCAPE ARCHITECTS

Brynwell Farm Solar Project

Landscape and Visual Impact Assessment

Prepared for Brynwell Farm Solar Limited

11th March 2021

NOTE:

This report to be read in conjunction with the accompanying reports:

LVIA Plans and Representative Views

Landscape and Ecology Management Plan (LEMP)

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1. CONTENTS

2. EXECUTIVE SUMMARY

2.1.1. This report supersedes an earlier LVIA produced in October 2020. It has been updated to assess the reduction in visual effects of removing solar panels from the southern end of the site as well as seven additional viewpoints added to show the effects in a winter condition.

2.1.2. Richard Sneesby Landscape Architects were approached by Savills to complete Landscape and Visual Impact Assessment (LVIA) documentation in support of a solar energy production site at Brynwell Farm, Leckwith (hereinafter referred to as 'The Site'). This LVIA Report assesses the landscape and visual effects of the *"Installation of a solar farm comprising ground mounted solar PV panels with a net installed generating capacity (AC) of up to 25 MW, including mounting system, battery storage units, inverters, underground cabling, grid connection hub, stock proof fence, CCTV, internal tracks and associated infrastructure, landscaping and environmental enhancements, for a temporary period of 40 years"* upon surrounding receptors.

2.1.3. The Site lies upon an elevated plateau which sits above the surrounding landscape. It contains 10 field enclosures, all surrounded by native species hedges. The perimeter of the site contains many large trees and there are woodland belts along the south-west sector of the site, along the southern boundary, and running north through the middle of the site. The immediate area is isolated both physically and visually from its surroundings. It contains just a few isolated buildings and two footpaths with potential views towards the site. The ridgelines to the west, north-east and east are covered with woodland.

2.1.4. The site lies within the National Landscape Character Area 36: Bro Morgannwg/Vale of Glamorgan. At a more local level, the site lies within the Landscape Character Area: Cwrt yr Ala Valley.

2.1.5. The assessment has revealed the following conclusions and includes recommendations to reduce adverse effects described in this report.

Effects upon landscape character

2.1.6. The site has a moderate sensitivity to solar farm development: "These beneficial or adverse effects are important but are not likely to be key decision-making factors. The cumulative effects of such issues may become a decision- making issue if leading to an increase in the overall adverse effect on a particular resource or receptor".

2.1.7. The site has a hidden quality and is well-screened from the surrounding area, minimising potential effects upon landscape character. There are no proposed changes to defined field boundary patterns or hedgerows. The effect of the proposal upon landscape character may slightly alter the perception of rural pasture through a change from grassland to solar panels. This could increase the perception of human influence on the landscape. However, the lack of public access, footpaths, and any significant visual connection to and from the site means that any effect will be highly localised and will exhibit negligible influence upon the surrounding area.

2.1.8. No changes are proposed to hedgerows or trees, including the perimeter woodland areas and riparian woodland at the southern end of the site.

2.1.9. At a site-specific level there will be changes to summary descriptions of diversity, texture, and colour. This relates to a change from grassland to solar PV panels. Because of the highly localised nature of any effects this is assessed as not adverse.

2.1.10. The high value and good condition of the landscape will be protected by the retention of all boundary elements.

2.1.11. The vegetated nature of the area will be maintained. The appearance of the field enclosures will change, but in all other respects the rural quality will remain unchanged. This includes the strong visual framework of hedgerows and trees, the field pattern, and the sense of tranquillity, shelter and enclosure, and safety.

2.1.12. The area scores highly in all evaluation categories. Most characteristics will be maintained and enhanced through protection of existing resources, enhanced management regimes and the creation of new biodiversity habitats.

2.1.13. From outside the site itself the scenic quality, integrity, character, and rarity will be unchanged. The surrounding area will remain picturesque.

2.1.14. Within the site there will be a change to land cover, but not to field enclosures or boundaries. Solar panels in the landscape may be perceived by some as inharmonious (the phrasing used in the LANDMAP area description). The almost complete screening afforded by the site and field boundaries mean that any changes to perception will only be possible within the site itself which has no public access. It is therefore assessed that the proposal will not add an inharmonious addition to the landscape which can be perceived by the general public.

2.1.15. On balance, the significance of the effect upon landscape character is assessed as slight. This is principally due to the very low levels of perception from the surrounding area.

Effects upon visual receptors

2.1.16. The effect upon visual receptors is assessed in the range moderate, through slight to negligible. No assessments of very large, large, or moderate were recorded.

2.1.17. Changes to the block plan since October 2020, in particular the removal of solar panels from the southern end of the southernmost fields, have reduced previously moderate effects upon a viewpoint at Beggan to slight and not adverse. The view will now be towards wildflower meadow and not solar panels as previously.

2.1.18. Seven views were assessed as receiving a slight and slightly adverse visual effect. Two are from residential properties and the remainder from short sections of footpath.

2.1.19. From one viewpoints, new mitigation measures will not screen the proposal and the residual effect, following the construction phase, will remain moderate and slightly adverse. This view is across existing hedgerows and through existing trees and it is recommended that these are allowed to grow to reduce any residual effect.

2.1.20. It is important to note that all visual effects are upon the land cover within the field enclosures themselves, rather than any changes to landscape pattern or wider views which will remain unchanged. It is principally a visual change from one material (agricultural crops) to another (solar arrays), but with a potential change to perceptions of the landscape view based upon an individual's response to this type of landscape change.

2.1.21. From Pen-y-lan farm the site will be visible. It is recommended that the existing gappy hedge is allowed to grow to mitigate against an assessed slightly adverse effect.

Summary conclusion

2.1.22. On balance, through a detailed landscape and visual assessment, this is assessed as a good site for solar energy production.

2.1.23. The site has no landscape designations. Views into the site are hard to find from many directions, including those theoretically revealed through the ZTV modelling.

2.1.24. The presence of the existing neighbouring solar farm is not assessed as significantly increasing any cumulative assessed adverse effects.

2.1.25. The site has a moderate sensitivity to solar energy production and there are no assessed significantly adverse effects upon landscape character. The proposal provides an opportunity to improve the described landscape character, in the medium and long-term, through changing landscape management regimes which will increase biodiversity as well as enhancing hedgerow cover and wildflower planting in this relatively low-intensively farmed landscape.

2.1.26. There are three viewpoints from where a very small number of visual receptors will experience a slightly adverse effect. From these viewpoints any adverse effects upon views can be mitigated, but not screened completely until around 7-10 years post-planting. Up to around 7 years the residual effect will remain slightly adverse. during which time the effect remains slightly adverse. Once mitigation planting has established, within 7-10 years the residual effect is likely to be not adverse. In addition to mitigation screening, it may be possible, in the short term, to enhance views from these properties through careful landscape master planning. This is shown within the accompanying Landscape and Ecological Management Plan (LEMP).

2.1.27. It is important to note that now views were found from Caerau Fort.

3. INTRODUCTION

3.1. BACKGROUND AND SCOPE OF THE STUDY

3.1.1. Richard Sneesby Landscape Architects were approached by Savills to complete Landscape and Visual Impact Assessment (LVIA) documentation in support of a solar energy production site at Brynwell Farm, Leckwith (hereinafter referred to as 'The Site'). This LVIA Report assesses the landscape and visual effects of the *"Installation of a solar farm comprising ground mounted solar PV panels with a net installed generating capacity (AC) of up to 25 MW, including mounting system, battery storage units, inverters, underground cabling, grid connection hub, stock proof fence, CCTV, internal tracks and associated infrastructure, landscaping and environmental enhancements, for a temporary period of 40 years"* upon surrounding receptors.

3.2. CHANGES SINCE OCTOBER 2020

3.2.1. An LVIA was submitted to the LPA in October 2020. Since this date there have been some revisions to the scheme triggering an update to the earlier LVIA. The changes are:

1) Panels have been removed from southern end of three southernmost fields – A total reduction of solar panels by 3.1 acres. This area is to be replaced by wildflower planting which further enhances the local ecology benefits.

2) The most substantial area of panels which have been removed from the previous application were located in south east field. This change has taken place to further reduce visual impacts upon nearby public footpath and adjacent residence at Beggan Farm.

3) The battery Storage area has been reconfigured with the proposed access realigned, storage units re-oriented and set back slightly within the field. Additional tree planting is now proposed on the southern boundary to ensure effective screening of the area.

4) The changes preserve an easement around a private water pipe.

5) The LVIA has been checked against the newly published Planning Policy Wales, Edition 11, February 2021. In particular Section 5.7 Energy and 5.9 Renewable and Low Carbon Energy.

3.3. THE SITE

3.3.1. This LVIA Report assesses the landscape and visual effects of developing a 21MW solar energy production site upon surrounding receptors. The total site covers approximately 78.7 acres of agricultural land at Brynwell Farm, close to Leckwith and south-west of the Cardiff urban area.

3.3.2. The Site lies upon an elevated plateau which sits above the surrounding landscape. It contains 10 field enclosures, all surrounded by native species hedges. The perimeter of the site contains many large trees and there are woodland belts along the south-west sector of the site, along the southern boundary, and running north through the middle of the site. The immediate area is isolated both physically and visually from its surroundings. It contains just a few isolated buildings and two footpaths with potential views towards the site. The ridgelines to the west, north-east and east are covered with woodland.

3.4. THE STUDY AREA

3.4.1. The study area is taken as a 5Km radius from the development site. Further site work extends this, from key viewpoint directions, to include other areas from where there is visibility of the site from the surrounding area.

4. METHODOLOGY

4.1.1. This section briefly describes the methodology and sequence of stages in the assessment process. Details of judgement criteria are included in Appendix 1.

4.2. BEST PRACTICE GUIDANCE

4.2.1. Designated landscapes were identified and recorded to establish the sensitivity of the site to change.

4.2.2. The Visual Impact Assessment was carried out in accordance with the guidance set out in the Landscape Institute publication: Guidelines for Landscape and Visual Impact Assessment (2013).

4.2.3. A site visit was carried out in June 2020 to assess the likely impacts from the surrounding area in a **summer condition**. The visit took place in the morning and early afternoon with the sun from the south-east and south. The weather was clear and sunny with good visibility to and from the site. Deciduous trees and shrubs were in full leaf. The visual effect of the proposal will be increased in winter when the surrounding trees, hedgerows and woodland are without leaves.

4.2.4. A second visit was undertaken in February 2021 to assess views **in winter**. This included additional viewpoints to those recorded in June 2020 where no views were visible in mid-summer.

4.2.5. The two sets of photographs cover both winter and summer conditions.

4.3. LANDSCAPE AND VISUAL IMPACT ASSESSMENT

4.3.1. Landscape and Visual Impact Assessment (LVIA) is a well-established tool to identify the effects of change resulting from development and the significance of those effects. It distinguishes between:

- Effects on landscape as a resource in its own right; and
- Effects on specific views and general visual amenity experienced by people.

4.3.2. The LVIA should be proportional to the scale and nature of the development proposal. For this proposal, the scale and nature of the development is described in the scoping process which describes what has been assessed and details those aspects which are considered most relevant to the proposal.

4.4. LANDSCAPE EFFECTS

4.4.1. The European Landscape Convention 2000 defines landscape as:

"An area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors".

4.4.2. This covers not only landscapes that are recognised as being special or valuable, but also landscapes which can be considered ordinary or every day. These are landscapes where people live, work, and spend leisure time – a setting for their day-to-day lives, and for aesthetic enjoyment. Furthermore, landscapes are considered as environment – for biodiversity, flora, and fauna.

4.4.3. LVIA requires that the landscape is assessed by recording and recognising:

- Protected landscapes and townscapes.
- The contribution the landscape character has on sense of place and quality of life; and the way change may affect:
- Individual components of the landscape
- Aesthetic and perceptual qualities
- The character of the landscape in different areas
- Visual effects

4.4.4. Assessment of the visual effects of the proposed development focuses on the following principles:

- How the surroundings of individuals/groups of people may be affected by changes to the landscape
- How people will be affected by changes in views and/or visual amenity at different places
- To identify impacts various visual effects are assessed:
- The areas from which the development may be visible
- Different groups who may experience views of the development
- The places where they will be affected
- The nature of the views and visual amenity at those points
- Changes in specific views.

4.5. ASSESSMENT OF SIGNIFICANCE

4.5.1. The significance of the proposal is assessed against two key criteria:

i. The significance of the receptor. This involves making judgements about the susceptibility of the receptor to the type of change arising from the proposal; and the value attached to the receptor.
ii. The magnitude of change. Judgements are based upon the size and scale of the effect (for example, is there a complete loss of a particular element or a minor change); the geographical extent of the areas that will be affected; and the duration of the effect and its reversibility.

4.5.2. These assessment lead to judgements on the individual criteria and how these, in combination, provide a means of describing the significance of the proposal. This involves combing judgements of both the significance of the receptor and magnitude of change in order to demonstrate:

- How the value of the receptor and its susceptibility of change contribute to its sensitivity to the effects.

- How judgements about the scale of the proposal, its geographical extent and duration of the effect contribute to judgements about the magnitude of the effects; and
- How the resulting judgements about sensitivity and magnitude are combined to inform judgements about the overall significance of the effects.
- The assessments describe effects which can be significant and non-significant.

4.6. METHODOLOGIES USED IN THE ASSESSMENT PROCESS

4.6.1. Desk Study

- Receiving information from the developer and other consultants
- Identifying the site location and its surroundings using Ordnance Survey maps, aerial photographs, and development site plans
- Familiarisation with the details of the proposals.
- Use of Natural Resources Wales LANDMAP landscape baseline to acquire information on landscape designations, Rights of Way, landscape character assessments, areas for Conservation Action, local topography and patterns of vegetation and any other information which may be relevant.

4.6.2. Field Survey

- Visits to the site to confirm, or otherwise, the understanding of the site and proposals gained through the desk study.
- Production of a photographic record of site features, landscape elements and details not revealed by maps or aerial photographs.
- Checks to confirm visibility, key viewpoints, and visual receptors.
- Professional judgements which could be made about possible alterations to the design of the proposal and/or mitigation measures to address any possible negative judgements about the significance of the proposal.

4.6.3. Assessment

- Assessment of the significance of landscape and visual receptors, the susceptibility of the receptor to the type of change arising from the proposal; and the value attached to the receptors.
- Assessment of the magnitude of change based upon the size and scale of the effect; the geographical extent of the areas that will be affected; and the duration of the effect and its reversibility
- Assessment of the sensitivity to the effects and the magnitude of the effects
- Assessment of the overall significance of the effects
- Summary statements describing both significant and non-significant effects
- Assessment, where appropriate, of cumulative effects based upon available information.

4.6.4. Influences on design

- Assessment of changes to the proposal to minimise negative impacts and recommendations for mitigation measures.
- Presentation of findings

- Production of this written report, supporting plans, maps, photographs, and mitigation measures.

4.7. PRODUCTION OF ZONES OF THEORETICAL VISIBILITY (ZTV)

Purpose and Limitations

4.7.1. A Zone of Theoretical Visibility (ZTV) is a computer-based modelling exercise, undertaken to assist the landscape professional in carrying out a Landscape and Visual Assessment (LVA) of a development. The ZTV provides a guide as to the potential location of possible viewpoints, for further evaluation. As a ZTV is theoretical, it should not be used in isolation and, as part of the assessment process, requires on-site verification.

4.7.2. A ZTV is subject to a number of limitations, in particular:

- the terrain data may be of limited resolution and, therefore, may not fully represent all local variations in topography, including features such as banks, roadside cuttings etcetera.
- other screening features, such as buildings, fences, trees, and hedges are not routinely incorporated into ZTVs, due to the complexity and detail of such objects.

4.7.3. Tests have been carried out to compare the accuracy of a GIS-based ZTV mapping programme and Google Earth's terrain-based Viewshed software. The results are remarkably similar and, given the limitations of a bare-earth ZTV, are considered appropriate to establish a visual baseline which is then tested at the site survey

4.7.4. Accordingly, an indicative ZTV was generated using Google Earth's Viewshed software. The height was set at 4m above existing ground level to illustrate the visibility of roof ridgelines.

4.8. PHOTOGRAPHIC SURVEY AND PHOTOGRAPHS FROM REPRESENTATIVE VIEWPOINTS

4.8.1. Site photographs were taken using a Canon 750D digital SLR cropped frame camera. Site photographs used to illustrate representative views were taken using a focal length of around 35mm – equivalent to a 50mm focal length lens on a full frame camera. This is the closest equivalent to human eye views.

4.8.2. Photographs were printed and tested against the human eye equivalent from the viewpoint.

4.8.3. To help illustrate the wider contextual view, panorama views were taken using a tripod mounted camera. These were stitched together using Microsoft Image Composite Editor software without loss of resolution.

4.9. ILLUSTRATION OF THE EFFECT OF THE DEVELOPMENT UPON REPRESENTATIVE VIEWPOINTS

4.9.1. Photomontage 'before and after' images have not been produced at this stage.

5. POTENTIAL LANDSCAPE EFFECTS OF FREE-STANDING SOLAR PV DEVELOPMENTS

5.1.1. People's response to landscapes (both rural and urban) and the forces that act on them are personal and may change over time according to their cultural values. For example, there are varying attitudes to wind energy development depending on individual attitudes to the principle and presence of wind energy generation.

5.1.2. In order to minimise effects on the landscape through siting and design, it is important to first understand the characteristics of free-standing solar PV development and how they may affect the landscape (and in turn economic, social and community values).

5.1.3. Free standing solar PV developments, although not particularly prominent in height, can occupy substantial areas of ground which may be visible, particularly if located on slopes. Landscape effects may include the following:

i. Single panels or small rows of panels on farms will have less of an impact than 'field-scale' developments that may be accompanied by buildings/ cabinets, tracks, and securityfencing.
ii. As extensive developments, field-scale solar PV developments may be particularly visible in open landscapes or on upper slopes of hillsides, especially where covering significant areas. Undulating land can exacerbate the effect.
iii. Solar panels, en-masse, tend to reflect the sky - for example, on a sunny day they can appear blue while on a cloudy day they can appear a metallic grey – this can make them stand out from their landscape context.
iv. The perceived urban/industrial character of large areas of free-standing solar PV panels and associated infrastructure means they can increase the perceived human influence on the landscape and erode sites with an intrinsically rural character, including landscapes that form a setting to heritage assets.
v. Solar PV developments will change the land use and appearance of a field or fields, affecting land cover patterns and the character of landscapes.
vi. The regular edges of solar PV developments may be conspicuous in more irregular landscapes (particularly where they do not follow contours or where field boundaries are irregular in form).
vii. The height of racks (up to 3m) means that they may overtop typical hedgerow/ hedgebank field boundaries.
viii. Screen planting around solar PV development, or management changes such as allowing hedges to grow higher, can change the sense of enclosure of a landscape.
ix. Construction of the solar PV development may result in damage to landscape features suchas hedgerow/ hedgebank field boundaries.
x. Structures, including free-standing panels, security fencing, and other hard, built elements, can appear out of place in landscapes that are perceived as wild, natural, or remote from development, and that are valued for these qualities.

xi. Ancillary buildings and security requirements (such as fencing and/or CCTV) may introduce new and unfamiliar features into a rural landscape.

xii. Access tracks will be necessary on field scale schemes with central inverters (central inverters cannot be delivered and maintained using temporary tracks).

5.1.4. Photovoltaic technology requires absorption of sunlight to allow for the conversion of energy to take place and therefore very little light energy is lost through reflection. Glare is further minimised through the use of translucent coating materials to improve light transmittance through the glass[38]. Nevertheless panels do change under different atmospheric conditions, tending to reflect the light and colour of the sky, and the appearance of the panels under different atmospheric conditions is an important consideration in terms of the visual effects of schemes.

6. BASELINE CONDITIONS

6.1.1. Baseline conditions are described for both landscape and visual receptors within the study area. The landscape character baseline is set by the areas which directly effect, and are affected by, the development proposal. In the main this means the landscape within which the proposal will have visual and perceptual influence. For the visual baseline, the study has focused upon those areas which have been revealed as having potential impacts through the site visit and analysis of site plans, area maps and aerial photographs.

LANDSCAPE CHARACTER BASELINE

6.2. NATIONAL CHARACTER AREAS

6.2.1. The site lies within the National Landscape Character Area 36: Bro Morgannwg/Vale of Glamorgan.

Note: The site lies at the extreme eastern boundary of this character area. Many of the described characteristics do not apply to this locality and are better revealed at a local level in the local character description in Section 6.3. To the east and north of the site is the urban edge of Cardiff which, despite its close proximity, has an urban character which is not characteristic of the site or immediate locality.

6.2.2. The descriptions below are edited to remove reference to characteristics within the NCA which are not relevant to the site or its locality.

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Summary description

6.2.3. The Vale is a distinctive, gentle lowland landscape, largely comprising a rolling limestone plateau. Glacial till contributes to its undulating topography. A variety of rural land uses characterise the area, reinforced by thick hedgerows, frequent small woodlands, and trees, which create a sense of enclosure and intimacy. This is despite the proximity to large towns such as greater Cardiff, Barry and Bridgend, and a number of large built features within the Vale.

6.2.4. In the centre of the Vale, compact and historic settlements reinforce the area's distinctive sense of place, but with limited modern development. Yet the area has attracted many professionals, who commute to Cardiff and Bridgend, adding to the more prosperous character of places like Cowbridge and Llanblethian.

Key Characteristics

- Lowland, rolling limestone plateau with glacial till.
- Mixed agricultural land uses - with predominantly rural character
- Small woodlands – mainly to the east. Few large woods.
- Mixed field patterns and sizes - with hedgerows and hedgebanks, frequent hedgerow trees.
- Predominantly still rural - with strong senses of enclosure by historic field boundaries.

Visual and Sensory profile

6.2.5. The area forms a distinctive plateau landscape, dissected by a number of rivers including the Ely, Thaw and Waycock. It still evokes a strong rural sense of place with a patchwork of fields, hedgerows and woodlands and trees and extensive open, lowland, farmland.

6.2.6. The Vale contains a number of historic thatched cottages, typically in rural village settings, historic farmhouses, distinctive field patterns (for example around Llancarfan, whose landscape setting is also picturesque).

6.2.7. Whilst the character is predominantly rural, there are a number of visually prominent built features that contrast this. These include: the power station and adjacent cement works at Aberthaw; Cardiff International Airport to the west of Barry where the frequent movement of aircraft impacts upon the tranquillity of the area.

Landscape Habitats influences

6.2.8. The Vale of Glamorgan is dominated by generally low-lying, undulating farmland (both arable and pastoral) on generally well-draining brown-soils. The arable element is noticeably more prevalent towards the south nearer to the coast. Hedgerows which in many cases are well treed together with in-field trees and smallish deciduous woodland areas provide more ecological interest to the agricultural landscape.

6.2.9. There are very few large areas of woodland though smaller linear deciduous woodland areas follow watercourses, this being a particular feature towards the east.

6.2.10. A number of watercourses cross the area, the most significant being the River Ely towards the east. The settlement of Bridgend is a noteworthy feature, together with a number of smaller settlements scattered throughout the Vale.

6.2.11. The land use is mixed – with dairy and sheep pasture, pony paddocks, arable and some pig rearing and rough grazing on the cliff tops in the west. The eastern half of the Vale contains frequent woodland clumps and in-field trees, along with riparian woodlands and small plantations on valley slopes. Added to the often-thick hedgerows, and frequent hedgerow trees, this creates the impression of a well-wooded landscape.

Historic Landscape influences

6.2.12. The rural landscape of nucleated villages surrounded by rich agricultural land has a distinctive historic character. Notably, in the centre of the coastal plateau, the Llancarfan Valley is recognised as a Landscape of Outstanding Historic Interest, as one of the best surviving and complete examples of the defining historic character of the wider Vale.

6.2.13. Many of the settlements in the Vale are centred on large medieval churches, around which villages developed. The value of the land has long been exploited for agriculture, with whitewashed medieval farm buildings with pitched roofs and small windows being particularly distinctive. The area's small woodlands, hedgerows and trees are also of considerable age.

6.2.14. Today's settlement remains largely true to the area's historic pattern of development; with many villages focused on a church or village green. However, many of the Vale villages are remarkable for their expansion, marred by alien architectural styles of the 'executive housing' of the 1970s and 1980s. The settlements are linked by a network of rural lanes, which are often sunken at entry points to settlements. In addition to whitewash, traditional buildings are constructed of distinctive grey limestone or white/cream/coloured render.

Cultural Landscape influences

6.2.15. Irregular and regular medium to large fields are bounded by a strong network of hedgerows, hedgebanks and frequent hedgerow trees.

6.3. LANDMAP LANDSCAPE CHARACTER TYPE: CWRT YR ALA VALLEY. THE EFFECT OF THE DEVELOPMENT UPON THIS DESCRIPTION IS COVERED IN SECTION 7.3

6.3.1. At a more local level, the site lies within the Landscape Character Area: Cwrt yr Ala Valley.

- Level 1: Lowland
- Level 2: Lowland Valleys
- Level 3: Mosaic Lowland Valleys

6.3.2. Summary Description

6.3.3. A rolling/undulating area focussed on Cwrt yr Ala valley forming the headwaters of the Cadoxton valley. The highest point is a Cock Hill to the north at 115m AOD, the lowest to the south at approximately 20m AOD. The landcover is a mosaic of pastoral fields, with hedgerows often containing trees, plus woodlands. The latter generally set on the steeper upper slopes of valleys or ridgelines. Settlement is focussed on Michaelston-le-Pit which is a small village but otherwise is dispersed and includes farms and large dwellings. The area is very tranquil as no major roads run through it, indeed all roads into the area are dead ends. The area has a strong sense of place where vernacular buildings, broadleaf woodland and well treed hedgerows complement well managed farmland. Whilst vegetation presently integrates the settlements into their surroundings recent development is beginning to unbalance the relationship.

i. Physical Form and Elements: Topographic Form - Rolling/Undulating
ii. Physical Form and Elements: Landcover Pattern - Field Pattern/Mosaic
iii. Physical form and elements: Settlement pattern- Clustered
iv. Physical form and elements: Boundary type - Hedge with Trees
v. Aesthetic Qualities: Scale - Small
vi. Aesthetic Qualities: Sense of Enclosure – Enclosed
vii. Aesthetic Qualities: Diversity - Simple
viii. Aesthetic Qualities: Texture - Medium
ix. Aesthetic Qualities: Lines - Straight
x. Aesthetic Qualities: Colour - Muted
xi. Aesthetic Qualities: Balance - Balanced
xii. Aesthetic Qualities: Unity - Unity
xiii. Aesthetic Qualities: Pattern - Regular
xiv. Aesthetic Qualities: Seasonal Interest - Mixed
xv. Other Factors: Level of Human Access - Occasional
xvi. Other Factors: Night Time Light Pollution – Slight. The aspect area has only a few sources of light including the village of Michaelston-le-Pit and other scattered farms.
xvii. Other Factors: Use of Construction Materials - Generally Appropriate
xviii. What materials? Give Details - Use of vernacular details
xix. There are attractive views within – N/A
xx. There are detractive views out - from turnpike road to Penarth to south and north to A4232, Caerau and edge of Wenvoe Quarry
xxi. Perceptual and Other Sensory Qualities – Attractive; Tranquil; Sheltered; Safe; Settled
xxii. What is the sense of place/local distinctiveness – Strong. The streams, dammed ponds, wooded valley sides and pleasant settlement in valley bottom give distinctive character.

6.3.4. Evaluation

i. Value: High
ii. Condition: Good
iii. Trend: Declining

6.3.5. Recommendations

i. Existing management: Generally Appropriate
ii. Existing management remarks: Farmland generally well managed but signs of urban fringe pressure on lanes.
iii. Principal management recommendation: Maintain rural qualities and vegetated nature of valley

6.3.6. Guideline

i. Immediate: Maintain restrictive policies on development and Wenvoe Quarry restriction
ii. Medium Term: Improve management of deciduous woodland to maintain cover and improve access.
iii. Medium Term: Maintain hedgerows as strong visual framework.
iv. Define the key qualities that should be conserved: Tranquillity
v. Define the key qualities that should be enhanced: Sense of shelter and enclosure
vi. Define the key qualities that should be changed: NA
vii. Define the key elements that should be conserved: Woodland, field boundaries
viii. Define the key elements that should be enhanced: NA
ix. Define the key elements that should be changed: NA

6.3.7. Tolerance to Change

i. Are there any significant threats to the current integrity and condition of the visual & sensory features of the area? Urban fringe pressure on laneways

6.3.8. Evaluation Matrix

i. Evaluation Criteria: Scenic quality – High. The aspect area presents many picturesque views to pleasing elements in composition including streams, waterbodies, hedgerows, treed slopes, and settlement.
ii. Evaluation Criteria: Integrity – High. The aspect area has maintained a high integrity with negligible inharmonious development.
iii. Evaluation Criteria: Character – High. The aspect area exhibits a distinctive character throughout. Its enclosed valley topography in association with woodland, create a sense of enclosure and strong sense of place.
iv. Evaluation Criteria: Rarity – High. Tranquil valley close to urban area.
v. Evaluation Criteria: Overall Evaluation – High. The aspect area presents many picturesque views of pleasing elements in composition. The aspect area maintains a high integrity with little inharmonious development and exhibits a distinctive character through its topography and tree cover, creating a strong sense of place. The quality of these elements are relatively uncommon within the study area, especially this close to an urban area, and the aspect area therefore has been evaluated as high.
vi. Justification of overall evaluation - All criteria high

6.4. LANDSCAPE DESIGNATIONS

6.4.1. The site has no national or local landscape designations.

6.5. PLANNING POLICY WALES, EDITION 11, FEBRUARY 2021

6.5.1. Planning Policy Wales, Edition 11 was published in February 2021. This includes updated policies on Low Carbon Energy Production.

Energy

Section 5.7 Context

Policy 5.7.1 The Welsh Government's highest priority is to reduce demand wherever possible and affordable. Low carbon electricity must become the main source of energy in Wales. Renewable electricity will be used to provide both heating and transport in addition to power. The future energy supply mix will depend on a range of established and emerging low carbon technologies, including biomethane and green hydrogen.

Policy 5.7.4 Future Wales – The National Plan 2040 sets out the national development plan context for energy and provides specific policies for heat network and renewable energy development.

Policy 5.9.20 Planning authorities should also identify and require suitable ways to avoid, mitigate or compensate adverse impacts of renewable and low carbon energy development. The construction, operation, decommissioning, remediation and aftercare of proposals should take into account:

- the need to minimise impacts on local communities, such as from noise and air pollution, to safeguard quality of life for existing and future generations;
- the impact on the natural and historic environment;
- cumulative impact;
- the capacity of, and effects on the transportation network;
- grid connection issues where renewable (electricity) energy developments are proposed; and
- the impacts of climate change on the location, design, build and operation of renewable and low carbon energy development. In doing so, consider whether measures to adapt to climate change impacts give rise to additional impacts.

Policy 5.9.21 Prior to an application being submitted, developers for renewable and low carbon energy developments should, wherever possible, consider how to avoid, or otherwise minimise, adverse impacts through careful consideration of location, scale, design and other measures.

Policy 5.9.22 Whatever the size of a scheme, developers should take an active role in engaging with the local community on renewable energy proposals. This should include pre-application discussion and provision of background information on the renewable energy technology that is proposed.

Policy 5.9.23 The Welsh Government has produced separate practice guidance highlighting the planning implications of a wide variety of renewable energy technologies. "Welsh Assembly Government. Practice Guidance: Planning Implications of Renewable and Low Carbon Energy, February 2011".

6.5.2. This Practice Guidance reinforces the approach to LVIA within GLVIA3.

6.6. VISUAL BASELINE

6.6.1. To identify and assess the visual impact of development on the surrounding area the capacity of the site to accommodate change has been reviewed through a site visit, the collection of photographic data which illustrates the key visual receptors which are affected by possible development and using a computer-generated model and photomontage images.

6.6.2. Bare earth ZTV maps have been generated and cover the 5Km study area:

6.6.3. The bare earth ZTV model shows the theoretical visibility towards the site from the surrounding area based upon topography alone. It is useful insomuch that it reveals very limited theoretical visibility from much of the study area surrounding the site.

6.6.4. However, this form of modelling is increasingly unhelpful where the landscape contains woodlands, mature hedgerows, and large trees as is the case within the site itself and the surrounding countryside.

6.6.5. To test this, the areas which are shown within the model as having theoretical visibility have been visited to assess the actual visibility of the site and recorded through the selection of a number of representative viewpoints which were recorded photographically.

6.7. VISUAL ENVELOPE

6.7.1. The site lies on an elevated plateau with a gently sloping south-east facing slope.

6.7.2. The ZTV reveals that the majority of theoretical views are localised with the main views from the north and south. Views from the west and east are limited by topography woodland with no views found during site investigations.

6.7.3. A detailed site study involved walking all field boundaries and photographing panorama views from within the site to check for visual receptors. These photographs are included in the Appendix for reference but were not assessed. There is no public access across the site.

6.7.4. Viewpoints referred to below are prefixed VP for summer views and WVP for winter views.

<u>From the south</u>

6.7.5. Southerly viewpoints are the most sensitive to solar energy production sites as views will be directly towards the front of the panels where they can appear as a continuous sheet of PV material.

6.7.6. Glimpse views to the extreme southern end of the site are possible from a short section of public footpath (M2 10/2) south of the site (VP1 & WVPs 1, 2, 4 & 5). The 2021 changes have

reduced the visibility of the solar panels from these viewpoints by removing panels at the southern end of the visible field enclosures.

6.7.7. Also in comparatively close proximity is Brynwell from where there are clear views to the southern end of the site. Brynwell is currently unoccupied and semi-derelict with no visual receptors.

6.7.8. The property in closest proximity to the site is at Beggan. From here the solar arrays within Field enclosures G, I and J will be visible through the site entrance (VP2). This will also have views of the site infrastructure close to the entrance.

6.7.9. No other visual receptors were recorded.

From the west

6.7.10. South-westerly viewpoints have a comparatively high sensitivity to solar energy production sites as oblique views will be towards the side and front of the panels where they can appear as a broken sheet (parallel lines) of PV material. Views directly from the west and north-west are less sensitive as they will be of side elevations with parallel lines of angled panels, but less obvious views of the front sheets.

6.7.11. There are almost no viewpoints west of the site with visibility into the site itself. A single property is visible at Pen-y-lan (reverse VP3) which will have views towards Field enclosure A. Views towards other field enclosures along the west side of the site will be blocked by woodland or occasionally visible as minor glimpse views between gaps in mature hedgerows and substantial groups of mature trees. Views will be towards side elevations of the solar arrays.

The site is not visible from the south-west. This was interrogated on site and illustrated in WVP6).

From the north

6.7.12. Northerly viewpoints are the least sensitive to solar energy production sites as views will be towards the rear of the panels where they can appear as a succession of dark shadow lines in the landscape.

6.7.13. The ZTV reveals very few potential visual receptors in locations north of the site which is physically separated from the site by a deep road cutting and substantial woodland. In reality the only direct theoretical views towards the site is from Caerau Fort (VP 4a and 4b, & WVP7) which sits upon a high mound at a similar elevation to the site. In reality, views from the fort are not possible being screened by substantial woodland, a succession of field boundary hedgerows and local topography.

From the east

6.7.14. South-easterly viewpoints have a comparatively high sensitivity to solar energy production sites as oblique views will be towards the side and front of the panels where they can appear as a broken sheet (parallel lines) of PV material. Views directly from the east and north-east are less sensitive as they will be of side elevations with parallel lines of angled panels, but less obvious views of the front sheets.

6.7.15. The land rises to high ground to the east. A public footpath crosses Cock Hill from where a glimpse view of the site is possible in winter (WVP6).

6.7.16. No other viewpoints were found to the east of the site.

6.8. VISUAL RECEPTORS

6.8.1. The following visual receptors were assessed:

- Settlements
- Residential properties
- Public Rights of Way and transport links

Settlements

6.8.2. Only those settlements which have a visual or perceived connection to the site are included. The site is only visible from the east. The main settlements, marked on the OS 1:25,000 maps are:

- None. No visual connection to any settlements.

Residential Properties

6.8.3. In accordance with the GLVIA guidelines residential receptors have not been assessed on an individual basis. The viewpoints have been selected to illustrate visibility from representative viewpoints and, where possible, these have been taken as close to those residential receptors which are likely to be most affected as possible.

6.8.4. There are a small number of residential properties with views to the site:

- Beggan (views towards the site through the site entrance, but screened by woodland elsewhere)
- Brynwell (visual connection to the southern end of the site). Note that Brynwell is currently unoccupied and semi-derelict)
- Pen-y-lan (visual connection to the extreme northern end of the site)

Public Rights of Way and transport links

6.8.5. The Public Rights of Way and transport links from which the site can be seen are listed below:

Roads

6.8.6. The proposed development will be visible from the following public roads to varying degrees as these routes undulate across local topography and move in and out of built-up areas, past scattered buildings, and along sections in cuttings, with high hedgerows and tree cover. Some views will be open and uninterrupted whilst others may occur as glimpses.

- None

Footpaths

6.8.7. The following lists footpaths which fall within the ZTV and which were surveyed.

- L2 2/2 - Footpath which runs to the west of the site across The Lawns. This footpath is on lower ground with no visual connection to the site.
- M2 10/2 - Footpath running south and south-east of the site. Glimpse view at Viewpoint 1, but elsewhere all views towards the site screened by woodland and hedgerows.

7. ASSESSMENT OF EFFECTS AND SIGNIFICANCE

7.1. LANDSCAPE EFFECTS - GENERALLY

7.1.1. Assessment of sensitivity of the landscape to change

The criteria used for assessing site sensitivity to both landscape and visual receptors are summarised in the table in Appendix 1.

The sensitivity of the site to accommodate changes to the landscape is assessed in the range:

Very High – High – Medium – Low - Negligible

7.1.2. Assessment of the magnitude of effect upon the landscape

The criteria used for assessing the magnitude of impact is summarised in the table in Appendix 1

The magnitude of change to the landscape is assessed in the range:

Major – Moderate – Minor – Negligible – No Change

7.1.3. Assessment of sensitivity and magnitude combined – Significance of effect

To report on the overall significance of the proposal on both landscape and visual receptors the sensitivity of the site and the magnitude of change are assessed in combination. The outcomes are reported using descriptive terms rather than numerical scores and the terms used are summarised in Appendix 1.

The significance of the effect of the proposal upon the landscape is assessed in the range:

Very Large – Large – Moderate – Slight - Neutral

7.1.4. Valency

7.1.5. The outcome can be both positive – i.e. the proposal makes a beneficial change to the landscape; and negative – the proposal will result in an adverse change to landscape character and visual character. Effects are defined as adverse, neutral, or beneficial. Descriptions of these are shown in the table in Appendix 1.

7.2. EFFECT OF THE PROPOSAL UPON CHANGES TO THE LANDSCAPE CHARACTER

Environmental change without the works

7.2.1. In the event of the proposed development not being implemented, the site would remain as described in the baseline assessment.

7.2.2. Introduction to the development and its potential to generate landscape and visual effects

Landscape effects - generally

7.2.3. Landscape effects can be both direct and indirect. Direct effects include permanent or temporary changes to townscape features such as buildings, vegetation (especially large mature trees or woodland), streetscape (roads, boundary treatments), marine infrastructure (sea walls, jetties, etc.). Indirect effects include those on the character of adjacent landscapes where temporary or permanent effects may occur through visual intrusion from, for example, lighting effects.

7.2.4. These effects may be positive (beneficial) or negative (adverse) or involve no change to the baseline (neutral). Most usually, adverse effects are on sensitive natural landscapes and sensitive, usually historic, townscapes. Where developments result in enhancement to damaged or degraded landscape of townscapes they are generally considered to result in positive (beneficial) changes.

7.2.5. Townscapes which are more sensitive to development include Conservation Areas, presence of listed buildings and protected trees, areas recognised for their historic integrity, and places cited in art and literature.

Visual effects - generally

7.2.6. Direct visual effects include temporary or permanent changes to views brought about by loss of existing, or introduction of new elements into the landscape. These changes can bring about indirect visual effects by blocking previously available views.

7.2.7. These effects can also be beneficial, adverse, or neutral. Sensitivity to adverse effects relates to the receptor (person or group of people affected by the change to the view). People, usually residents, with permanent and uninterrupted views towards the development are the most sensitive. Visitors and tourists who come to the area for its scenic value are also sensitive receptors. People passing through the area have lower sensitivity.

7.3. OPERATIONAL PHASE ASSESSMENT

Landscape Effects: Response to effects upon Landscape Character GUIDANCE.

7.3.1. This section responds to the characteristics identified in Section 5.1.

Key Characteristics

- Lowland, rolling limestone plateau with glacial till.
- Mixed agricultural land uses - with predominantly rural character
- Small woodlands – mainly to the east. Few large woods.
- Mixed field patterns and sizes - with hedgerows and hedgebanks, frequent hedgerow trees.
- Predominantly still rural - with strong senses of enclosure by historic field boundaries.

Visual and Sensory profile

7.3.2. The area forms a distinctive plateau landscape, dissected by a number of rivers including the Ely, Thaw and Waycock. It still evokes a strong rural sense of place with a patchwork of fields, hedgerows and woodlands and trees and extensive open, lowland, farmland.

7.3.3. The Vale contains a number of historic thatched cottages, typically in rural village settings, historic farmhouses, distinctive field patterns (for example around Llancarfan, whose landscape setting is also picturesque).

7.3.4. Whilst the character is predominantly rural, there are a number of visually prominent built features that contrast this. These include: the power station and adjacent cement works at Aberthaw; Cardiff International Airport to the west of Barry where the frequent movement of aircraft impacts upon the tranquillity of the area.

Response to the described Key Characteristics and Visual and Sensory Profile

The proposal for a solar PV energy production site will not damage any of the described characteristics.

The site has a hidden quality and is well-screened from the surrounding area, minimising potential effects upon landscape character (refer Sections 6.5 and 6.6). There are no proposed changes to defined field boundary patterns or hedgerows. The effect of the proposal upon landscape character may slightly alter the perception of rural pasture through a change from grassland to solar panels. This could increase the perception of human influence on the landscape. However, the lack of public access, footpaths, and any significant visual connection to and from the site means that any effect will be highly localised and will exhibit negligible influence upon the surrounding area. (refer Section 7: Visual Effects)

Landscape habitats influences

7.3.5. The Vale of Glamorgan is dominated by generally low-lying, undulating farmland (both arable and pastoral) on generally well-draining brown-soils. The arable element is noticeably more prevalent towards the south nearer to the coast. Hedgerows which in many cases are well treed together with in-field trees and smallish deciduous woodland areas provide more ecological interest to the agricultural landscape.

7.3.6. There are very few large areas of woodland though smaller linear deciduous woodland areas follow watercourses, this being a particular feature towards the east.

7.3.7. A number of watercourses cross the area, the most significant being the River Ely towards the east. The settlement of Bridgend is a noteworthy feature, together with a number of smaller settlements scattered throughout the Vale.

7.3.8. The land use is mixed – with dairy and sheep pasture, pony paddocks, arable and some pig rearing and rough grazing on the cliff tops in the west. The eastern half of the Vale contains frequent woodland clumps and in-field trees, along with riparian woodlands and small plantations on valley slopes. Added to the often-thick hedgerows, and frequent hedgerow trees, this creates the impression of a well-wooded landscape.

Response to the described landscape habitats influences

The proposal for a solar PV energy production site will not damage any of the described characteristics.

No changes are proposed to hedgerows or trees, including the perimeter woodland areas and riparian woodland at the southern end of the site.

Historic Landscape influences

7.3.9. The rural landscape of nucleated villages surrounded by rich agricultural land has a distinctive historic character. Notably, in the centre of the coastal plateau, the Llancarfan Valley is recognised as a Landscape of Outstanding Historic Interest, as one of the best surviving and complete examples of the defining historic character of the wider Vale.

7.3.10. Many of the settlements in the Vale are centred on large medieval churches, around which villages developed. The value of the land has long been exploited for agriculture, with whitewashed medieval farm buildings with pitched roofs and small windows being particularly distinctive. The area's small woodlands, hedgerows and trees are also of considerable age.

7.3.11. Today's settlement remains largely true to the area's historic pattern of development; with many villages focused on a church or village green. However, many of the Vale villages are remarkable for their expansion, marred by alien architectural styles of the 'executive housing' of the 1970s and 1980s. The settlements are linked by a network of rural lanes, which are often sunken at entry points to settlements. In addition to whitewash, traditional buildings are constructed of distinctive grey limestone or white/cream/coloured render.

Response to the described historic landscape influences

The proposal for a solar PV energy production site will not damage any of the described characteristics.

Cultural Landscape influences

7.3.12. Irregular and regular medium to large fields are bounded by a strong network of hedgerows, hedgebanks and frequent hedgerow trees.

Response to the described cultural landscape influences

The proposal for a solar PV energy production site will not damage any of the described characteristics.

No changes are proposed to the field pattern, hedgerows, or hedgerow trees.

7.4. LANDMAP LANDSCAPE CHARACTER TYPE: CWRT YR ALA VALLEY. THE EFFECT OF THE DEVELOPMENT UPON THIS DESCRIPTION IS COVERED IN SECTION 7.3

7.4.1. At a more local level, the site lies within the Landscape Character Area: Cwrt yr Ala Valley

- Level 1: Lowland
- Level 2: Lowland Valleys
- Level 3: Mosaic Lowland Valleys

7.4.2. Summary Description

7.4.3. A rolling/undulating area focussed on Cwrt yr Ala valley forming the headwaters of the Cadoxton valley. The highest point is a Cock Hill to the north at 115m AOD, the lowest to the south at approximately 20m AOD. The landcover is a mosaic of pastoral fields, with hedgerows often containing trees, plus woodlands. The latter generally set on the steeper upper slopes of valleys or ridgelines. Settlement is focussed on Michaelston-le-Pit which is a small village but otherwise is dispersed and includes farms and large dwellings. The area is very tranquil as no major roads run through it, indeed all roads into the area are dead ends. The area has a strong sense of place where vernacular buildings, broadleaf woodland and well treed hedgerows complement well managed farmland. Whilst vegetation presently integrates the settlements into their surroundings recent development is beginning to unbalance the relationship.

xxiii. Physical Form and Elements: Topographic Form - Rolling/Undulating
xxiv. Physical Form and Elements: Landcover Pattern - Field Pattern/Mosaic
xxv. Physical form and elements: Settlement pattern- Clustered
xxvi. Physical form and elements: Boundary type - Hedge with Trees
xxvii. Aesthetic Qualities: Scale - Small
xxviii. Aesthetic Qualities: Sense of Enclosure – Enclosed
xxix. Aesthetic Qualities: Diversity - Simple
xxx. Aesthetic Qualities: Texture - Medium
xxxi. Aesthetic Qualities: Lines - Straight

xxxii. Aesthetic Qualities: Colour - Muted
xxxiii. Aesthetic Qualities: Balance - Balanced
xxxiv. Aesthetic Qualities: Unity - Unity
xxxv. Aesthetic Qualities: Pattern - Regular
xxxvi. Aesthetic Qualities: Seasonal Interest - Mixed
xxxvii. Other Factors: Level of Human Access - Occasional
xxxviii. Other Factors: Night Time Light Pollution – Slight. The aspect area has only a few sources of light including the village of Michaelston-le-Pit and other scattered farms.
xxxix. Other Factors: Use of Construction Materials - Generally Appropriate
xl. What materials? Give Details - Use of vernacular details
xli. There are attractive views within – N/A
xlii. There are detractive views out - from turnpike road to Penarth to south and north to A4232, Caerau and edge of Wenvoe Quarry
xliii. Perceptual and Other Sensory Qualities – Attractive; Tranquil; Sheltered; Safe; Settled
xliv. What is the sense of place/local distinctiveness – Strong. The streams, dammed ponds, wooded valley sides and pleasant settlement in valley bottom give distinctive character.

Response to the summary description

At a site-specific level there will be changes to summary descriptions of diversity, texture, and colour. This relates to a change from grassland to solar PV panels. Because of the highly localised nature of any effects this is assessed as not adverse.

7.4.4. Evaluation

iv. Value: High
v. Condition: Good
vi. Trend: Declining

Response to evaluation

The high value and good condition of the landscape will be protected by the retention of all boundary elements. The declining trend is not fully explained. Should it relate to landscape features such as woodlands and hedgerows, these will be protected and enhanced by management regimes and habitat diversification. Refer to the LEMP for details.

7.4.5. Recommendations

iv. Existing management: Generally Appropriate
v. Existing management remarks: Farmland generally well managed but signs of urban fringe pressure on lanes.
vi. Principal management recommendation: Maintain rural qualities and vegetated nature of valley

7.4.6. Guideline

x. Immediate: Maintain restrictive policies on development and Wenvoe Quarry restriction
xi. Medium Term: Improve management of deciduous woodland to maintain cover and improve access.
xii. Medium Term: Maintain hedgerows as strong visual framework.

xiii. Define the key qualities that should be conserved: Tranquillity
xiv. Define the key qualities that should be enhanced: Sense of shelter and enclosure
xv. Define the key qualities that should be changed: NA
xvi. Define the key elements that should be conserved: Woodland, field boundaries
xvii. Define the key elements that should be enhanced: NA
xviii. Define the key elements that should be changed: NA

Response to recommendations and guidelines
The vegetated nature of the area will be maintained. The appearance of the field enclosures will change, but in all other respects the rural quality will remain unchanged. This includes the strong visual framework of hedgerows and trees, the field pattern, and the sense of tranquillity, shelter and enclosure, and safety.

7.4.7. Tolerance to Change

ii. Are there any significant threats to the current integrity and condition of the visual & sensory features of the area? Urban fringe pressure on laneways

7.4.8. Evaluation Matrix

vii. Evaluation Criteria: Scenic quality – High. The aspect area presents many picturesque views to pleasing elements in composition including streams, waterbodies, hedgerows, treed slopes, and settlement.

viii. Evaluation Criteria: Integrity – High. The aspect area has maintained a high integrity with negligible inharmonious development.

ix. Evaluation Criteria: Character – High. The aspect area exhibits a distinctive character throughout. Its enclosed valley topography in association with woodland, create a sense of enclosure and strong sense of place.

x. Evaluation Criteria: Rarity – High. Tranquil valley close to urban area.

xi. Evaluation Criteria: Overall Evaluation – High. The aspect area presents many picturesque views of pleasing elements in composition. The aspect area maintains a high integrity with little inharmonious development and exhibits a distinctive character through its topography and tree cover, creating a strong sense of place. The quality of these elements are relatively uncommon within the study area, especially this close to an urban area, and the aspect area therefore has been evaluated as high.

xii. Justification of overall evaluation - All criteria high

Response to the evaluation matrix

The area scores highly in all evaluation categories.

Most characteristics will be maintained and enhanced through protection of existing resources, enhanced management regimes and the creation of new biodiversity habitats.

From outside the site itself the scenic quality, integrity, character, and rarity will be unchanged. The surrounding area will remain picturesque.

Within the site there will be a change to land cover, but not to field enclosures or boundaries. Solar panels in the landscape may be perceived by some as inharmonious. The almost complete screening afforded by the site and field boundaries mean that any changes to perception will only be possible within the site itself which has no public access. It is therefore assessed that the proposal will not add an inharmonious addition to the landscape which can be perceived by the general public.

7.5. ASSESSING SIGNIFICANCE OF EFFECTS ON LANDSCAPE CHARACTER

Assessment of sensitivity of the landscape to change

7.5.1. The criteria used for assessing site sensitivity to both landscape and visual receptors are summarised in the table in Appendix 1.

7.5.2. The sensitivity of the site to accommodate changes to the landscape is assessed in the range:

Very High – High – Medium – Low - Negligible

Assessment of the magnitude of effect upon the landscape

7.5.3. The criteria used for assessing the magnitude of impact is summarised in the table in Appendix 1

7.5.4. The magnitude of change to the landscape is assessed in the range:

Major – Moderate – Minor – Negligible – No Change

Assessment of sensitivity and magnitude combined – Significance of effect

7.5.5. In order to report on the overall significance of the proposal on both landscape and visual receptors the sensitivity of the site and the magnitude of change are assessed in combination. The outcomes are reported using descriptive terms rather than numerical scores and the terms used are summarised in Appendix 1.

7.5.6. The significance of the effect of the proposal upon the landscape is assessed in the range:

Very Large – Large – Moderate – Slight - Neutral

Valency

7.5.7. The outcome can be both positive – i.e. the proposal makes a beneficial change to the landscape; and negative – the proposal will result in an adverse change to landscape character and visual character. Effects are defined as adverse, neutral, or beneficial. Descriptions of these are shown in the table in Appendix 1.

7.6. SENSITIVITY OF THE SITE TO ACCOMMODATE CHANGES TO THE LANDSCAPE

Sensitivity of effects upon landform and scale

Assessment is **Medium to Higher Sensitivity**: "Medium importance and rarity, local scale". "landscape with distinct landform features, and/or irregular in topographic appearance, or a smaller scale landform".

Landform cover pattern and presence of human scale features

Assessment is **Medium to Higher Sensitivity**: "Medium importance and rarity, regional scale, limited potential for substitution". "a landscape containing few lanes or vehicular tracks, and these are predominantly narrow lanes".

Sensitivity of effects upon tracks and transport patterns

Assessment is **Medium to Higher Sensitivity**: "Medium importance and rarity, local scale". "A landscape containing some existing roads and vehicular tracks, and few restrictions in terms of narrow hedged lanes".

Sensitivity of effects upon skylines

Assessment is **Medium to Higher Sensitivity**: "High or medium importance and rarity, regional scale, limited potential for substitution". "A landscape with prominent skylines that may form an important backdrop to views from settlements or important viewpoints and/or with important landscape features".

Sensitivity of effects upon perceptual qualities

Assessment is **Medium to Higher Sensitivity**: "Medium importance and rarity, regional scale, limited opportunity for substitution". "a landscape with little modern human influence and development".

Sensitivity of effects upon historic landscape character

Assessment is **Medium Sensitivity**: "High or medium importance and rarity, regional scale, limited potential for substitution". "The majority of the landscape covered by medium sensitivity historic landscape types or a mixture of higher and lower historic landscape types".

Sensitivity of effects upon scenic and special landscape qualities

Assessment is **Medium Sensitivity**: "High or medium importance and rarity, regional scale, limited potential for substitution". "a landscape which has a medium scenic quality and some of the special qualities may be affected by energy development".

Summary of landscape sensitivity ratings

The effect of solar energy production upon the range of landscape characteristics described in Sections 7.3 and 7.4 are summarised as **Moderate: "These beneficial or adverse effects are important but are not likely to be key decision-making factors. The cumulative effects of such issues may become a decision-making issue if leading to an increase in the overall adverse effect on a particular resource or receptor".**

The outcome of this assessment will inform site mitigation measures which are covered in Sections 7.14 and 7.15.

7.6.1. This IS NOT an assessment of the effect of proposed development upon this landscape (refer Sections 7.3 and 7.4).

Landscape characteristic	*Sensitivity*	*Magnitude of effect*	***Significance of effect***	*Comments*
Landform and scale	Medium to higher	Minor	**Slight**	Effect very localised
Landform cover pattern and presence of human scale features	Medium to higher	Minor	**Slight**	Effect very localised
Tracks/transport patterns	Medium to higher	Minor	**Slight**	Effect very localised
Skylines	Medium to higher	Minor	**Slight**	Effect very localised
Perceptual Qualities	Medium to higher	Minor	**Slight**	Effect very localised
Historic landscape character	Medium	Minor	**Slight**	Effect very localised
Scenic and special qualities	Medium	Minor	**Slight**	Effect very localised

7.7. SIGNIFICANCE OF EFFECTS UPON CHANGES TO THE LANDSCAPE

7.7.1. The effect of solar energy production upon the range of landscape characteristics described in Section 7.6 are summarised as **Moderate to Slight**: "These beneficial or adverse effects are important but are not likely to be key decision-making factors. The cumulative effects of such issues may become a decision- making issue if leading to an increase in the overall adverse effect on a particular resource or receptor".

7.7.2. The outcome of this assessment will inform site mitigation measures which are covered in Section 7.14 and 7.15.

7.8. VISUAL EFFECTS

Assessment of Visual Sensitivity and Magnitude

7.8.1. This section describes the effect of the proposal upon selected viewpoints. Priority is given to viewpoints with public access such as public rights of way, roads and residential dwellings which would be unacceptably harmed by views of the proposed development.

7.8.2. Representative viewpoints for the assessment of visual effects have been identified in the baseline assessment. These are at publicly accessible locations such as roads and public rights of way and public open space. The sensitivity of receptor, magnitude of change to the view, and the significance of the impact on the receptor are assessed for each representative viewpoint.

7.8.3. For private dwellings assessment is made a ground level. In reality, views may be apparent from first floor windows or further upper floors. These have not been assessed.

Visibility generally

The visual envelope is described in Section 6.6.

Selection of representative viewpoints

7.8.4. To test the ZTV model and to identify individual viewpoints not immediately apparent for the computer model, a visual tour within the area was carried out. The selection of viewpoints favoured visual receptors with higher sensitivity to the development. In particular residential properties, designated public footpaths, popular tourist areas and areas noted for their quietness and remoteness.

7.8.5. It was not possible to assess the effect of the proposal from individual properties. This especially applies to the neighbouring property at Pen-y-lan.

7.9. MAGNITUDE AND SIGNIFICANCE FROM VISUAL RECEPTORS

7.9.1. The significance of effect is a combination of receptor sensitivity and magnitude of the visual effect. For example, a view experienced by residents (high sensitivity) with a minor magnitude of effect gives rise to a slight or moderate effect. The same view experienced by the travelling public (low sensitivity) produces a slight or neutral effect. The greatest effects are experienced by residents observing a major magnitude of change to the view.

7.9.2. The effect of the construction phase (CP in the table) will give rise to more adverse assessments than the operational phase. This is because of the presence of an unsightly construction infrastructure. The duration of the construction phase is assumed to be between 1-2 years and these adverse effects will be temporary. After the construction is complete, the significance of the visual effect reduces as the project enters the operational phase.

7.10. SIGNIFICANCE OF RESIDUAL VISUAL EFFECTS OF THE DEVELOPMENT PROPOSAL UPON VISUAL RECEPTORS – SUMMER VIEWS

7.10.1. Reference should be made to the assessment tables in the Appendices for detailed descriptions of the range of visual effects.

Very Large

7.10.2. There are no visual receptors which will experience a very large effect upon views.

Large

7.10.3. There are no visual receptors which will experience a large effect upon views.

Moderate

7.10.4. There are no visual receptors which will experience a moderate effect upon views

Slight

7.10.5. Three viewpoints were assessed as experiencing a slight and slightly adverse effect upon views.

7.10.6. Viewpoint 1 is taken from a public footpath where it meets the road to Brynwell and Beggan. This is a glimpse views through mature trees and over a mature hedge towards the southern end of the site and is assessed as a **slightly adverse** change to the view. No specific mitigation is recommended. Allowing the existing southern boundary hedge and trees to grow will **reduce the residual effect not adverse beyond 7-10 years**.

Viewpoint 2 is taken from the entrance to the site close to Beggan. The October 2020 LVIA assessed the significance of effect upon this view as slight and slightly adverse. From here the southern part of the site will be visible through the field entrance. Since October 2020, these solar panels which would have been seen from this viewpoint have been removed with an update to the assessment as **slight and not adverse**. The field entrance is a minor part of the view with mature hedges either side and no specific mitigation is recommended.

Viewpoint 3 is a reverse view looking from field enclosure A towards Pen-y-lan farm. This shows visual connection between this dwelling and the extreme northern end of the site. The effect upon Pen-y-lan is assessed as **slightly adverse**.

A gappy hedge exists along this boundary which should be allowed to grow. As it increases in height the effect will **reduce to a residual effect of not adverse around 3-4 years post installation**.

Neutral

7.10.7. Viewpoints 4a and 4b taken from Caerau Fort are assessed as experiencing a neutral effect. The site is not visible, being screened by woodland and a succession of mature tall field boundary hedgerows. **The effect is assessed as negligible and not adverse**.

7.10.8. It is important to note that there are numerous potential viewpoints within the ZTV from where the proposal cannot be seen.

7.11. EFFECTS OF THE DEVELOPMENT UPON VISUAL RECEPTORS – WINTER VIEWS

7.11.1. A second visit was carried out in February 2021 to test the effect of the development upon visual receptors in winter.

Moderate

7.11.2. One viewpoint (WVP2) will experience a **moderate and slightly adverse** effect upon views. This is a view from the lane between Brynwell and Beggan where the southernmost views will be visible, partially filtered by trees and hedgerows. The moderate assessment is in winter only. In summer the effect reduces to slight. The moderate effect is based upon the proximity to the solar panels. This track has only occasional use and the number of receptors is minimal. However, those people who do use this track are residents with a high sensitivity to development.

7.11.3. The southern end of the fields in view will be wildflower meadow, rather than solar panels.

Slight

7.11.4. Four viewpoints were assessed as experiencing a slight and slightly adverse effect upon views.

7.11.5. WVPs 1, 4 & 5 are all taken from a public footpath running south from the site towards Meadowvale Farm. These are a glimpse views through mature trees and over a succession of hedgerows towards the site and is assessed as a **slightly adverse** change to the view. No specific mitigation is recommended. Allowing the existing southern boundary hedge and trees to grow will **reduce the residual effect not adverse beyond 7-10 years**.

WVP 3 is taken from a footpath running across Cock Hill. This is an elevated view across the wider landscape from Cock Hill. The site lies below the slope and is mainly hidden from view by woodland planning on the western slopes of Cock Hill. A glimpse view of the western portion of the site is possible in winter. This would disappear in summer. The effect is assessed as **slightly adverse** with the **residual effect remaining slightly adverse** from this single viewpoint.

Neutral

7.11.6. Two viewpoints were assessed as receiving a neutral effect.

7.11.7. WVP6 is taken from a footpath south-west of the site close to Cwrt-yr-ala. The site is indistinct behind trees, even in winter.

7.11.8. WVP7 is taken from Caerau Fort and is a winter view equivalent to VP4a and 4b. This is assessed as experiencing a neutral effect. The site is not visible, being screened by woodland and a succession of mature tall field boundary hedgerows. **The effect is assessed as negligible and not adverse**.

7.11.9. It is important to note that there are numerous potential viewpoints within the ZTV from where the proposal cannot be seen.

7.12. EFFECT OF THE GRID YARD UPON VISUAL RECEPTORS

7.12.1. The grid yard is located approximately 450m south of the site at the south end of an irregular field. The east and south field boundaries contain large mature trees, and the west side (adjacent to the lane) is a tall mature hedgerow. It is assessed that this will not create any significant new landscape or visual effects.

Grid yard location (looking north on right side of the lane). Note existing mature trees and hedgerow

Grid yard location (looking south on left side of the lane). Note existing mature trees and hedgerow

7.12.2. From all viewpoints, the grid yard will be hidden at low level with the possibility of some protrusions above the hedgeline. It is assessed that any residual effect will visually read as a minor addition to the landscape which is not significantly adverse.

7.13. VISUAL EFFECTS OF THE DEVELOPMENT PROPOSAL UPON VISUAL RECEPTORS DURING THE CONSTRUCTION PHASE

7.13.1. Those receptors experiencing an adverse effect upon views will experience a moderately adverse effect during the construction phase. Adverse effects are the result of construction site traffic and infrastructure, including noise. Solar energy sites are short duration installations, and the adoption of considerate construction methods and protocols can reduce any temporary adverse effects.

7.13.2. Post construction phase, there will be a period of moderate and adverse effects while mitigation planting establishes. The screening effect should develop within 5 years and the landscape proposals show some larger advanced nursery stock plants to speed establishment and screening within this 5-year period.

7.14. VISUAL IMPACT SCHEDULE – REPRESENTATIVE VIEWPOINTS

7.14.1. The assessment of individual viewpoints is produced in tabulated form in the accompanying illustrated report and describes each Representative View.

7.14.2. Each table assesses:

- Distance to the development
- Type of receptors
- Sensitivity of the receptor
- Significance of the effect
- A description of the view and the extent of representation
- The magnitude of the effect on the view and its valency (Adverse, Beneficial, Neutral)
- The significance of the effect on the view and its valency (Adverse, Beneficial, Neutral)
- Action required to mitigate against adverse effects, including design development.
- The significance of the effect on the view and its valency (Adverse, Beneficial, Neutral) – post design development/successful mitigation.

7.15. OUTCOMES OF LANDSCAPE AND VISUAL IMPACT ASSESSMENT INFLUENCING DESIGN DEVELOPMENT AND MITIGATION

RESPONSE TO LANDSCAPE AND VISUAL CHARACTER ASSESSMENT AND APPLICATION OF GOOD PRACTICE GUIDANCE ON SITING SOLAR PV DEVELOPMENTS TO THIS SITE

7.15.1. The following provides a response to the landscape character assessment by reference to national guidance on siting solar PV development - focussing on minimising landscape and visual effects. It is recognised that technologies need to be sited and designed to ensure a reasonable output.

i. The site is located on a high plateau characterised by woodland and numerous hedgerows reducing the potential effects upon landscape character.
ii. The site lies within a wider landscape with a high sense of enclosure rather than in open and unenclosed landscapes.
iii. There are very few local viewpoints. Local footpath routes do not appear to be regularly used (evidenced by wear and tear upon the footpaths and bridleways) and there is just one view into the site. There are no views from recognised /iconic viewpoints, and designated landscapes.
iv. Viewpoint assessment has considered the appearance of the development as viewed from the 'backs' and 'sides' (where frames will be more visible) as well as from the 'front'.
v. The site does not span across marked changes in character on the ground.
vi. The proposal provides enhanced management of landscape features, and habitats as part of the development. This includes contributing to wider landscape scale targets and projects in LPA's Biodiversity Action Plans, guidelines in Landscape Character Assessments, and landscape management objectives set out in local landscape character assessments.

7.16. RECOMMENDED MITIGATION MEASURES TO REDUCE ASSESSED ADVERSE EFFECTS

7.16.1. Twelve viewpoints were assessed, of which one will benefit from new mitigation measures which will be effective and reduce any residual effects. Three viewpoints will receive a slightly adverse effect upon views, but new mitigation measures will have a limited impact reducing these effects. These viewpoints can be mitigated by relaxing any hedgerow management regimes and allowing existing hedgerows and trees to grow.

7.16.2. The key principle, through mitigation, is to reduce slightly adverse effects from viewpoints immediately adjacent to the proposals. All of these are located within 300m from the site boundary or immediately adjacent to the site boundary. The proposals include mitigation measures to reduce the adverse effects upon these views through the introduction of a single section of new hedgerow which will, once established, screen the panels. **Post mitigation establishment, the residual effect reduces dramatically to slightly adverse within the first 5-7 years and then not adverse beyond 7-10 years.**

7.16.3. Elsewhere, mitigation will take the form of gap-filling and a relaxation of hedgerow management to allow the hedges and trees to grow.

7.16.4. As a general recommendation, existing field boundary hedgerows should be allowed to grow to a height to help screen the solar arrays without interfering with the effectiveness of energy production.

7.16.5. These mitigation measures as described, in detail, in the accompanying Landscape and Ecological Management Plan (LEMP).

8. CONCLUSIONS

8.1.1. The assessment has revealed the following conclusions and includes recommendations to reduce adverse effects described in this report:

8.2. EFFECTS UPON LANDSCAPE CHARACTER

8.2.1. The site has a moderate sensitivity to solar farm development: "These beneficial or adverse effects are important but are not likely to be key decision-making factors. The cumulative effects of such issues may become a decision- making issue if leading to an increase in the overall adverse effect on a particular resource or receptor".

8.2.2. The site has a hidden quality and is well-screened from the surrounding area, minimising potential effects upon landscape character. There are no proposed changes to defined field boundary patterns or hedgerows. The effect of the proposal upon landscape character may slightly alter the perception of rural pasture through a change from grassland to solar panels. This could increase the perception of human influence on the landscape. However, the lack of public access, footpaths, and any significant visual connection to and from the site means that any effect will be highly localised and will exhibit negligible influence upon the surrounding area.

8.2.3. No changes are proposed to hedgerows or trees, including the perimeter woodland areas and riparian woodland at the southern end of the site.

8.2.4. At a site-specific level there will be changes to summary descriptions of diversity, texture, and colour. This relates to a change from grassland to solar PV panels. Because of the highly localised nature of any effects this is assessed as not adverse.

8.2.5. The high value and good condition of the landscape will be protected by the retention of all boundary elements.

8.2.6. The vegetated nature of the area will be maintained. The appearance of the field enclosures will change, but in all other respects the rural quality will remain unchanged. This includes the strong visual framework of hedgerows and trees, the field pattern, and the sense of tranquillity, shelter and enclosure, and safety.

8.2.7. The area scores highly in all evaluation categories. Most characteristics will be maintained and enhanced through protection of existing resources, enhanced management regimes and the creation of new biodiversity habitats.

8.2.8. From outside the site itself the scenic quality, integrity, character, and rarity will be unchanged. The surrounding area will remain picturesque.

8.2.9. Within the site there will be a change to land cover, but not to field enclosures or boundaries. Solar panels in the landscape may be perceived by some as inharmonious (the phrasing used in the LANDMAP area description). The almost complete screening afforded by the site and field boundaries mean that any changes to perception will only be possible within

the site itself which has no public access. It is therefore assessed that the proposal will not add an inharmonious addition to the landscape which can be perceived by the general public.

8.2.10. On balance, the significance of the effect upon landscape character is assessed as slight. This is principally due to the very low levels of perception from the surrounding area.

8.3. EFFECTS UPON VISUAL RECEPTORS

8.3.1. The effect upon visual receptors is assessed in the range moderate, through slight to negligible. No assessments of very large, large, or moderate were recorded.

8.3.2. Seven views were assessed as receiving a slight and slightly adverse visual effect. Two are from residential properties and the remainder from short sections of footpath.

8.3.3. From one viewpoints, new mitigation measures will not screen the proposal and the residual effect, following the construction phase, will remain moderate and slightly adverse. This view is across existing hedgerows and through existing trees and it is recommended that these are allowed to grow to reduce any residual effect.

8.3.4. It is important to note that all visual effects are upon the land cover within the field enclosures themselves, rather than any changes to landscape pattern or wider views which will remain unchanged. It is principally a visual change from one material (agricultural crops) to another (solar arrays), but with a potential change to perceptions of the landscape view based upon an individual's response to this type of landscape change.

8.3.5. From Pen-y-lan farm the site will be visible. It is recommended that the existing gappy hedge is allowed to grow to mitigate against an assessed slightly adverse effect.

8.4. SUMMARY CONCLUSION

8.4.1. On balance, through a detailed landscape and visual assessment, this is assessed as a good site for solar energy production.

8.4.2. The site has no landscape designations. Views into the site are hard to find from many directions, including those theoretically revealed through the ZTV modelling.

8.4.3. The presence of the existing neighbouring solar farm is not assessed as significantly increasing any cumulative assessed adverse effects.

8.4.4. The site has a moderate sensitivity to solar energy production and there are no assessed significantly adverse effects upon landscape character. The proposal provides an opportunity to improve the described landscape character, in the medium and long-term, through changing landscape management regimes which will increase biodiversity as well as enhancing hedgerow cover and wildflower planting in this relatively low-intensively farmed landscape.

8.4.5. There are three viewpoints from where a very small number of visual receptors will experience a slightly adverse effect. From these viewpoints any adverse effects upon views can be mitigated, but not screened completely until around 7-10 years post-planting. Up to around 7 years the residual effect will remain slightly adverse. during which time the effect remains slightly adverse. Once mitigation planting has established, within 7-10 years the residual effect

is likely to be not adverse. In addition to mitigation screening, it may be possible, in the short term, to enhance views from these properties through careful landscape master planning. This is shown within the accompanying Landscape and Ecological Management Plan (LEMP).

8.4.6. It is important to note that now views were found from Caerau Fort.

9. APPENDIX 1 – ASSESSMENT CRITERIA TABLES

9.1. SENSITIVITY VALUES

9.1.1. Measures of sensitivity are described more fully in this report, but follow the general principles outlined in the table below:

Value/Sensitivity	
Value (Sensitivity)	Typical Descriptors
Very High	Very high importance and rarity, international scale, and limited potential for substitution
High	High importance and rarity, national scale, and limited potential for substitution
Medium	High or medium importance and rarity, regional scale, limited potential for substitution
Low (or Lower)	Low or medium importance and rarity, local scale
Negligible	Very low importance and rarity, local scale

9.2. ASSESSMENT OF MAGNITUDE EFFECT ON LANDSCAPE CHARACTER

9.2.1. The criteria used for assessing the magnitude of impact is summarised in the table below:

Magnitude of effect upon Landscape Character	
Magnitude of impact	Typical Criteria Descriptors
Major	Loss of resource and/or quality and integrity: severe damage to key characteristics, features, or elements (Adverse) Large scale or major improvement of resource quality: extensive restoration or enhancement: major improvement of attribute quality (Beneficial)
Moderate	Loss of resource, but not adversely affecting integrity: Partial loss of/damage to key characteristics, features, or elements (Adverse)

	Benefit to, or addition of, key characteristics, features, or elements: improvement of attribute quality (Beneficial)
Minor	Some measurable change in attribute's quality or vulnerability: minor loss of, or alteration to, one (or maybe more) key characteristics, features, or elements (Adverse) Minor benefit to, or addition of, on (or maybe more) key characteristics, features, or elements: some beneficial impact on attribute or a reduced risk of negative impact occurring (Beneficial)
Negligible	Very minor loss or detrimental alteration to one or more characteristics, features, or elements (Adverse) Very minor benefit to or positive addition of one or more characteristics, features, or elements (Beneficial)
No change	No loss or alteration to characteristics, features, or elements: no observable impact in either direction

9.3. SENSITIVITY AND MAGNITUDE COMBINED – SIGNIFICANCE OF EFFECT

9.3.1. In order to report on the overall significance of the proposal on both landscape and visual receptors the sensitivity of the site and the magnitude of change are assessed in combination. The outcome can be both positive – i.e. the proposal makes a positive change to the landscape; and negative – the proposal will result in a negative change to landscape character and visual character. The outcomes are reported using descriptive terms rather than numerical scores and the terms used are summarised below:

Significance of Effect	
Significance of Category	Typical descriptors of Effect
Very Large	Only adverse effects are normally assigned this level of significance. They represent key factors in the decision-making process. These effects are generally, but not exclusively, associated with sites or features of international, national, or regional importance that are likely to suffer a most damaging impact and loss of resource integrity. However, a major change in a site or feature of local importance may also enter this category
Large	These beneficial or adverse effects are considered to be very important considerations and are likely to be material in the decision-making process

Moderate	These beneficial or adverse effects may be important but are not likely to be key decision-making factors. The cumulative effects of such issues may become a decision-making issue if leading to an increase in the overall adverse effect on a particular resource or receptor
Slight	These beneficial or adverse effects may be raised as local factors. They are unlikely to be critical in the decision-making process, but are important in enhancing the subsequent design of the project
Neutral	No effects or those that are beneath levels or perception, within normal bounds of variation or within the margin of forecasting error

9.4. VALENCY OF EFFECT – LANDSCAPE AND VISUAL ASSESSMENT

9.4.1. Effects are defined as adverse, neutral, or beneficial.

Valency of Effect	
Nature of Effect	Definition
Adverse	Effect that would result in damage to the condition, integrity or key characteristics of the landscape or visual resource
Neutral/ Not adverse	Effect that would maintain, on balance, the existing level of condition, integrity or key characteristics of the landscape or visual resource. Whilst the nature of the change may be significant, the proposal does not compromise the inherent qualities of the resource and can incorporate a combination of positive and negative effects.
Beneficial	Effect that would result in improvement to the condition, integrity or key characteristics of the landscape or visual resource

9.5. LANDSCAPE CHARACTER SENSITIVITY

Landform and scale				
A smooth, convex or flat landform is likely to be less sensitive to development than a landscape with a dramatic rugged landform, distinct landform features (including prominent headlands and cliffs) or pronounced undulations; and larger scale landforms are likely to be less sensitive than smaller scale landforms - because solar farms may appear out of scale, detract from visually important landforms or appear confusing in the latter types of landscapes.				
Examples of sensitivity ratings				
Lower sensitivity	←		→	Higher sensitivity
e.g. an extensive lowland flat landscape or elevated plateau, often a larger scale landform	e.g. a simple gently rolling landscape, likely to be a medium-large scale landform	e.g. an undulating landscape, perhaps also incised by valleys, likely to be a medium scale landform	e.g. a landscape with distinct landform features, and/or irregular in topographic appearance (which may be large in scale), or a smaller scale landform	e.g. a landscape with a rugged landform or dramatic landform features (which may be large in scale), or a small scale landform

Landform cover pattern and presence of human scale features				
Simple, regular landscapes with extensive areas of consistent ground cover are likely to be less sensitive to development than landscapes with more complex or irregular land cover patterns, smaller and/ or irregular field sizes and landscapes with frequent human scale features that are traditional of the landscape, such as stone farmsteads and small farm woodlands 18. This is because large features may dominate smaller scale traditional features within the landscape.				
Examples of sensitivity ratings				
Lower sensitivity	←		→	Higher sensitivity
e.g. a very large-scale landscape with uniform groundcover and lacking in human scale features	e.g. a landscape with large-scale fields, little variety in land cover and occasional human scale features such as trees and domestic buildings	e.g. a landscape with medium sized fields, some variations in land cover and presence of human scale features such as trees, domestic buildings	e.g. a landscape with irregular small-scale fields, variety in land cover and presence of human scale features such as trees, domestic buildings	e.g. a landscape with a strong variety in land cover and small scale/irregular in appearance containing numerous human scale features

Tracks/transport pattern				
Landscapes that are devoid of tracks will be particularly sensitive to development because it will be more difficult to absorb permanent new tracks into the landscape without change to character in these areas. In addition, if an LCA has a rural road network which contributes to landscape character (e.g. winding narrow lanes bounded by high hedge banks or sunken lanes), this aspect of character may be affected by access works to enable HGVs carrying development materials to a site. This characteristic therefore also influences sensitivity.				
Examples of sensitivity ratings				
Lower sensitivity		⟷		Higher sensitivity
e.g. a landscape containing existing roads and vehicular tracks, and no restrictions in terms of narrow hedged lanes	e.g. a landscape containing existing roads and vehicular tracks, and few restrictions in terms of narrow hedged lanes	e.g. a landscape containing some existing roads and vehicular tracks, including some restrictions in terms of narrow hedged lanes	e.g. a landscape containing few lanes or vehicular tracks, and these are predominantly narrow lanes bounded by high hedge banks	e.g. a landscape devoid of roads or vehicular tracks

Skylines				
Prominent and distinctive and/or undeveloped skylines, or skylines with important landmark features, are likely to be more sensitive to development because development may detract from these skylines as features in the landscape or draw attention away from existing landform or landmark features on skylines. These include the skylines of elevated coastlines and coastal headlands. Important landmark features on the skyline might include historic features or monuments.				
Examples of sensitivity ratings				
Lower sensitivity		⟷		Higher sensitivity
e.g. a large scale flat or plateau landscape where skylines are not prominent and/or there are no important landmark features on the skyline	e.g. a large scale landscape where skylines are not prominent and/or there are very few landmark features on the skyline – other skylines in adjacent LCAs are more prominent	e.g. a landscape with some prominent skylines, but these are not particularly distinctive. There may be some landmark features on the skyline.	e.g. a landscape with prominent skylines that may form an important backdrop to views from settlements or important viewpoints, and/or with important landmark features	e.g. a landscape comprising prominent or distinctive undeveloped skylines or skylines with particularly important landmark features

Perceptual qualities

Landscapes that are relatively remote or tranquil (due to freedom from human activity and disturbance and having a perceived naturalness or a strong feel of traditional rurality with few modern human influences) tend to increase levels of sensitivity to development compared to landscapes that contain signs of modern development (as the development will introduce new and uncharacteristic features which may detract from a sense of tranquillity and or remoteness/ naturalness).				
Examples of sensitivity ratings				
Lower sensitivity		⟷		Higher sensitivity
e.g. a landscape with much human activity and development such as industrial areas or a port	e.g. a rural landscape with much human activity and dispersed modern development	e.g. a rural landscape with some modern development and human activity	e.g. a more naturalistic landscape and / or one with little modern human influence and development	e.g. a remote or 'wild' landscape with little or no signs of current human activity and development

Historic Landscape Character				
Landscapes comprising prehistoric and medieval enclosures (including strip fields) are considered to have a higher sensitivity to development than landscapes comprising modern enclosures or industrial/military Historic Landscape Types (HLTs) due to the potential effects of development on the coherence of these landscapes (including effects of access tracks on field boundaries) and the ability to appreciate them. Historic landscape types such as rough ground, ancient woodland, other woodland, marsh, dunes, mud, sand, outcrop/ scree/ cliffs, water meadows, and orchards also have a higher sensitivity to energy development as a result of potential change to the coherence of these historic landscape types.				
Examples of sensitivity ratings				
Lower sensitivity		⟷		Higher sensitivity
e.g. majority of the landscape covered by least sensitive HLTs	e.g. majority of the landscape covered by lower sensitivity HLTs, but may include some small areas of higher sensitivity	e.g. majority of the landscape covered by medium sensitivity HLTs or a mixture of higher and lower sensitivity HLTs	e.g. majority of the landscape covered by higher sensitivity HLTs, but may include some small areas of lower sensitivity	e.g. the majority of the landscape covered by higher sensitivity HLTs

Scenic and Special Qualities				
Landscapes that have a high natural beauty/ scenic quality (which may be recognised as a National Park, Heritage Coast or AONB) and whose scenic qualities, special qualities (as recorded in the LCA or by AGLV designation) or natural beauty are likely to be affected by development will be more sensitive than landscapes of low scenic quality or whose special scenic qualities or special qualities are not likely to be affected by wind energy development (some areas may include special qualities that might not be affected by development). Scenic and special qualities may relate to landscapes that are not designated as well as landscape designated for their natural beauty.				
Examples of sensitivity ratings				
Lower sensitivity	⟷			Higher sensitivity
e.g. landscape has low scenic quality such as an industrial area or despoiled land – special qualities will not be affected by energy development	e.g. landscape has low-medium scenic quality, or special qualities are unlikely to be affected by energy development	e.g. landscape has a medium scenic quality and some of the special qualities may be affected by energy development	e.g. landscape has a medium-high scenic quality – most of the special qualities are likely to be affected by energy development	e.g. area has a high scenic quality (likely to be recognised as National Park/AONB/ Heritage Coast) and the scenic qualities will be affected by energy development

9.6. SENSITIVITY OF VISUAL RECEPTORS

9.6.1. The sensitivity of visual receptors – general principles

- the location i.e. proximity and context of the viewpoint.
- the expectations and occupation or activity of the receptor, including awareness of their surroundings and duration of viewing opportunity, whether prolonged or intermittent.
- the importance of the view, which may be determined with respect to its popularity or numbers of people affected, its appearance in guidebooks, on tourist maps, and in the facilities provided for its enjoyment and references to it in literature or art.

9.6.2. A wide variety of visual receptors can reasonably be anticipated to be affected by a proposed development. The range of visual receptors will include pedestrians, and recreational users of the surrounding landscape such as walkers, cyclists and those otherwise engaged in the pursuit of leisure activities within the visual envelope of the site, local residents, motorists, those working outdoors and other workers. All categories of receptors can potentially be affected to a greater or lesser degree by a development. The four main visual receptor groups are considered in more detail below under the headings of residents, workers, the travelling public, and visitors.

Residents

9.6.3. Local residents tend to have a higher level of sensitivity to changes in their landscape and visual environment than those passing through. For residents, the most important views are those from their homes, although they will also be sensitive to other views such as those

experienced when travelling to work or other local destinations. However, it is these latter views, from public areas nearby houses that are of relevance to the main body of the visual impact assessment (assessment of effects from the representative viewpoints).

Workers

9.6.4. Workers are generally less sensitive to effects as they are focussed on the tasks they are carrying out. Indoor workers generally have a Low sensitivity, and outdoor workers, such as farmers and those offering outdoor pursuits are considered to have a Low to Medium sensitivity.

The Travelling Public

9.6.5. This category of visual receptor group overlaps to a degree with the other categories in that it embraces local residents, workers and those who come to visit the area. This group of visual receptors will include the following:

9.6.6. Motorists - For major trunk routes and motorways, the sensitivity of users will be Low, as they will be travelling at speed and will be primarily focussed on achieving their destination. Users of other A-roads will have a Low to Medium sensitivity, unless these are particularly scenic or slow routes, in which case the sensitivity may be assessed as Medium. The users of local roads will have a Medium sensitivity.

9.6.7. Cyclists and footpath users – These groups are addressed under the heading of visitors as they are generally less concerned with the object of reaching their destination than with the enjoyment of being outside and enjoying the landscape and available views.

Visitors

9.6.8. This category includes several visual receptor groups, each with different objectives and levels of sensitivity to any change in the fabric or character of the landscape and views arising from the proposed development. This group includes those who are mainly concerned with enjoyment of the outdoor environment but also those who may pursue indoor recreational pursuits and is anticipated to include the following (arranged in decreasing sensitivity):

- Those whose main preoccupation is the enjoyment of scenery (High sensitivity).
- Recreational walkers and equestrians (High sensitivity)
- Those visitors engaged in cultural pursuits (High-Medium sensitivity)
- Cyclists (High-Medium sensitivity)

9.7. MAGNITUDE OF EFFECT ON VIEWS FROM REPRESENTATIVE VIEWPOINTS

9.7.1. Magnitude of effect identifies the degree of change to the character and quality of views experienced by the visual receptor. This will be influenced by:

9.7.2. the distance of the viewpoint from the proposed development and the scale of change in the view with respect to the loss or addition of features in the view and changes in its composition, including the proportion of the view occupied by the proposed development.

9.7.3. the degree of contrast or integration of any new features or changes in the landscape with the existing or remaining landscape elements and characteristics in terms of form, scale and mass, line, height, colour, and texture.

Magnitude of Effect on Views	
High	Total or major alteration to key elements, features, or characteristics of the view, such that post development the baseline situation will be fundamentally changed.
Medium	Partial alteration to key elements, features, or characteristics of the view, such that post development the baseline situation will be noticeably changed.
Low	Minor alteration to key elements, features, or characteristics of the view, such that post development the baseline situation will be largely unchanged despite discernible differences.
Negligible	Very minor alteration to key elements, features, or characteristics of the view, such that post development the baseline situation will be fundamentally unchanged with barely perceptible differences.

9.8. TABLE SHOWING THE SIGNIFICANCE OF EFFECT AS A COMBINATION OF MAGNITUDE AND RECEPTOR SENSITIVITY

	MAGNITUDE OF CHANGE					
RECEPTOR SENSITIVITY		Major	Moderate	Minor	Negligible	No Change
	Very High	Very Large	Large or Very Large	Moderate or Large	Slight	Neutral
	High	Large or Very Large	Moderate or Large	Slight or Moderate	Slight	Neutral
	Medium	Moderate or Large	Moderate	Slight	Neutral or Slight	Neutral
	Low	Slight or Moderate	Slight	Neutral or Slight	Neutral or Slight	Neutral
	Negligible	Slight	Neutral or Slight	Neutral or Slight	Neutral	Neutral

10. APPENDIX 2 – GLOSSARY

- **Cumulative effects** - The summation of effects that result from changes caused by a development in conjunction with other past, present, or reasonably foreseeable actions.
- **Indirect effects** - Effects on the environment, which are nor a direct result of the development but are often produced away from it or as a result of a complex pathway. Sometimes referred to as secondary impacts.
- **Landscape character type** - A landscape type will have broadly similar patterns of geology, landform, soils, vegetation, land use, settlement, and field pattern discernible in maps and field survey records.
- **Landscape effects** - Change in the elements, characteristics, character, and qualities of the landscape as a result of development. These effects can be negative or positive.
- **Landscape character** - means the distinct and recognisable pattern of elements that occur consistently in a particular type of landscape, and how these are perceived by people. It reflects particular combinations of geology, landform, soils, vegetation, land use and human settlement. It creates the particular sense of place of different areas of the landscape.
- **Landscape quality (or condition)** - is based on judgements about the physical state of the landscape, and about its intactness, from visual, functional, and ecological perspectives. It also reflects the state of repair of individual features and elements which make up the character in any one place.
- **Landscape value** - is concerned with the relative value that is attached to different landscapes. In a policy context, the usual basis for recognising certain highly valued landscapes is through the application of a local or national landscape designation. Yet a landscape may be valued by communities for many different reasons without any formal designation.
- **Landscape sensitivity** - The extent to which a landscape can accept change of a particular type and scale without material effects on its character.
- **Magnitude** - A combination of the scale, extent, and duration of an effect.
- **Mitigation** - Measures, including any process, activity, or design to avoid, reduce, remedy, or compensate for adverse landscape and visual effects of a development project.
- **Receptor** - Physical landscape resource, special interest or viewer group that will experience an effect.
- **Visual amenity** - The value of a particular area or view in terms of what is seen.
- **Visual effect** - Change in the appearance of the landscape as a result of development. This can be positive (i.e. beneficial or an improvement) or negative (i.e. adverse or a detraction).
- **Visual envelope** - Extent of potential visibility to or from a specific area or feature.
- **Zone of Theoretical Visibility (ZTV)** – A computer generated model, based upon bare earth terrain data, which shows areas from where a theoretical visual connection to and from the site is possible.
- **Zone of visual influence** - Area within which a proposed development may have an influence or effect on visual amenity.

11. APPENDIX 3 – REFERENCES

1. Guidelines for Landscape and Visual Impact assessment, Third Edition, Landscape Institute and Institute of Environmental Management and Assessment, 2013
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