Glöyn Byw | Butterfly Solar Farm

Appendix 6.1

LVIA Methodology

Prepared for: RWE

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3456-01

1.0 INTRODUCTION

1.1.1 Landscape and Visual Impact Assessment (LVIA) is a tool used to systematically identify and assess the nature and significance of the effects of a proposed development upon the landscape and upon views and visual amenity. The purpose of the LVIA is to identify the level and nature of effect arising from a proposed development and if necessary, through an iterative design process, to inform changes to the development and evolution of mitigation strategies which minimise effects wherever possible.

1.1.2 The methodology for this LVIA is informed by guidance contained within the *Guidelines for Landscape and Visual Impact Assessment* (The Landscape Institute and Institute of Environmental Assessment, 3rd Edition, 2013), hereafter referred to as 'the GLVIA'.

1.1.3 The LVIA aims to establish the following:

i) A clear understanding of the development site and its context, in respect of the physical and perceived landscape and of views and visual amenity;

ii) An understanding of the proposed development in terms of how this would relate to the existing landscape and views;

iii) An identification of the likely effects of the proposed development upon the landscape and upon views, throughout the life-cycle of the development, including cumulative interactions with other developments;

iv) Those mitigation measures necessary to reduce or eliminate any potential adverse effect on the landscape or views arising as a result of the proposed development; and

v) A conclusion as to the residual likely significant effects of the proposed development.

1.1.4 In accordance with the requirements of GLVIA, the LVIA is proportionate to the likely effects of the proposed development.

1.1.5 Professional judgement is a very important part of the LVIA process at every stage of the assessment. This judgement must be exercised within an assessment framework that transparently sets out the steps in the assessment process which have led to the overall conclusions. This is emphasised in Box 3.1 (page 37) of the GLVIA, which advocates a structured approach that considers the sensitivity of the receptor and magnitude of the effect when determining if an effect is material or not.

1.1.6 To ensure the transparency of the assessment and professional judgements made, the LVIA follows a standard approach, namely:

i) The establishment of the baseline conditions, against which the effects of the proposed development will be assessed;
ii) The determination of the nature of the receptor likely to be affected, i.e. its sensitivity;
iii) The prediction of the nature of the effect likely to occur, i.e. the magnitude of change; and
iv) An assessment of whether a likely significant effect would occur upon any receptor, by considering the predicted magnitude of change together with the sensitivity of the receptor, taking into account any proposed mitigation measures.

1.1.7 The GLVIA clarifies that the guidance concentrates on

[1.20] *"…principles while also seeking to steer specific approaches where there is a general consensus on methods and techniques. It is not intended to be prescriptive, in that it does not provide a detailed 'recipe' that can be followed in every situation. It is always the primary responsibility of any landscape professional carrying out an assessment to ensure that the approach and methodology adopted are appropriate to the particular circumstance".*

1.1.8 As set out above, use of professional judgement within a structured assessment framework is a very important element of the assessment of landscape and visual effects. As discussed in the GLVIA:

[2.23] *"…Whilst there is some scope for quantitative measurement of some relatively objective matters, …much of the assessment must rely on qualitative judgement, for example about what effect the introduction of a new development or land use change may have on visual amenity, or about the significance of change in the character of the landscape and whether it is positive or negative".*

[2.24] *"…In all cases there is a need for the judgements that are made to be reasonable and based on clear and transparent methods so that the reasoning applied at different stages can be traced and examined by others…"*

[2.26] *"…In carrying out an LVIA the landscape professional must always take an independent stance, and fully and transparently address both the negative and positive effects of a scheme in a way that is accessible and reliable for all parties concerned".*

1.1.9 Landscape and visual matters are separate issues, although closely related and interlinked, are dealt with as such throughout the LVIA. The methodologies for assessing both are outlined separately below.

2.0 LANDSCAPE ASSESSMENT

2.1.1 The landscape assessment considers the potential effects of the proposed development on the components of the landscape as an environmental resource. Landscape receptors which could be affected by a proposed development may include:

i) Individual constituent elements and features of the landscape (sometimes referred to as landscape fabric).
ii) Specific aesthetic and perceptual qualities of the landscape.
iii) The overall character and key characteristics of the landscape as experienced in different areas (e.g. landscape character areas or types).

Sensitivity

2.1.2 The nature of a landscape receptor likely to be affected, i.e. its **sensitivity** is determined by considering two factors, namely:

i) Susceptibility to change.
ii) Value.

Susceptibility to Change.

2.1.3 Susceptibility to change is defined in the GLVIA as follows:

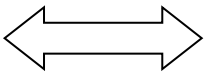
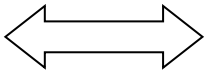
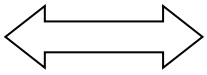
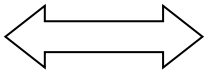
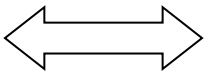
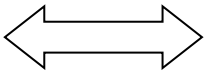
[5.40] *"This means the ability of the landscape receptor (whether it be the overall character or quality/condition of a particular landscape type or area, or an individual element and/or feature, or a particular aesthetic and perceptual aspect) to accommodate the proposed development without undue consequences for the maintenance of the baseline situation and/or the achievement of landscape planning polices and strategies"*

[5.41] *"The assessment may take place in situations where there are existing landscape sensitivity and capacity studies, which have become increasingly common. They may deal with the general type of development that is proposed, in which case they may provide useful preliminary background information for assessment. But they cannot provide a substitute for the individual assessment of the susceptibility of the receptors in relation to change arising from the specific development proposal".*

2.1.4 To understand susceptibility to change, the various characteristics/factors that make up a particular landscape must be identified and consideration given as to how these will be affected by the proposed development. Consideration is given to physical and perceptual factors which are considered together to derive an overall susceptibility to change. Factors influencing the susceptibility of a landscape to change resulting from a *commercial-scale solar energy development* are set out in Table 1.

2.1.5 The factors set out in the Table have been informed by work undertaken by Natural England included in *An approach to landscape sensitivity assessment – to inform spatial planning and land management* (2019, Natural England).

Table 1 – Susceptibility to Change Criteria for Commercial-scale Solar Energy (Landscape Character)

Landscape Characteristic	Typical of lower susceptibility to solar energy development		Typical of higher susceptibility to solar energy development
Pattern, Scale and Enclosure	Large scale		Small scale
	Enclosed/sheltered		Open/exposed
	Featureless		Human scale indicators
	Simple, regular or uniform pattern		Complex or intimate pattern
	Broad/ expansive views		Narrow/ framed views
Landform	Absence of strong topographical variety - featureless, convex or flat. Expansive lowland landscapes.		Presence of strong topographical variety or distinctive landform features, including skylines
Land cover	Large arable fields		Natural or semi-natural land cover (e.g. moorland)
	Previously developed land		Large areas of woodland
	Continuous monoculture or extensive built development		Historic parkland landscapes
Settlement & Human Influence	Presence of utility/ infrastructure/ industrial elements		Absence of built features
	Contemporary structures/ modern settlements		Traditional/ historic settlements/ buildings/ structures
	Functional land use with engineered aspects		Natural or naturalistic features and forms
	Concentrated settlement pattern		Dispersed settlement pattern
Remoteness and Tranquillity	Busy and noisy		Sense of peace and isolation
	Human activity and development		Remote and empty
Visual	Frequent vegetative or built screening features		Few if any vegetative or built screening features
	Little intervisibility with adjacent landscapes		Strong intervisibility with adjacent landscapes
	Enclosed, well contained landscape with few inward or outward views		Open, exposed landscape with far-reaching views available

2.1.6 A particular landscape may have different characteristics that are more or less susceptible to change. As such, the overall susceptibility to change is allocated using professional judgement based upon consideration of the various factors outlined above and the relative weight attached to these (which will vary from landscape to landscape). The assessment of susceptibility is expressed using a three point verbal scale of 'high', 'medium' or 'low'. Where appropriate, intermediate levels such as 'medium to high' or 'low to medium' are used to refine the assessment. The rationale in support of the assessment of susceptibility is set out for each receptor in the assessment, so that it is clear how each judgement has been made.

Value

2.1.7 The value of the landscape receptor is independent of any development proposal. The absence of a formal landscape designation does not necessarily imply that a landscape is of lower value. Value is defined in the GLVIA as:

[5.19] "…the relative value that is attached to different landscapes by society, bearing in mind that a landscape may be valued by different stakeholders for a whole variety of reasons…Landscapes or their component parts may be valued at the community, local, national or international levels…"

2.1.8 Further guidance regarding judgements about landscape value is set out in *Assessing landscape value outside national designations. Technical Guidance Note 02/21* (2021, Landscape Institute). The bullets following paragraph 2.4.5 of the Technical Note are clear that:

"The factors to be considered are not fixed as they need to be appropriate to the particular project and location…

The indicators of value should be reviewed on a case-by-case basis, taking into account what they contribute (positively or negatively) to a specific landscape. The relative importance to be attached to each indicator is likely to vary across different landscapes. Once evidence for each factor has been collated and assessed, it is important to step back and judge to overall 'weight of evidence' in coming to an overall judgement on landscape value…"

2.1.9 Factors that can help in identifying valued landscapes include:

i) Presence/absence of statutory landscape designations.
ii) Presence/absence of local landscape designations and associated policies.
iii) Landscape condition.
iv) Scenic quality.
v) Distinctiveness/sense of place.
vi) Conservation interest.
vii) Geological/geomorphological interest.
viii) Green Infrastructure value.
ix) Recreational value.
x) Perceptual aspects.
xi) Cultural associations
xii) Historic landscape features
xiii) Functional aspects.

2.1.10 The assessment of value is expressed on a similar basis to that described for susceptibility of change above. Table 2 indicates how the above factors have been used to determine landscape value.

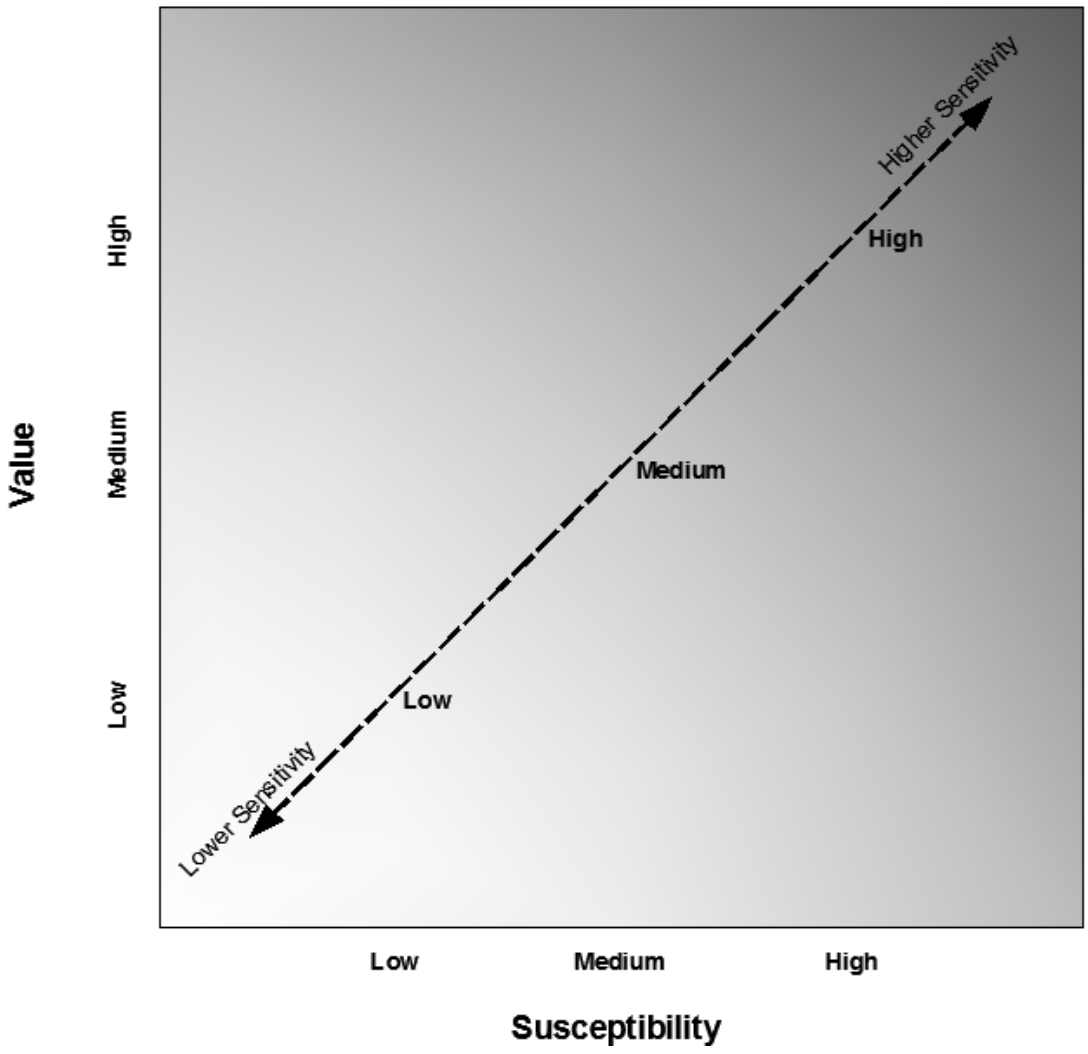
Table 2 – Landscape Value Criteria

	Criteria tending towards higher or lower value	
	Higher ← → **Lower**	
Value	Unique, and/or strongly positive landscape character, often with strong associations or (non-landscape) environmental designation. Nationally designated landscape (protected by statute)	Widespread or common landscape character. Negative character. Lack of other environmental qualities. Landscape without formal designation and with limited positive contribution to the locality.

Sensitivity

2.1.11 Susceptibility to change and value are considered together to determine the sensitivity of the receptor. It should be noted that the relationship between susceptibility to change and value can be complex and is not linear. For example, a highly-valued landscape (such as a National Park) may have a low susceptibility to change, due both to the characteristics of the landscape and the nature of the change proposed. Figure 1 provides a guide as to how susceptibility and value can be combined to assess sensitivity (with the grey shading indicative of the increasing sensitivity of receptors with increasing susceptibility and/or value). However, the final assessment of sensitivity is one of professional judgement based on consideration of the susceptibility and value assessments.

Figure 1 – Indicative Sensitivity Assessment



Magnitude

2.1.12 The nature of the effect that is likely to occur, i.e. its **magnitude**, is determined by considering four separate factors, namely:

i) Size/scale.
ii) Geographical extent.
iii) Duration.
iv) Reversibility.

2.1.13 The size and scale of an effect is determined by considering the amount of change experienced by a receptor, including:

i) The extent of existing landscape elements that would be lost, the proportion of the total extent that this represents and the contribution of that element to the wider character;
ii) The degree to which aesthetic or perceptual aspects of the landscapes are altered by the removal, or introduction of new landscape components;
iii) Whether change affects the key characteristics of a landscape.

2.1.14 The geographical extent of an effect is the area over which effects will be experienced. It is not the same as size / scale, as a small-scale change may be experienced over a wider area, or vice-versa.

2.1.15 The duration of an effect simply relates to the length of time for which it would be experienced, as follows:

i) Long-term: 10+ years: or the change could not reasonably be considered temporary in nature.
ii) Medium-term: 3-10 years.
iii) Short-term: 0-3 years.

2.1.16 The reversibility of an effect relates to the prospects and practicality of an effect being able to be wholly or partially reversed, or whether the change cannot realistically be reversed, i.e. it is permanent.

2.1.17 These four factors are then considered together to derive an overall magnitude of change for each receptor, which is determined by use of professional judgement. The assessment of the magnitude of change is expressed using a four point verbal scale of 'large', 'medium', 'small' or 'negligible'. Where appropriate, intermediate levels such as 'medium to large' or 'small to medium' are used to refine the assessment. Table 3 indicates how the above factors have been used to inform magnitude of change. As the circumstances of each specific receptor will vary, a reasoned narrative is set out in the LVIA in order to justify the particular magnitude of change.

Table 3 – Magnitude of Landscape Change Criteria (indicative)

Magnitude	Description
Large	A substantial change in landscape characteristics and/or change over an extensive geographical area and/or which may result in an irreversible impact
Medium	A moderate change in landscape characteristics and/or which may occur over a large geographical area and/or which may be reversible over a long duration of time
Small	A small change in landscape characteristics and/or which may be over a relatively localised geographical area and/or which may be reversible over a short duration of time
Negligible	A barely perceptible change in landscape characteristics and/or which is focussed on a small geographical area and/or which is almost or completely reversible

3.0 VISUAL ASSESSMENT

3.1.1 A visual assessment is concerned with the potential effects upon the population likely to be affected (i.e. the views experienced by people). As for landscape effects (see Section 2.0), the sensitivity of the receptor affected is identified, as is the magnitude of the change that would occur. These are then considered together to determine the level and significance of effect.

3.1.2 A key part of the visual assessment is the assessment of effects from a number of predetermined viewpoints, which reflect views available to different groups of people. The viewpoint itself is not the receptor; rather it is the people that would be experiencing the view. These people will generally have different responses to a change in view depending upon their location, their activity and other factors, including the weather and time of day or year. Viewpoints fall into three categories (as set out in the GLVIA):

i) Representative viewpoints (which represent the experience of different types of receptors in the vicinity);
ii) Specific viewpoints (a particular view, for example a well-known beauty spot);
iii) Illustrative viewpoints (which illustrate a particular effect or issue, which may include limited or lack of visibility).

3.1.3 Private viewpoints, such as from specific residential properties are not typically included in the LVIA. It is often impractical to visit all affected properties and access to private land may not be granted. Representative or specific viewpoints from nearby publicly accessible locations can often give an impression of what effects from private land would be.

Sensitivity

3.1.4 The nature of a visual receptor likely to be affected, i.e. its **sensitivity** is determined by considering two factors, namely:

i) Susceptibility to change.
ii) Value.

Susceptibility to Change

3.1.5 The GLVIA identifies susceptibility to change in view/visual amenity as:

[6.32] *"...mainly a function of:*

i) The occupation or activity of people experiencing the view at particular locations; and

ii) *The extent to which their attention or interest may therefore be focused on the views and the visual amenity they experience at particular locations*".

3.1.6 Susceptibility to change is, in part, classified based upon the indicative criteria, provided in the GLVIA, as set out in Table 4.

Table 4 – Typical Visual Susceptibility to Change Criteria (indicative)

Level of Susceptibility to Change	Description
High	Residents at home; People engaged in outdoor recreation, whose attention/interest is likely to be focused on the landscape or particular views, including from public rights of way Visitors to heritage assets or other attractions, where views of the surroundings are an important contributor to the experience Communities where views contribute to the landscape setting enjoyed by residents Travellers on scenic routes.
Medium	Travellers on road, rail, or other transport routes.
Low	People engaged in outdoor sport or recreation which does not involve or depend upon appreciation of views of the landscape People at their place of work whose attention may be focused on their work / activity and not their surroundings.

3.1.7 It is important to note that the examples set out in GLVIA and Table 4 above only address the first bullet point and part of the second bullet point in paragraph 3.1.5 above (which are focussed on the occupation or activity of the people and the extent to which their attention is focussed on the view).

3.1.8 As such, the assessment of susceptibility in Table 4 and GLVIA (pages 113 &114) needs to be adjusted to reflect the requirements of the final part of the second bullet point, namely the visual amenity that people currently experience. GLVIA identifies clearly that the division between categories of susceptibility to change:

[6.35] *"…is not black and white and in reality there will be a gradation in susceptibility to change. Each project needs to consider the nature of the groups of people who will be affected and the extent to which their attention is likely to be focused on views and visual amenity…"*

3.1.9 For example, the presence of existing detracting features in any given view may reduce the visual amenity of those experiencing the view. This may therefore reduce their susceptibility to certain types of change and ultimately their sensitivity.

3.1.10 The assessment of susceptibility to change is made on the same basis as for landscape effects (Section 2.0 above). The assessment of susceptibility is expressed using a three point verbal scale of 'high', 'medium' or 'low'. Where appropriate, intermediate levels such as 'medium to high' or 'low to medium' are used to refine the assessment. Conclusions are supported by a reasoned narrative that explains the judgement made.

Value

3.1.11 In accordance with paragraph 6.37 of the GLVIA when considering the value of a view experienced, this should take account of:

i) Recognition of the value attached to particular views, for example in relation to heritage assets or through planning designations;
ii) Indicators of the value attached to views by visitors, for example through appearances in guidebooks or on tourist maps, provision of facilities for their enjoyment and references to them in literature or art.

3.1.12 For this reason, whilst not specifically referenced in the current edition of GLVIA, the number of people likely to be affected can influence the value assigned to a particular view.

3.1.13 The assessment of value is made on the same basis as the assessment of susceptibility to change.

Sensitivity

3.1.14 Susceptibility to change and value are considered together as discussed above for landscape sensitivity and illustrated above in Figure 1. Again, professional judgement determines the final judgement of sensitivity, due to the non-linear and complex relationship between susceptibility and value. A reasoned narrative is set out in the LVIA in order to justify the particular sensitivity assessed for each receptor, so that it is clear how each judgement has been made.

Magnitude

3.1.15 The nature of the visual effect that is likely to occur, i.e. its **magnitude**, is determined by considering four separate factors, namely:

i) Size/scale.
ii) Geographical extent.
iii) Duration.
iv) Reversibility.

3.1.16 The size and scale of an effect is determined by considering the following:

i) The scale of change in view, in respect of the loss of or addition of features, and change in composition, including the proportion of the view occupied by the development;
ii) The degree of contrast or integration of new features or other changes;
iii) The nature of the view, namely the relative amount of time it would be experienced for and whether the views would be full, partial or glimpsed.

3.1.17 The geographical extent of an effect will vary from viewpoint to viewpoint and will reflect the following:

i) The angle of view in relation to the main activity of the receptor;
ii) The distance from the proposed development;
iii) The extent over which change in view would be visible.

3.1.18 The duration of an effect simply relates to the length of time for which it would be experienced, as follows:

i) Long-term: 10+ years; or the change could not reasonably be considered temporary in nature.

ii) Medium-term: 3-10 years.

iii) Short-term: 0-3 years.

3.1.19 The reversibility of an effect relates to the prospects and practicality of an effect being able to be wholly or partially reversed, or whether the change cannot realistically be reversed, i.e. it is permanent.

3.1.20 These four factors are then considered together to derive an overall magnitude of change for each receptor, which is determined by use of professional judgement. The assessment of the magnitude of change is expressed using a four-point verbal scale of 'large', 'medium', 'small' or 'negligible'. Where appropriate, intermediate levels such as 'medium to large' or 'small to medium' are used to refine the assessment. Table 5 indicates how the above factors have been used to inform magnitude of change. As the circumstances of each specific receptor will vary, a reasoned narrative is set out in the LVIA in order to justify the particular magnitude of change allocated to each receptor.

Table 5 – Magnitude Change Criteria (indicative)

Level of Susceptibility to Change	Description
Large	A change affecting a large proportion of a view, which may be seen across an extensive area or experienced from a long section of a route, and/or a longer-term effect, and/or contrasting with the existing view.
Medium	A change affecting a moderate proportion of a view, which may be seen across a wider area or experienced from a section of a route, and/or a medium-term effect, and/or broadly compatible with the existing view.
Small	A change affecting a smaller proportion of a view, which may be seen from a limited area or experienced from a short section of a route, and/or a shorter-term effect, and/or compatible with the existing view.
Negligible	A change which is barely perceptible in the view, and/or which is only glimpsed from a route.

4.0 LEVEL AND SIGNIFICANCE OF EFFECT

4.1.1 The purpose of Environmental Impact Assessment (EIA) is to determine the likely significant effects of a development proposal. Not all landscape and visual effects arising as a result of a particular proposal will be significant. Furthermore, a significant effect does not necessarily mean that such an effect is unacceptable to decision-makers. This is a matter to be weighed in the planning balance alongside other factors. What is important is that the likely effects of any proposal are transparently assessed and described in order that the relevant determining authority can bring a balanced and well-informed judgement to bear as part of the decision-making process.

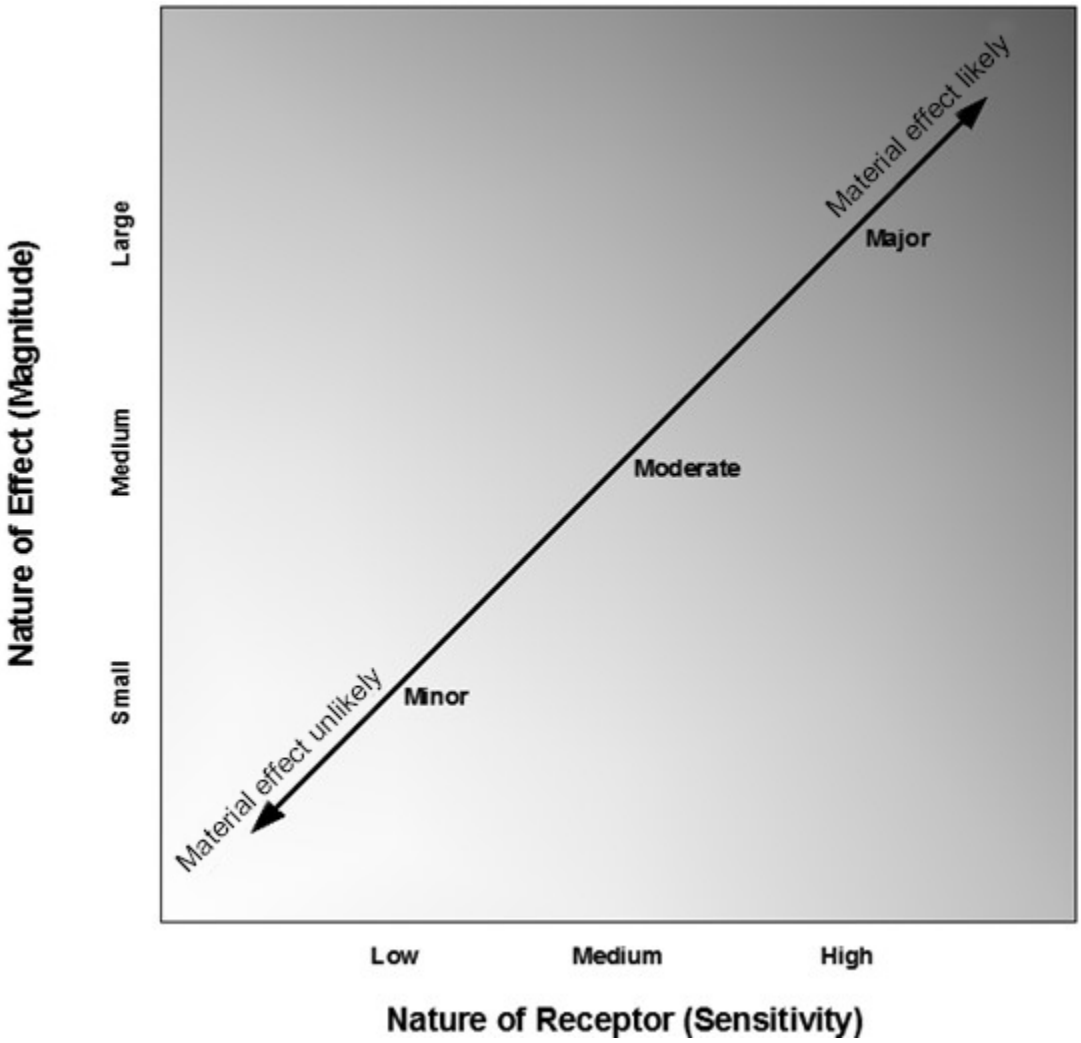
4.1.2 Page 60 of *The State of Environmental Impact Assessment Practice in the UK* (Institute for Environmental Management and Assessment 2011) identifies a range of different factors that should be considered when evaluating the significance of an effect, including:

i) Knowledge and experience of significance from previous assessments.
ii) Details of the development proposal, such as construction and operational activities, and the nature of the effect associated with such activity.
iii) Details about the environmental sensitivity of the area that will be affected.
iv) Feedback from scoping and consultation.
v) The wider legal and policy context, which offers protection to the environment and community.

4.1.3 The level of effect that each receptor would experience can only be defined in relation to each particular development and its specific location. It is for each LVIA to determine how judgements about receptor sensitivity and the magnitude of change should be combined to derive the level of effect and to clearly explain how this assessment has been made, and if the effects that would occur is considered significant.

4.1.4 Figure 2 provides a guide as to how sensitivity and magnitude can be combined to identify the level of effect upon a receptor (with the grey shading indicative of the increasing level of effect with increasing sensitivity and/or magnitude). However, the final assessment of the level of effect and whether this is material for decision makers is one of professional judgement.

Figure 2 – Level of Effect Matrix (indicative)



4.1.5 The GLVIA identifies that:

[3.32] *"The Regulations require that a final judgement is made about whether or not each effect is likely to be significant. There are no hard and fast rules about what effects should be deemed 'significant' but LVIAs should always distinguish clearly between what are considered to be significant and non-significant effects…*

[3.33] *It is not essential to establish a series of thresholds for different levels of significance of landscape and visual effects, provided that it is made clear whether or not they are considered significant. The final overall judgement of the likely significance of the predicted landscape and visual effects is however, often summarised in a series of categories of significance reflecting combinations of sensitivity and magnitude. These tend to vary from project to project but they should be appropriate to the nature, size and location of the proposed development and should as far as possible be consistent across the different topic areas of the EIA".*

[5.56] & [6.44] *"There are no hard and fast rules about what makes a significant effect, and there cannot be a standard approach since circumstances vary with the location and [landscape][1] context and with the type of proposal".*

4.1.6 The judgement for this particular assessment is that greater than 'moderate' effects are more likely to be material to the decision-making process. This is because they would generally result from larger magnitudes of change on higher sensitivity receptors**.** This does not preclude a 'moderate' effect or lower being consider material or a greater than 'moderate' effect not being considered material. This judgement will depend on the specific circumstances being considered.

4.1.7 Where magnitude of change is identified as 'negligible', then effects are automatically considered also to be negligible and not significant due to the minimal level of change from baseline (which would often not be perceptible).

4.1.8 A significant effect occurring upon a receptor does not necessarily mean that such an effect will be unacceptable to decision-makers. This is a matter to be weighed in the planning balance alongside other factors. What is important is that the likely effects of any proposal are transparently assessed and described in order that the relevant determining authority can bring a balanced and well-informed judgement to bear as part of the decision-making process.

[1] The word landscape is present in paragraph 5.56 of the 3rd edition of GLVIA only. Otherwise, the sentence quoted from paragraphs 5.56 and 6.44 is identical.

4.1.9 It should be noted that effects may be either adverse (negative) or beneficial (positive). An effect can be material and adverse, or material and beneficial. If change occurs, with no obvious deterioration or improvement resulting, this can be said to be neutral.

5.0 CUMULATIVE EFFECTS

5.1.1 An assessment of cumulative effects is concerned with the additional effects of a proposed development in conjunction with other development(s) that do not already form part of the existing baseline.

5.1.2 The GLVIA identifies that cumulative landscape and visual effects are those that:

[7.2] *"…result from additional changes to the landscape or visual amenity caused by the proposed development in conjunction with other development (associated with or separate to it), or actions that occurred in the past, present or are likely to occur in the foreseeable future".*

5.1.3 The GLVIA goes on to identify that:

[7.5] *"The challenge is to keep the task reasonable and in proportion to the nature of the project under consideration. Common sense has an important part to play in reaching agreement about the scope of the assessment. Where the competent authority and other stakeholders are uncertain about the preferred approach the landscape professional may have to exercise judgement about what is appropriate and be able to justify the approach taken. It is always important to remember that the emphasis in EIA is on likely significant effects rather than on comprehensive cataloguing of every conceivable effect that might occur…".*

5.1.4 This proportionate approach to cumulative assessment is also advocated in '*Assessing the Cumulative Impact of Onshore Wind Energy Developments*' (NatureScot (formerly Scottish Natural Heritage) 2021) which states that:

"The assessment should be proportionate to the likely impacts and all CLVIA should accord with the guidelines within GLVIA3. The emphasis should be on the production of relevant and useful information, highlighting why the proposals assessed have been included and why others have been excluded…".

5.1.5 *Assessing the Cumulative Impact of Onshore Wind Energy Developments* also states that:

"The cumulative impact of wind farm development on landscape and visual amenity is a product of:

- *the distance between individual windfarms (or turbines);*
- *the distance over which they are visible;*
- *the overall character of the landscape and its sensitivity to windfarms;*
- *the siting and design of the windfarms themselves; and*
- *the way in which the landscape is experienced*".

5.1.6 The (non-cumulative) LVIA will address the effects of introducing the proposed development into a context where other existing development is present. The presence of this other existing development forms part of the assessment baseline. Where there is complete certainty that development which is consented or under construction will be implemented within the near future, then these developments are also considered as part of the future baseline.

5.1.7 The cumulative LVIA is concerned with the effects of the proposed development based upon two further cumulative baseline scenarios:

i) Other development that has planning consent but for which the development timescale is unknown.
ii) The first scenario, plus other development that is the subject of a formal planning application.

5.1.8 It is not typical to include development that is at the pre-planning application stage as there is generally a lack of information about such development, and as such the implications of these types of development upon the landscape and visual resource are not 'reasonably foreseeable'. However, where a scheme at this stage is of particular relevance to the assessment, it may be included, but should be given limited weight in the decision making process as the proposals may be subject to significant change prior to submission.

5.1.9 Cumulative effects can include:

i) An intensification of the effects of one development resulting from an extension to it, or the introduction of another development;
ii) The 'filling' of an area with development over time, such that it may substantially alter the landscape and/or views;
iii) The interaction between different developments, which may lead to a greater total effect than the sum of the effects of each development individually;

iv) Temporal effects of simultaneous or successive developments over a period of time;

v) Indirect effects of development, such as enabling or disabling other development, which may lead to landscape and visual effects;

vi) The effects of a future action that may have consequences for other existing/proposed development.

5.1.10 It should be noted that a cumulative effect may not necessarily be significant or adverse.

5.1.11 Cumulative landscape effects may be either:

i) Physical effects on the landscape fabric, resulting from changes to landscape elements/feature, or the introduction of new elements/features;

ii) Effects on aesthetic/perceptual attributes of the landscape;

iii) Effects on the overall character of the landscape.

5.1.12 Cumulative visual effects may be either:

i) In combination - where two or more features are seen together at the same time from the same place, in the same arc of view, with their visual effects being combined;

ii) In succession - where two or more features are present in views from the same place, but cannot be seen at the together because they are not in the same arc of view. As the arc of view experienced by the observer changes, the features become visible in succession;

iii) Sequential - where two or more features are not present in views from the same point on a route and cannot therefore, ever be seen at the same time even if the arc of view experienced by the observer changes. The observer must move to another point on the same route to see the second or more of them, so they will then appear in sequence. These sequential views may occur frequently along the route, or more occasionally.

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Appendix 6.2

ZTV and Visualisations Methodology

Prepared for: RWE

September 2025

3456-01

1.0 INTRODUCTION

1.1.1 The purpose of this methodology is to provide an understanding of how visualisation material prepared to support the Environmental Statement (ES) has been produced. The methodology addresses the production of Zone of Theoretical Visibility (ZTV) mapping and photo-realistic visualisations (or 'photomontages') from selected viewpoints.

1.1.2 It should be recognised that production of visualisations is only one component of a Landscape and Visual Impact Assessment (LVIA), which will consider a range of other factors when identifying and assessing changes to the landscape and to views. The use of visualisations is a useful aid when undertaking LVIA, but the assessment process is not dependent on them. LVIA may be undertaken without use of visualisation material, although for major developments the inclusion of visualisations is accepted practice.

1.1.3 Current good practice regarding the production of visualisations is set out in:

i) Landscape Institute and Institute for Environmental Management and Assessment (3rd edition, 2013), *Guidelines for Landscape and Visual Impact Assessment*. This document is referred to hereafter as 'the GLVIA';

ii) Landscape Institute (2019), *Visual Representation of Development Proposals. Technical Guidance Note 06/19*. This document is referred to hereafter as 'TGN 06/19'.

1.1.4 The remainder of this Methodology is structured as follows.

1.1.5 Section 2.0 addresses the production of the ZTV mapping that informs the LVIA. Section 3.0 gives details of how the viewpoint visualisation material was produced.

2.0 ZONE OF THEORETICAL VISIBILITY

Data Source

2.1.1 The ZTVs were produced using the 1m LIDAR Digital Surface Model (DSM) available from Natural Resources Wales (NRW) under the terms of the Open Government Licence. The DSM data was captured between 2020 and 2022 and takes account of screening features such as buildings and vegetation.

2.1.2 This data consists of a series of spot levels at 1m intervals. The declared 'root-mean-square error' (RMSE), or the degree of error of the DSM data for any actual on-the-ground height particular location, is 10 cm vertical and 35 cm horizontal.

ZTV Creation

2.1.3 The ZTVs were calculated and created using QGIS. The ZTV calculation process takes account of the curvature of the earth's surface and light refraction. The eye height of the receptor in the computer model was set at 1.7m above ground level in accordance with guidance set out in GLVIA.

2.1.4 The ZTVs illustrate the theoretical visibility of the following:

i) Proposed solar panels (maximum height 3 m), as follows:
   a) Solar panels within the Western Array Area only.
   b) Solar panels within the Central Array Area only.
   c) Solar panels within the Eastern Array Area only.
   d) All solar panels.

ii) Proposed BESS structures (maximum height 3.4m).

iii) Proposed substation structures, as follows:
   a) Structures with maximum height 4m.
   b) Structures with maximum height 7m.
   c) Structures with maximum height 15m.

2.1.5 The ZTVs do not reflect the presence of any proposed planting.

2.1.6 The ZTVs are displayed on **Figures 6.2a to 6.2j** of the Environmental Statement (ES).

Limitations

2.1.7 A ZTV, as use of the term theoretical implies, is not an absolute indication of the extent of visibility but rather a computer-generated aid that utilises available relative data to indicate areas of inter-visibility and screening in relation to a specific modelled object. ZTVs are tools to assist the LVIA. The technique aims to give a better understanding of the areas where visibility is likely and unlikely but imperfections in data are such that it must only be seen as an aid to understanding. This limitation needs to be recognised when interpreting the ZTVs.

2.1.8 An additional caveat is that the ZTVs simply illustrate that part of a structure would be theoretically visible. As such, it makes no distinction between a clear view of all or most of a proposed feature and a view of a very small proportion of a feature (for example the top of a solar array). This is especially relevant in the case of the Proposed Development, where views from the surrounding area are often limited by vegetation cover.

2.1.9 The ZTVs produced using the DSM does reflect the presence of screening features in the landscape. However, it should be recognised that the DSM reflects a single moment in time (i.e. when the underlying aerial photography was taken). In reality, the extent and / or height of vegetation cover is dynamic and changes as vegetation inevitably increases in stature over time and / or is planted, trimmed or removed. Similarly, there is potential for buildings to have been erected, demolished or modified, subsequent to the data being captured.

2.1.10 DSM data also tends to assume that vegetation captured forms a solid visual barrier, when in reality views can sometimes be available through leaves and branches, especially in winter when deciduous foliage is absent. As such, the real-world visibility of the Proposed Development could potentially be underestimated in places. This is taken into account by the assessor when on Site and when preparing the assessment.

2.1.11 Finally, the DSM does not distinguish between the ground surface and the surface of structures and vegetation. As a consequence, the ZTV output may indicate visibility from areas known to be occupied by woodland and buildings. Whilst in theory it may be possible for people to experience the views from such locations (by climbing onto roofs, or into the tops of trees), this is not representative of typical day to day visibility, and as such there is the potential to overstate the actual visibility of the Proposed Development. Ordnance Survey open mapping data (OS Zoomstack Woodland) has been added to the ZTV figures, to mask out mapped areas of tree cover, noting this is unlikely to be exhaustive but helps refine the ZTV.

3.0 VIEWPOINT VISUALISATIONS

Photography

3.1.1 Photography was shot using a Canon EOS 6D Mark II digital single lens reflex (DSLR) camera with a full-frame sensor, using a 50mm lens. The camera was mounted on a tripod (Manfrotto 55) to ensure a stable support and minimise camera shake. The camera was mounted on a panoramic tripod head (Manfrotto MH057A5), which allows for the rotation of the camera at fixed intervals around a fixed point in vertical alignment with the camera lens, thereby eliminating parallax error. The camera is levelled using a bubble spirit level and an auto-leveller device (Manfrotto 338). A wired remote shutter release was used to take each photograph, further minimising camera shake.

3.1.2 Photographs typically were taken over a full 360-degree sweep from each viewpoint location. The location of the photograph was recorded using an Emlid Reach RS2+ GPS Receiver and a photograph taken of the tripod location.

Photomontages

Introduction

3.1.3 Photomontages are computer generated images, showing images of the Proposed Development superimposed upon the existing photography, with the aim of producing a visualisation that should give a realistic impression of how the Proposed Development would appear within the landscape.

3d Model

3.1.4 A digital model of the Proposed Development was created based upon design information provided by the Applicant. This was imported into industry standard software (Autodesk 3DStudioMax), along with the viewpoint survey data recorded in the field (as discussed above). This enables a series of ‘camera’ points to be created within the 3d model, reflecting the view from each viewpoint towards the Proposed Development.

3.1.5 A series of markers were added to the model, representing real-world locations such as topographic features, vegetation and buildings. The locations of these markers were determined via the use of aerial imagery (e.g. Google Earth), Environment Agency LIDAR data, and OS Mastermap.

3.1.6 The models were then lined up with the individual photograph that focuses on the Site. The markers were used to ensure that the model lines up both horizontally and vertically as accurately as possible with the photograph (by matching the markers with the real-world equivalent), and to assist with identifying which features in the photograph would appear 'in front' of the Proposed Development, which would appear 'behind' and which, if any would be removed.

3.1.7 Once the models are lined up as accurately as possible, the Proposed Development was rendered, having regard to the particular materials and colours that are to be used, and to reflect light conditions typical of the time and date of the photography.

Photomontage Production

3.1.8 Following the lining up of the 3D model with the photograph that includes the Site, and the rendering of the Proposed Development, the full sweep of photos taken from each viewpoint were stitched together using the software package PTGui. The software reads the exif data attached to each individual photograph file to identify the specifications of the camera and lens, ensuring accurate production of the stitched panoramic image.

3.1.9 The resulting stitched viewpoint image was loaded into Adobe Photoshop. Any parts of the Proposed Development that would not be visible from an individual viewpoint due to the presence of intervening features were cropped out.

Limitations

3.1.10 It should be understood that viewpoint visualisations can never provide an exact match to what is experienced in reality. Visualisations are tools in the assessment process but independent from it. They illustrate the view in the context of a specific date, time and weather conditions, that would be seen within a photograph and not as seen by the human eye. As such, visualisations need to be used in conjunction with site visits and should be considered in the context of the totality of views experienced from the viewpoint and not just focussed on the Proposed Development.

3.1.11 Photomontage photography was taken in January 2024 and March 2025, and as such reflects visibility at those times of year.

Presentation & Viewing

3.1.12 Once the final viewpoint images have been produced, they are inserted into a Figure template, which also includes information about the viewpoint, including the date and time of photography, and details of the camera used.

3.1.13 The images presented on each sheet are displayed at an enlargement factor in accordance with the guidance set out in TGN 06/19. The enlargement factor is stated on each sheet.

3.1.14 The field of view displayed for each Viewpoint has been determined in accordance with the guidance set out in TGN 06/19 and is stated on each sheet.

3.1.15 Each sheet should be printed at the size stated on it. All printed sheets should be viewed held flat at a comfortable arm's length.

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Appendix 6.3

Landscape Character Baseline

Prepared for: RWE

September 2025

3456-01

1.0 INTRODUCTION

1.1.1 This Appendix of the Environmental Statement ('ES') sets out the landscape character baseline against which the effects of the Proposed Development have been assessed. It summarises the following, in so far as they relate to the 2.5 km Study Area for the Landscape and Visual Impact Assessment ('LVIA').

i) National Landscape Character Areas ('NLCA').
ii) Wrexham County Borough Council ('WCBC') Landscape Character Areas ('LCA').

1.1.2 The locations of each NLCA and LCA within the LVIA Study Area are illustrated on **Figure 6.1** of the ES.

2.0 NATIONAL LANDSCAPE CHARACTER AREAS

Data Source

2.1.1 NLCAs provide background and context to more detailed but smaller scale Local Landscape Character Areas in Wales published by local authorities and which may form part of their Supplementary Planning Guidance. The broad geographic reach of NLCAs means that the key characteristics identified as typical of a particular NCA may not necessarily apply to a specific location within that NCA.

2.1.2 Most of the Site and LVIA Study Area is within **NLCA13: Deeside and Wrexham**. The eastern-most part of the Site and 2.5 km Study Area is within **NLCA14: Maelor**. NLCA within the LVIA Study Area are shown on **Figure 6.1**.

2.1.3 Descriptions of each NLCA are available via the Natural Resources Wales ('NRW') website[1]. The table overleaf provides the key characteristics and relevant descriptive text for **NLCA13: Deeside and Wrexham** and **NLCA14: Maelor**.

[1] Natural Resources Wales, 2023. *Natural Landscape Character Areas (NLCA)*. Available at: https://naturalresources.wales/evidence-and-data/maps/nlca/?lang=en

Table 1 – National Landscape Character Areas

NLCA	Key Characteristics	Relevant extracts from descriptive text
NLCA13: Deeside and Wrexham	○ **Lowland, foothills and levels** - sloping down to the lower Dee and Dee Estuary. Carboniferous Coal Measures interspersed with outcrops of Millstone Grit, Holywell shales and Cefn-y-Fedw sandstones. Glacial till, fluvio-glacial and river terrace drift overlay in parts of the valley floor, giving rise to localised gentle land form variation. ○ **A single large river, the Dee, traverses the area**. The Dee opens out into a broad estuary with tidal sand and mud flats. A number of minor rivers dissect the landscape, for example, the Alyn and Eitha, and associated streams. ○ **A broad flat flood plain adjacent to the Dee Estuary** – with wide open views to Wirral ○ **Narrow, incised, wooded tributary valleys** – many running down from the west. ○ **Mixed pasture and some arable** - and farm woodland cover. ○ **Archaeology** - variety of historic sites indicate the former strategic importance of the coastal route and the turbulent history of the Marchlands, including Offa's Dyke and Wat's Dyke. Late Medieval parklands and ecclesiastical / funerary sites. ○ **Urban settlements** - a strongly settled character is apparent in the central and southern parts of the area, with the relatively large, almost linked settlements of Holywell-Connah's Quay-Mold-Wrexham-Ruabon. ○ **An industrial character** - evident in the line of coalesced settlements at Connah's Quay and Holywell, associated both with the Chester to Holyhead railway line, mining and large-scale power generation and industrial plants. Include landmark scale structures such as Broughton aircraft factory, Shotton Steel works and Connah's Quay power station. Industry tends to dwarf historic settlement and features e.g. Flint and its castle. ○ **Small settlements** – outside urban areas, compact villages associated with landed estates and isolated farmsteads, or coalesced ribbon developments and encroachment upon commons, which are the legacy of the former coal and lead mining industries. ○ **Culturally many connections to Chester and Merseyside**.	○ **Visual and Sensory profile…** The associated transport links of the A55 Expressway, the A548 coast road and the A483 and A494 trunk roads, present much traffic noise, movement and night lighting. The area is by no means entirely built-up or busy. Much of the area is actually a mature, lowland countryside and, in places, there is a sense of smallness and seclusion offered by agricultural enclosure and its interplay with trees, copses, woodlands and small river valleys, and the borders to the east. ○ **Historic Landscape Influences.** A number of parkland estates and historic parks and gardens, sometimes associated with small villages are present within the area. These include Talacre, Erddig, Rosehill, Mostyn Hall and Soughton Hall.

NLCA14: Maelor	○ **Flood plain or rolling lowland** - sandstone and siltstone / mudstone is overlain in places by glacial till, fluvio-glacial drift and river alluvium, for example, along the course of the Dee, giving rise to a gently undulating landform. ○ **A rural agricultural character** - intensively farmed with much arable land and parkland, with more arable to the east. ○ **Mixed native hedgerows with hedgerow trees** - in a medium scale field pattern, with larger scale fields to the east. ○ **Small scale deciduous farm woodland** – occasional blocks interspersed with farmland. ○ **Meres, mosses and flooding** - The flood plain of the River Dee. Scattered field ponds and mosses such as Fenn's Moss in the south east are distinctive features. ○ **Relict medieval field patterns** - much of the pastoral west, characterised by ridge and furrow cultivation patterns, overlain by later, Parliamentary Enclosures. ○ **Archaeology** - Prehistoric ritual and funerary sites and distinctive Medieval, moated, manorial sites occur within the area. ○ **Small, rural village settlements, farms and parks** - compact nucleated hamlets and villages often of Medieval formation, for example, Bangor-on-Dee and Overton, with sandstone, red brick and grey slate frequently evident. ○ **A unified agricultural landscape of simple composition** - with texture provided by a variety of land cover elements including pasture, rush, marsh, woodland and meres. ○ **Closely related to the greater Cheshire plain**	○ **Visual and Sensory profile...** Topographically, the area is untypical of Wales, with little high ground on either side of the tortuously meandering Dee that crosses it. It is really a component part of the greater Cheshire and Shropshire Plain, with very impressive river meanders, and flood plain features. To the west the Dee emerges from an undulating landscape through which it has incised. It is a largely unified, rural landscape, and comparatively tranquil when away from greater Wrexham. There are strong field patterns and a mix of arable and dairy farming. Mosses and fens are a feature, as are numerous small field ponds, scattered throughout. Boundaries are predominantly well managed hedgerows and there are abundant hedgerow trees. A particularly distinctive feature is the remnant Medieval ridge and furrow open field system, which underlies the more recent landscape. These ridge and furrow corrugations are most apparent at dusk and dawn, when the sun is low, or after light dustings of snow. ○ **Historic Landscape influences…** As rich agricultural land, this area has supported a series of large landed estates, such as Gredington, Bettisfield and Iscoyd, whose investment in improved agriculture during the 19th century has left its mark in large numbers of planned farmsteads, small-holdings and estate cottages – and, around Bangor-on-Dee, stables and studs. Some of the parklands are associated with significant natural landscape features.

NLCA	Key Characteristics	Relevant extracts from descriptive text
		○ **Cultural Landscape influences…** Even though this border area may owe more to farmlands of Cheshire and Shropshire than to the pitted hills which rise to the west of Wrexham and Ruabon, culturally it is a powerful mixture, and is still in flux. Agriculture continues to dominate the landscape and its way of life, but it is going through profound changes, and the typical large brick-built courtyard farms erected in the 19th century are often falling into disrepair.

3.0 WREXHAM COUNTY BOROUGH COUNCIL LANDSCAPE CHARACTER AREAS

3.1.1 The 'Wrexham LANDMAP Supplementary Planning Guidance'[2] uses NRW LANDMAP data to subdivide the WCBC area into 4 broad landscape types and 27 geographically distinct landscape character areas (LCAs).

3.2 Relevant WCBC Landscape Types

3.2.1 Most of the Site and 2.5 km Study Area is in the 'Rural Lowlands' landscape type. The description for the 'Rural Lowlands' landscape type states that:

"The Eastern lowland areas of Wrexham are largely rural and agricultural and share many characteristics of the neighbouring Cheshire and North Shropshire landscape. The general area also includes the River Dee floodplain and flat river terraces, and Fenn's Moss, an extensive area of heathland and bog. There are scattered farmsteadings, attractive small villages, and historic landscape features including medieval ridge and furrow and moated sites."

3.2.2 Key Landscape Issues relating to the 'Rural Lowlands' landscape type, and relevant to the Site and Proposed Development, include the following:

i) Hedgerow and hedgerow tree conservation and restoration;
ii) Impact on historic landscape features of agricultural changes; and

[2] Wrexham County Borough Council (2007). *Wrexham LANDMAP Supplementary Planning Guidance.* Available online at: https://www.wrexham.gov.uk/sites/default/files/2022-06/eng_-_wrexham_landmap.pdf

iii) Footpath and cycle links between town and country.

3.2.3 The western most extent of the Site, (referring to the western edge of the Western Array Area (WAA) and the proposed cable connection running towards Legacy substation), and the western most extent of the 2.5 km Study Area is in the 'Rural/Urban Villages' landscape type. The description for the 'Rural/Urban Villages' landscape type states that:

"Wrexham urban villages are associated with past coal mining and located on the edge of the uplands and to the north of Wrexham town. The villages are set among farmland, wooded valleys and regenerating or restored landscapes. This complex character area contains main roads, railways and canal, as well as Offa's Dyke and prehistoric hill forts, reflecting Wrexham's history on the border between Wales and England, upland and lowland."

3.2.4 The Key Landscape Issues relating to the 'Rural/Urban Villages' landscape type are not relevant to the Site and Proposed Development.

3.3 Relevant WCBC Landscape Character Areas

3.3.1 **Figure 6.1** shows that most of the Site and 2.5 km Study Area is in **LCA 13a: Welsh Maelor**, within the 'Rural Lowlands' landscape type.

3.3.2 The western edge of the WAA, the western extent of the proposed cable connection running towards Legacy substation, and the western most extent of the 2.5 km Study Area is in **LCA 7c: Rhosllanerchrugog, Rhostyllen, Ruabon, Pen y Cae**, in the 'Rural/Urban Villages' landscape type.

3.3.3 Other LCAs in the 2.5 km Study Area relevant to the LVIA include:

i) **LCA 14: Dee Floodplain** (within the 'Rural Lowlands' landscape type);

ii) **LCA 13b: English Maelor** (within the 'Rural Lowlands' landscape type).

3.3.4 As stated in **ES Chapter 6, section 6.5, LCA 11: Wrexham Industrial Estate** is in the north-eastern extent of the 2.5 km Study Area. Due to the nature of existing development within this LCA and the absence of theoretical visibility of the Proposed Development within this LCA, as shown on **ES Figure 6.2**, this LCA is not considered further.

3.3.5 The summary description and key characteristics of each of the above LCAs is set out in the Table overleaf along with the landscape sensitivity and management guidelines.

Table 2 – Wrexham County Borough Council Landscape Character Areas

LCA	Summary Description and Landscape Sensitivity	Key Characteristics and Management Guidelines
LCA 13a: Welsh Maelor	***Summary Descriptions*** Attractive undulating lowland farmland to the south of Wrexham town and west of the River Dee, containing a number of large estates. Welsh Maelor summary: ○ Undulating, mainly pastoral lowland farmland. ○ Well-managed hedges with hedgerow trees and small woodlands. ○ Historic designed estates influence a large proportion of this area.	***Key Characteristics*** <u>Visual Character</u> ○ Good views to the hills and over the Dee Valley from higher ground. ○ Undulating estate farmland with mosaic of farmland and trees (N. and S. areas) and undulating open farmland in the central area. ○ Designed parks and gardens. ○ Generally an abundance of well managed hedgerows and hedgerow trees. ○ Traditional red brick farmsteadings but many barns now converted to residential uses. ○ Tranquillity and landscape quality affected by A483 and pylons to west. <u>Geological Character</u> ○ Deep deposits of glacial drift overlie bedrock of Carboniferous and Triassic age. ○ Glacial till (boulder clay) covers a large part of the character area, with glacial sands and gravels found mainly in the area immediately to the south of Wrexham town, and in the river terrace on which Eyton Grange is situated.

LCA	Summary Description and Landscape Sensitivity	Key Characteristics and Management Guidelines
	○ Field ponds abundant on areas with clay soils. ○ Historic settlement pattern with remnants of medieval ridge and furrow. ○ Erddig estate important for tourism, recreation, nature conservation and heritage. ○ Wat's Dyke runs north-south through area. ○ Patches of valuable semi-natural habitats, especially in Clywedog valley. ○ Affected by urban pressures and economic changes to farming. The central part where the Site is located is described as “generally open farmland with dispersed farms and hamlets where former estate influence is weaker. It includes a small semicircular flat area around Eyton Grange which is a terrace of the River Dee. Attractive undulating lowland farmland to the south of Wrexham town and west of the River Dee, containing a number of large estates.”	○ The area drains to the Clywedog in the north and to the River Dee in the east and south. <u>Ecological Character</u> ○ The River Clywedog valley south of Wrexham town has a diverse range of valuable semi-natural habitats including wet woodlands, lowland meadows and nationally important wetlands (especially for invertebrates) with areas of fen sedge, herb-rich swamp and rush pasture. ○ Farm orchards are now rare, but a valuable old orchard survives at Erddig. ○ Semi-natural upland mixed ash woodlands, other broadleaved woodlands and plantations are characteristic of the northern and southern areas, forming a mosaic of woodland and farmland. Mixed plantations are also found in the south. ○ Although most grassland is improved, remnants of high value neutral grassland survive in the central and northern areas. ○ The Welsh Maelor has valuable remnants of estate parkland or wood pasture with mature and veteran trees - a Biodiversity Priority Habitat. ○ Field ponds are frequent, and valuable for wildlife. <u>Historical Character</u> ○ Medieval military feature - Wat's Dyke earthern bank and ditch cuts across farmland. ○ Widespread evidence of medieval open fields - ridge and furrow remnants of the Wrexham Lowlands. ○ Important designed parklands on Cadw Register at Erddig, Wynnstay and Brynkinalt, as well as Penylan, Erbistock and Rosehill. ○ Non-planned settlement with medieval origins at Gyfelia and Crabtree Green. ○ 19th/20th century ribbon development at Marchwiel. ○ Disused Ellesmere railway. ○ Remnants of former ordnance depot at Parkey area south of Wrexham Industrial Estate. <u>Cultural Character</u> ○ Still predominantly agricultural, with dispersed farms. ○ Farmsteads and villages affected by commuter pressure, with residential conversions and new housing. ○ Sense of place - Erddig and Wynnstay in particular. ○ Wynnstay Estate once culturally dominated the southern part of the Welsh Maelor but the buildings of the core area are being converted to residential accommodation, enabling restoration of the Grade 1 Capability Brown pleasure gardens.

LCA	Summary Description and Landscape Sensitivity	Key Characteristics and Management Guidelines
		○ High level of recreational use in Erddig and Clywedog Valley, and extensive network of small lanes and rights of way in all parts except Wynnstay.
	Landscape Sensitivity ○ The traditional Welsh Maelor landscape is very vulnerable to continuing development and recreational pressures, to economic changes which threaten traditional farming, and from land use practices and development which do not take historical landscape features into account.	***Management Guidelines*** <u>Conserve rural character</u> ○ Promote replacement planting of hedgerow trees, particularly oaks and ash to ensure perpetuation of characteristic landscape. ○ The area is particularly sensitive to the 'suburbanisation' of farm steadings – resist. ○ The character of rural villages and their settings are particularly sensitive to new development. ○ Encourage Village Design statements by local residents. ○ Areas for Horsiculture are to conserve traditional field boundaries and avoid the proliferation of fences, structures and buildings within the countryside, where this would erode character. <u>Protect and enhance historic landscape</u> ○ Protect estate landscapes and estate-influenced landscapes and consider Cadw listing of stone boundary walls and other significant designed landscape features not protected at present. ○ Protect fieldscape and areas of medieval ridge and furrow. ○ Increase awareness and appreciation of historical landscape character. ○ Preserve surviving features in designed landscapes and avoid subdivision or development of parklands. ○ Prevent woodland regeneration on Wat's Dyke and Erddig Motte and Bailey. ○ No development on or near Wat's Dyke - contact Cadw. ○ Preserve Gyfelia field boundaries ○ Preserve by record medieval features at Crabtree Green <u>Preserve geodiversity</u> ○ Preserve disused railway, relate to wider industrial landscape <u>Conserve and manage ponds and other aquatic and wetland habitats</u> ○ Maintain integrity of landforms, including glacial and fluvial landforms, and assess new exposures ○ Maintain high pond density, restore and enhance ponds. Protect species associated with ponds, eg ○ bats, newts, water vole, lesser silver diving beetle ○ Enhance river bank habitats and minimise hard bank engineering; such as canalisation and retaining walls; protect otters and water voles

LCA	Summary Description and Landscape Sensitivity	Key Characteristics and Management Guidelines
		○ Refer to River and Pond Habitat Action Plans and Otter Species Action Plan of Wrexham Biodiversity Action Plan ○ Restrict drainage in wetland sites <u>Enhance and restore biodiversity of historic parklands</u> ○ Enhance and expand wood-pastures and retain veteran trees and fallen timber ○ Protect wood-pasture from agricultural intensification <u>Manage farmland for nature conservation</u> ○ Diversify general agricultural land and enhance and extend hedgerows ○ Develop green networks to link fragmented habitats and species ○ Maintain arable headlands and wide field margins ○ Enhance and extend orchards and preserve historic fruit varieties <u>Conserve and manage woodlands</u> ○ Maintain, expand and link fragmented native woodlands ○ Replace coniferous trees with native broadleaved trees in woodlands and increase diversity in woodland structure and retain old/dead standing or fallen trees ○ Restrict grazing in woodlands <u>Manage grassland to increase biodiversity</u> ○ Protect and manage lowland meadows and enhance lowland pastures ○ Encourage cattle grazing in rush pastures <u>Preserve rural heritage and encourage sustainable rural development</u> ○ Maintain historic appearance of area, encourage local businesses ○ Support National Trust initiatives ○ Develop strategy for sympathetic new build in rural villages ○ Preserve local distinctiveness, in particular agricultural buildings
LCA 14: Dee Floodplain	○ Open flat farmland with pasture and arable use. ○ Little or no settlement other than at Bangor-on-Dee. ○ Extensive seasonal flooding.	<u>Visual Character</u> ○ Open, flat lowland with lines of trees. ○ Fields are mostly large and semi-regular, enclosed by fences, thorn hedges, occasional lines of trees and often ditches.

LCA	Summary Description and Landscape Sensitivity	Key Characteristics and Management Guidelines
	○ The River Dee and its tributaries are of national importance for both geology and biodiversity. ○ The river meanders widely, forming a shifting boundary between Cheshire and Wrexham.	○ Great contrast between normal conditions and times of seasonal flood, when natural forces predominate. ○ Flooded landscape is visually exciting, with trees and sky reflected in flooded fields - may be perceived as beautiful, or alternatively as threatening. ○ Some spectacular views of floods, although viewpoints are limited. ○ Holt and Bangor-on-Dee are rural villages partly surrounded by floodplain. <u>Geological Character</u> ○ The Dee is a major river following a natural course with SSSI designation between Holt and Worthenbury because of its meanders, alluvium and river terrace deposits. ○ Active erosion and deposition cause the river to change its course over time. <u>Ecological Character</u> ○ Majority of the character area is improved pasture and arable farmland, some seasonal flooding. ○ The river is of European importance for biodiversity especially otters, fish and invertebrates. ○ Fragmented remnants of species rich lowland meadow are of outstanding ecological value. ○ Valuable wetland habitats include ditches, and small areas of reedbed and swamp. ○ Willows and alders, plus other native trees, often line river banks, although the native Black Poplar normally associated with floodplains, is very rare. ○ Small mixed woodland plantations and broadleaved woodland on valley edges. <u>Historical and Cultural Character</u> ○ Bangor-on-Dee (Bangor-is-y-coed) is a non-planned settlement with medieval origins. ○ Ridge and furrow remnants from medieval open field systems are visible, with areas to the east of the River included in the Maelor Landscape of Special Historic Interest (Cadw designation). ○ Traditionally, land use was pasture, with farmsteadings sited outside floodplains. ○ The principal cultural attribute is the race-course at Bangor-on-Dee, the only one in North Wales, and an important element in the regional equestrian economy. ○ Site of early Medieval monastery at Bangor-on-Dee, with massacre recorded by the Venerable Bede. ○ Part of wider English and Welsh Maelor lowland agricultural area which is undergoing changes. ○ No settlement in floodplain other than Bangor-on-Dee, and holiday cabins and caravans at Almere. ○ River Dee forms a barrier to movement, with historical road crossings at Holt, Bangor-on-Dee and near Overton.

LCA	Summary Description and Landscape Sensitivity	Key Characteristics and Management Guidelines
	Landscape Sensitivity ○ The Dee Floodplain landscape is vulnerable to economic changes which threaten traditional farming, and to climatic change which could affect the frequency and extent of flooding and necessitate further visually intrusive flood prevention measures.	***Management Guidelines*** <u>Conserve distinctive visual qualities</u> ○ Enhance naturalness of floodplain and provide and enhance viewpoints ○ Restrict structures and buildings which visually effect the openness and simple character of the floodplain <u>Maintain natural processes</u> ○ Maintain morphological integrity of fluvial landforms ○ Maintain morphological integrity of landforms and assess new exposures <u>Conserve and enhance wetland and aquatic habitats</u> ○ Maintain floodplain grazing marshes, maintain ditches and avoid drainage of wetland sites ○ Enhance river bank habitats and minimise hard bank engineering ○ Refer to River Habitat Action Plan and Otter Species Action Plan of Wrexham Biodiversity Action Plan <u>Increase nature conservation value of floodplain farmland</u> ○ Protect and extend lowland meadows - reinstate hay meadow management, reduce grazing intensity ○ Diversify general agricultural land and enhance and extend hedgerows ○ Increase diversity in woodland structure, extend woodland corridors, and retain old/dead trees standing or fallen ○ Keep arable headlands and wide field margins <u>Preserve historical landscape</u> ○ Carry out field study to determine survival of ridge and furrow, mills, leats, roads, railways and their significance in the wider landscape ○ Evaluate prior to development in historic core of Bangor Is y-coed ○ Preserve in situ disused railway line ○ Monitor changes in land use in Maelor Saesneg Landscape of Special Historic Interest, encourage management plans for scheduled sites through Cadw ○ Encourage preservation of ridge and furrow through Tir Gofal and other agreement ○ Conserve sediments in old river cut-offs which are of palaeoenvironmental significance <u>Conserve cultural heritage of floodplain</u> ○ Preserve historic role and appearance of Bangor-on-Dee, encourage local history initiatives. ○ Support traditional farming

LCA	Summary Description and Landscape Sensitivity	Key Characteristics and Management Guidelines
		○ Encourage appreciation of role of river and floodplain through education ○ Enhance recreational opportunities and restore or create new sustainable links across river
LCA 13b: English Maelor	***Summary Descriptions*** An area of undulating lowland farmland and small villages which retains evidence of historic landscapes and of alternating English and Welsh influence. English Maelor summary: ○ Large character area defined by strong English influence. ○ Undulating, mainly pastoral lowland farmland. ○ Relatively tranquil rural area. ○ Well-managed hedges with hedgerow trees and small woodlands. ○ Historic designed estates with the western half being a Landscape of Special Historic Interest. ○ Field ponds abundant on areas with clay soils. ○ Historic settlement pattern with moated settlements and remnants of medieval ridge and furrow. ○ Patches of valuable semi natural habitats.	<u>Visual Character</u> ○ Gently undulating lowland farmland between 10 and 100 m above sea level, with small linear woodlands along streams ○ Enclosure by abundant, usually well-managed hedges and hedgerow trees, and by landform, but good views from higher ground towards western hills ○ Gredington, Bettisfield, Iscoyd and Emral Parks form enclosed private areas, but estate influence is widespread ○ Small rural villages <u>Geological Character</u> ○ Landform reflects deep deposits of materials left after the Ice Age, over Triassic sandstones ○ Meres and mosses with glacial origin, including Hanmer Mere ○ Soils derived from glacial till are slow draining and heavy ○ Areas of glacial sands and gravels are more hummocky and dissected, such as the area around Eglwys Cross. Deep and well drained sandy loam soils are found in these areas ○ Drainage is to the River Dee, via the Emral and Wych Brooks <u>Ecological Character</u> ○ Mainly 'improved' grassland and farmland, but with valuable hedgerows and hedgerow trees ○ Abundant field ponds derived from marl pits or clay pits ○ Other aquatic habitats of high value including canal, meres and streams ○ Areas of parkland and wood pasture with mature and veteran trees of high value ○ Broadleaved, conifer and mixed plantation woodlands <u>Historical Character</u> ○ Extensive areas of medieval strip fields and ridge and furrow with associated moated sites, preserved under pasture ○ Designed parkland/gardens on Cadw Register of Parks and Gardens (Bettisfield Hall Park, Gredington Park, Iscoyd Park) and others not on Register (Emral, Bryn-y-Pys)

LCA	Summary Description and Landscape Sensitivity	Key Characteristics and Management Guidelines
	○ Current agricultural changes affecting character.	○ Settlements of medieval origin -Overton, Penley, Hanmer, Worthenbury, Bronington ○ Widespread occurrence of English place names with 'green' (Tallarn Green, Horseman's Green, Lightwood Green) ○ Former Ellesmere and Whitchurch railway and Shropshire Union Canal, with associated settlement at Bettisfield ○ Site of Gwernheylod Banks Iron Age promontory fort near Overton <u>Cultural Character</u> ○ On Welsh border with strong links to Whitchurch, Malpas and Ellesmere ○ Pre-1974, a detached part of Flintshire ○ Predominantly agricultural landuse, but many farmsteads undergoing conversion to residential use ○ Network of footpaths and minor roads throughout the area, including Maelor Way ○ Penley Polish Hospital was an adapted WW2 US army hospital, now in industrial or residential use
LCA 7c: Rhosllannerchrugog, Rhostyllen, Ruabon, Pen y Cae	***Summary Descriptions*** Closely-built former mining communities with a rich cultural heritage, located on the lower slopes of Ruabon Mountain, and distinguished by the widespread use of local Ruabon red brick. Rhosllannerchrugog Rhostyllen - Ruabon Penycae summary: ○ Rural and urban areas affected by history of mining and quarrying. ○ Villages (Rhos, Penycae, Rhostyllen, Ruabon) characterised by high density and use of Ruabon red brick.	<u>Visual Character</u> ○ Lower slopes of Ruabon Mountain consisting of undulating farmland, with residential and industrial development. ○ Bersham colliery and tip, and the former Hafod tip, now restored, are landmarks <u>Geological Character</u> ○ Gentle Carboniferous Coal Measure slopes (sandstone) mostly overlain by glacial till, although Rhosllannerchrugog centre is built on an outcrop ○ A sandstone ridge, highest at Gardden Hill and followed to the north by Offa's Dyke (part now under Johnstown) runs through the centre of the character area ○ To the east of Johnstown, Etruria Marl has been quarried to make the characteristic red bricks and tiles <u>Ecological Character</u> ○ Most farmland is improved grassland of low biodiversity value ○ Some former industrial sites are now of high wildlife value, including Stryt Las (great crested newts), the former Hafod tip (a young broadleaved woodland), and birch woodland north of Rhos ○ Fragmented areas of semi-natural vegetation include broadleaved scrub, neutral grassland, upland oak woodland along the Afon Eitha valley, beech woodland on Gardden Hill, neutral grassland at Legacy

LCA	Summary Description and Landscape Sensitivity	Key Characteristics and Management Guidelines
	○ Prehistoric military border area - Gardden hill fort and Offa's Dyke. ○ Much accessible natural greenspace forming ecological network, including woodland and grassland habitats of high value. ○ The A483 and railway follow the lower edge of area.	substation, lowland pasture, and oak/ash/sycamore woodlands around the Crematorium and Llwyneinion <u>Historical Character</u> ○ Settlements are mainly of 19th -20th century origin but Penycae and Ruabon have older centres ○ Coal mining remains are frequent but Bersham Colliery, with its coal spoil tip and remaining headgear is of particularly high value. Industrial sites are linked by a network of disused industrial railways ○ Border area - prehistoric military hillfort at Gardden and Offa's Dyke, marking a former political and military boundary <u>Cultural Character</u> ○ Rhostyllen, with modern industrial and commercial areas next to the A483, is now closely linked to Wrexham town ○ Johnstown, once linked with the brickworks and Hafod colliery, is a mainly English-speaking community ○ Rhosllannercrugog is a culturally rich community with strong Welsh culture and language ○ Surrounding farming is under pressure, with part time holdings and increase in 'horsiculture' ○ Hafod y Bonc Country Park is a former tip now important for environmental education and recreation

Glöyn Byw | Butterfly Solar Farm

Appendix 6.4

Effects on Landscape Character

Prepared for: RWE

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3456-01

1.1.1 This Appendix of the Environmental Statement ('ES') sets out the assessment of the effects of the Proposed Development upon the landscape character of areas identified by Wrexham County Borough Council ('WCBC') and presented in the 'Wrexham LANDMAP Supplementary Planning Guidance'[1].

1.1.2 **Figure 6.1** of the ES shows the location of Landscape Character Areas ('LCA') within the 2.5 km Study Area.

1.1.3 **Appendix 6.3** of the ES provides the details of the baseline landscape character of each LCA and **Appendix 6.1** provides the methodology followed in undertaking the assessment.

[1] Wrexham County Borough Council (2007). *Wrexham LANDMAP Supplementary Planning Guidance.* Available online at: https://www.wrexham.gov.uk/sites/default/files/2022-06/eng_-_wrexham_landmap.pdf

Effects on WCBC LCA13a: Welsh Maelor					
Refer to **Appendix 6.3** for summary descriptions and details of key characteristics, and key landscape sensitivities, and management guidelines.					
Susceptibility to Change		**Lower**	**⟷**	**Higher**	**Value**
Pattern, Scale and Enclosure	Mostly irregular shaped fields of medium to large scale within the proposed solar array areas and surrounding agricultural landscape. Undulating, open farmland in the central part of this LCA where the Site is located. Mature field boundary hedgerow and trees, and woodland, (including woodland within and adjoining part of the Site) provide some enclosure. Some fields within the eastern part of the EAA have a more open character. Roads and traffic, pylons and poles supporting overhead lines, farm buildings, small settlements and vegetation are scale indicators. There are more expansive views from more exposed locations including within the eastern extent of this LCA in the LVA Study Area, at and in the vicinity of **Viewpoints 8, 9, 11 and 12**.		■		• The landscape in part of the eastern edge of this LCA is included in the Lower Dee Floodplain Special Landscape Area (SLA 004). • The Wat's Dyke Way, associated with the Wat's Dyke scheduled monument, is a long-distance route with cultural and historical significance east and northeast of the WAA. • Recreational use at Erddig Park and Gardens, and within the Clywedog Valley on the network of paths and lanes. • Several Registered Parks and Gardens in the wider area. • Some long views westwards towards the hills of the Clwydian Range and Dee Valley National Landscape. • Ancient Woodland adjoining part of the CAA and EAA. • Localised designated heritage interest.
Landform	Undulating lowland farmland that descends to the Dee Valley floodplain in the east and south.		■		
Land cover	Agricultural farmland, mostly pasture grassland, with hedgerows and hedgerow trees and small woodlands. Areas of high value neutral grassland noted in this LCA, and field ponds are frequent.		■		

Settlement & Human Influence	Modern agricultural activities predominate. Dispersed smaller settlements. Many former agricultural buildings converted to residential use.		■		
Remoteness and Tranquillity	Remote and attractive overall although tranquillity is reduced by presence of A483 dual carriageway to the west. The landscape also is divided by the B5436 south of the Site, running roughly east west through the LCA, and includes the A528 and B5130 and associated traffic movement and noise .		■		
Visual	Some local screening by mature field boundary hedgerows and trees and by woodland. Some open outward views available.		■		

Sensitivity

The Welsh Maelor LCA mostly is medium to large in scale and includes field boundary hedgerow, trees and woodland which provide some enclosure of lowland farmland, mostly pasture. Landform is undulating, dropping down towards the River Dee Floodplain to the east and south. There are some outward distant views towards the hills in the Clwydian Range and Dee Valley (CRDV) National Landscape to the west. Tranquillity, remoteness and landscape quality is reduced by the A483 dual carriageway defining part of the western boundary of this LCA. Other A and B classified roads run through the landscape.

Susceptibility to change is judged to be **Medium**.

The CRDV National Landscape is west of the Welsh Maelor LCA, beyond the A483 (which defines the western edge of the WAA and part of the western extent of this LCA) and beyond the railway line and intervening settlement closer to the National Landscape. There are some long-distance views westwards towards the hills in the (CRDV) National Landscape from more open locations in the LCA. The Wat's Dyke Way is a long-distance route with cultural and historical significance east and northeast of the WAA and a network of public rights of way (footpaths) run throughout the LCA. There is high recreational interest at Erddig due to the historic gardens and parkland, with the remnants of other estates evident within the landscape south of the Site.

Landscape value is judged to be **Medium/high.**

Overall, landscape sensitivity is assessed as being **Medium/high**.

Size/Scale of Effect	Geographical Extent
• The 3 proposed solar array areas (and connecting cable routes) would be introduced into the central part of this LCA.	• Change concentrated in and around the 3 proposed solar array areas, which would occupy part of the central part of this LCA, north of the B5436. The Site of the proposed solar array areas (and connecting

• Direct physical change resulting from the introduction of proposed solar arrays, associated infrastructure including substation, and proposed access tracks. • Increase in the influence of development upon part of this LCA. • Management and enhancement of existing field boundary vegetation providing landscape and biodiversity benefits. • New hedgerow and tree planting along field boundaries to provide increased enclosure and visual screening. • Pond improvements for ecological benefits. • Notable change in the open rural character of the proposed solar array areas due to the introduction of new built structures. • Grazing pasture extended under proposed solar array areas and improved with greater species diversity. • Species diverse wildflower meadows proposed along footpaths and field boundaries. • The existing character of undulating lowland farmland, with hedges, hedgerow trees and small woodland would remain overall. • Enhancements to the existing footpath network, including new permissive footpaths, enhanced footpath corridors, and information boards to promote Wat's Dyke and Bon-Yr-Hafod Country Park.	cable routes) extends east west between the eastern and western boundaries of this LCA.
Duration	**Reversibility**
• Long-term (40-year lifespan for the solar farm. The proposed substation would remain in perpetuity).	• Reversible following decommissioning, except for the proposed substation would which remain in perpetuity.
Magnitude	
Year 0: Medium **Year 15: Medium/small** See **Photomontage Viewpoints 2, 4, 5, 7, 10 and 12.** The 3 proposed solar arrays and associated infrastructure and the proposed substation in the south-eastern corner of the WAA, would be introduced into LCA 13a and would result in a direct physical change to landscape character within part of the central extent of this LCA. LCA 13a comprises undulating, lowland farmland, predominantly pastoral, west of the River Dee and south of Wrexham Town and Wrexham Industrial Estate which are close to and within the northern most extent of the 2.5 km Study Area. Development influencing existing landscape character includes the A and B roads running through the central part of this LCA, (including the A483 dual carriageway west of the WAA and along part of the western edge of this LCA), and includes existing overhead lines, dispersed farmsteads, small groups of properties and small settlement. The separation of the Proposed Development into 3 separate and distinct areas would avoid a concentration of solar development in the central part of this LCA and would utilise existing vegetation enclosure and screening in the Site and its surroundings as far as possible.	

The influence of the Proposed Development would be greatest within the proposed solar array areas and where the Proposed Development would be experienced in its immediate rural context. Beyond these areas, perception and visibility of the Proposed Development would be restricted by intervening vegetation, and landform particularly in relation to the WAA and CAA where visibility of the Proposed Development in these areas would be limited and very localised, extending to only very limited pockets of visibility in the wider extent of the 2.5 km Study Area.

The careful siting of the proposed substation, comprising the tallest components of the Proposed Development, including a 15 m high communications mast, would minimise the influence of this part of the Proposed Development on the surrounding landscape due to screening by mature hedgerow and trees along the south-eastern edges of the WAA, The substation, and the surrounding solar array in the WAA also would be to the immediate east of the A483 and would be in the context of existing overhead lines supported on wood poles and pylons, running through the WAA and running through the landscape to the southwest and west, influencing the existing landscape and views.

The key characteristics of the landscape in this LCA would not be changed by the Proposed Development contained within the existing landscape framework of the Site which would be retained and enhanced as part of the Proposed Development.

The Proposed Development would result in a moderate localised change in landscape characteristics within distinct parts of the central extent of this LCA but would not fundamentally change the underlying characteristics of this LCA.

Embedded landscape proposals would include management and enhancement of existing hedgerow, trees, woodland, and field ponds in the Site and would include new native, species diverse hedgerow and tree planting, which would strengthen the landscape framework of the Site, increase habitat connectivity, and provide increased enclosure and screening of the Proposed Development as planting matures within the medium and long-term. Improved species-diverse pasture grassland beneath proposed solar arrays and proposed wildflower meadow also would provide additional landscape and biodiversity benefits within the Site. The Proposed Development also would include measures to enhance public access via the provision of new permissive footpaths along with new information boards to help people interpret their surroundings and understand the historical, cultural and recreational value of the area.

With consideration to the above, the Proposed Development would result in a **Medium** magnitude of change in the central part of this LCA, at Year 0. By Year 15, the Proposed Development would be established in the landscape and proposed hedgerow and tree planting (and including an orchard in the southern part of the CAA) would be maturing (or mature in relation to new hedgerow) and would provide increased enclosure and screening of the Proposed Development, particularly the eastern part of the EAA. Proposed planting would further reduce the localised influence of the Proposed Development on part of the central extent of in this LCA. The medium localised magnitude of change would reduce to **Medium/small** by Year 15.

Level and Significance of Effect

At Year 0, a **Moderate/major** level of effect would occur, which is **significant.**

By Year 15, established and maturing planting would reduce the localised influence of the Proposed Development on part of the central extent of in this LCA and the localised long-term level of effect would reduce to **Moderate**, which is judged to be **not significant**.

Adverse/Neutral/Beneficial

The effects of the Proposed Development would generally be **adverse**. Landscape proposals, biodiversity enhancements, and enhancements to public access and interpretation would have a beneficial landscape effect.

Effects on WCBC LCA14: Dee Floodplain					
Refer to **Appendix 6.3** for summary descriptions and details of key characteristics, and key landscape sensitivities, and management guidelines.					
Susceptibility to Change		**Lower**	⟷	**Higher**	**Value**
Pattern, Scale and Enclosure	Simple pattern of relatively regular shaped large fields, with hedgerows and occasional lines of trees. The floodplain is flat, the meanders of the river break up the regular field pattern. Medium to large scale and relatively open landscape. The River Dee, vegetation and farm buildings are localised scale indicators. Views are confined to river floodplain, seasonal flooding provides a strong visual contrast.		■		• Most of this LCA in the south-eastern extent of the Study Area (excluding Bangor-on-Dee) is included in the Lower Dee Floodplain Special Landscape Area (SLA 004). • Recreational use at Bangor-on-Dee racecourse • Localised designated heritage interest.
Landform	The floodplain is flat and the land rises gently away from the river to the north-west and south-east.		■		
Land cover	Predominantly agricultural. Some lines of trees and hedgerows along field boundaries. Ditches and seasonal flooding make surface water a prominent feature.			■	
Settlement and Human Influence	Modern agricultural practices. Little or no settlement other than Bangor-on-Dee which is also the site of a Medieval Monastery. Bangor-on-Dee racecourse is an important cultural and economic asset. River Dee forms a barrier to movement, historical crossings at Holt, Bangor-on-Dee, and Overton.			■	
Remoteness and Tranquillity	Remote and peaceful although the flooding could be perceived as threatening if not beautiful. Perceptions of remoteness reduced by the presence of Bangor-on-Dee and the racecourse.			■	
Visual	Views tend to be confined to the floodplain by the topography of the surrounding LCAs.		■		
Sensitivity					

The LCA is medium to large in scale and is orientated largely along the River Dee with views outwards confined by the topography of the floodplain. The landform of the floodplain is flat and open with the pattern of regular fields broken up by the meanders of the river. Landcover is mainly arable fields with hedgerow boundaries and lines of trees. Seasonal flooding creates a visual change in the landscape which contributes to the feelings of tranquillity and remoteness. These feelings are reinforced by the lack of major roads and settlements other than Bangor-on-Dee.

Susceptibility to change is **Medium**.

The LCA is covered by a non-statutory Special Landscape Area (SLA) 004: Dee Floodplain which values the landscape for its perceived attractiveness and safety and its apparent remoteness and tranquillity. Bangor-on-Dee racecourse is an important recreationally and economically.

Landscape value is **Medium/high**.

Overall, landscape sensitivity is **Medium/high**.

Size/Scale of Effect	Geographical Extent
• A small part of this LCA south of Bangor-on-Dee, is within the ZTV, including the racecourse. • Limited visual change due to the topography of the LCA. • Partial visibility of the EAA. • The Proposed Development would introduce manmade elements in the form of solar panels that would create a limited change to views of a largely agricultural landscape. • New hedgerow and tree planting along the southern edge of the EAA would provide visual screening once established and maturing.	• Localised visual change in the more open and exposed parts of this LCA south and southeast of the EAA.
Duration	**Reversibility**
• Long-term (40-year lifespan).	• Reversible following decommissioning.

Magnitude

Year 0 & Year 15: Negligible

LCA 14 is partly within the ZTV of the Proposed Development. There would be some localised change in visual context from exposed locations in the south-eastern extent of the 2.5 km Study Area. The Proposed Development, specifically the EAA, would be introduced into outward views that are partially influenced by Bangor-on-Dee racecourse, and individual farmsteads, some of which include larger-scale agricultural buildings.

From the locations where it would be visible, the Proposed Development would be introduced into only a very small proportion of the wider landscape context and would not result in any change in the underlying characteristics of LCA 14.

By Year 15, the Proposed Development would be established in the landscape and proposed hedgerow, and tree planting would be maturing (or mature in relation to hedgerow) providing an increased degree of filtering and screening of the EAA, reducing the influence of the Proposed Development on this LCA.

Level and Significance of Effect

The Proposed Development would result in a **Negligible** level of effect at Year 0 and at Year 15, which is **Not Significant.**

Adverse/Neutral/Beneficial

The Proposed Development would neither enhance nor detract from the character of the landscape. As such, the negligible effect would be **neutral**.

Effects on WCBC LCA13b: English Maelor					
Refer to **Appendix 6.3** for summary descriptions and details of key characteristics, and key landscape sensitivities, and management guidelines.					
Susceptibility to Change		**Lower**	**⟷**	**Higher**	**Value**
Pattern, Scale and Enclosure	Generally large and medium size fields of an irregular shape within the Study Area. Some enclosure by usually well-managed hedges and hedgerow trees and small woodlands, but good views from higher ground towards western hills.		■		• Most of this LCA in the most south-eastern extent of the Study Area is included in the Lower Dee Floodplain Special Landscape Area (SLA 004). • Localised designated heritage interest. • Western half of the LCA is a Landscape of Special Historic Interest.
Landform	Gently, undulating lowland farmland, between 10 and 100 m above sea level.		■		
Land cover	Mainly pastoral farmland. Mainly 'improved' grassland and farmland, but with valuable hedgerows and hedgerow trees.	■			
Settlement and Human Influence	Historic settlement pattern with moated settlements and remnants of medieval ridge and furrow. Small rural villages. Historic designed estates.	■			
Remoteness and Tranquillity	Relatively tranquil rural area. Bangor racecourse, Bangor-on-Dee and traffic along the B5426 partly visible from part of this LCA in the Study Area.		■		
Visual	Views across the Dee floodplain and towards the distant Clwydian Range available from open localised high ground in this LCA within the Study Area.		■		
Sensitivity					
A small part of the north-western extent of LCA 13b: English Maelor is within the most south-eastern part of the Study Area. This part of the Study Area landscape comprises undulating pastoral farmland rising above the Dee Floodplain with views across the lower ground (within LCA 14: Dee Floodplain) towards LCA 13a: Welsh Maelor, where the Site is located, and westwards towards the distant Clwydian Range. Susceptibility to change is **Medium/low**. The LCA in the Study Area is covered by the Lower Dee Floodplain Special Landscape Area (SLA 004), which values the landscape for its perceived attractiveness and safety and its apparent remoteness and tranquillity. Landscape value is judgement to be **Medium/high**. Overall, sensitivity is **Medium**.					

Size/Scale of Effect	Geographical Extent
• Most of this LCA within the Study Area is within the ZTV for the Proposed Development. • Visual change limited due to distance and intervening hedgerow and tree screening within LCA 13a: Welsh Maeloe. • The Proposed Development would introduce solar panels in the wider landscape that would create a limited change to views across a largely rural, agricultural landscape. • New hedgerow and tree planting along the boundaries of the EAA, once established and maturing, would provide visual screening.	• Limited visual change experienced within the LCA in the Study Area.
Duration	**Reversibility**
• Long-term (40-year lifespan).	• Reversible following decommissioning.

Magnitude

Year 0 & Year 15: Negligible
See **Photomontage Viewpoint 13.**

Most of LCA 13b within the most south-eastern part of the Study Area is in the ZTV for the Proposed Development. There would be some change in visual context from exposed locations in the vicinity of **Viewpoints 13 and 14**.

The Proposed Development, specifically the EAA, would be introduced into outward views that are partially influenced by existing development, including Bangor-on-Dee racecourse; individual farmsteads (including larger-scale agricultural buildings in some instances e.g. to the immediate south of the eastern extent of the EAA); residential development within Bangor-on-Dee; and larger-scale industrial development beyond. From the locations where it would be visible, the Proposed Development would be introduced into only a very small proportion of the wider landscape context and would not result in any change to the underlying characteristics of LCA 13b.

By Year 15, the Proposed Development would be established in the landscape and proposed hedgerow, and tree planting would be maturing (or mature in relation to hedgerow) providing an increased degree of filtering and screening of the EAA, further reducing the influence of the Proposed Development on this LCA.

Level and Significance of Effect

The Proposed Development would result in a **Negligible** level of effect at Year 0 and at Year 15, which is **Not significant.**

Adverse/Neutral/Beneficial

The Proposed Development would neither enhance nor detract from the character of the landscape. As such, the negligible effect would be **neutral**.

Effects on WCBC LCA7c: Rhosllanerchrugog, Rhostyllen, Ruabon, Pen y Cae					
Refer to **Appendix 6.3** for summary descriptions and details of key characteristics, and key landscape sensitivities, and management guidelines.					
Susceptibility to Change		**Lower**	**⟷**	**Higher**	**Value**
Pattern, Scale and Enclosure	Most farmland beyond settlement edge is improved grassland. There are fragmented areas of semi-natural vegetation.				• The restored Bersham colliery and tip site and the restored former Hafod tip are landmarks. • Hafod y Bonc Country Park is a former tip now important for environmental education and recreation. • Distinctive Welsh identity.
Landform	LCA comprising the undulating lower slopes of Ruabon Mountain and the landmark landforms of the restored Bersham colliery and tip, and the former Hafod tip.				
Land cover	Mixed rural and urban landscape influenced by history of mining and quarrying. Most farmland is improved grassland. Former industrial sites are now of high wildlife value. Rhostyllen, with modern industrial and commercial areas next to the A483, now closely linked to Wrexham town.				
Settlement and Human Influence	Strong human influence due to transport corridors, modern agricultural practises, settlement, industrial development, presence of former mining and quarrying.				
Remoteness and Tranquillity	The A483 and railway, settlement and industrial and commercial development in this LCA reduce the remoteness and tranquillity of this LCA.				
Visual	Mixed urban and rural landscape, defined by the A483 and roadside hedgerow and trees along part of its eastern boundary. The restored Bersham colliery and tip site and the restored former Hafod tip are landmarks in views.				
Sensitivity					
The LCA includes the lower slopes of Ruabon Mountain, (comprising undulating farmland, with residential and industrial development) and the railway and the A483, which follow the lower edge of the area immediately west of the WAA. The LCA comprises a mix of rural and urban land uses. Bersham colliery and tip, and the former Hafod tip, now restored, are landmarks and are evidence of previous human activity in this LCA.					

Susceptibility to change is **Low** and landscape value is judged to be **Medium/low** overall. Landscape sensitivity is judged to be **Medium/low**.

Size/Scale of Effect	Geographical Extent
• This LCA encompasses most of the route of the proposed grid cables connection and the western edge of the WAA. • A very small part of the LCA is within the ZTV. • The Proposed Development would introduce manmade elements in the form of perimeter fencing and solar panels along a small part of the eastern edge of this LCA, which would not change landscape character in the surrounding LCA and would have limited to no effect on views beyond the A483 road corridor (including roadside vegetation).	• Very localised change along part of the eastern boundary of this LCA, where the western edge of the WAA would be introduced along the east side of the A483 dual carriageway behind roadside hedgerow and trees. • Very limited visual change within this LCA.
Duration	**Reversibility**
• Long-term (40-year lifespan).	Reversible following decommissioning.

Magnitude

Grid cables connection: **No change**
WAA: **Negligible**

Following the installation of the proposed grid cables connection proposed to run along the public highway through part of LCA 7c towards Legacy substation (as part of either route option) would be restored to its baseline condition and no landscape or visual effects would arise as a result of this component of the Proposed Development.

The operational Proposed Development would have a very limited effect on the landscape within LCA 7c relating to the introduction of proposed perimeter fencing and solar panels within the western edge of the WAA, along part of the east side of the A483, which is defined by mature trees and hedgerow, and which restricts visibility of the WAA from the wider LCA 7c west of the A483.

Level and Significance of Effect

The proposed grid cables connection would result in **no change** to LCA 7c, which is **Not Significant**.

The proposed solar array in the WAA, along part of the eastern boundary of this LCA (along the east side of the A483 dual carriageway beyond roadside hedgerow and trees), would result in a **negligible** level of effect on landscape character within this LCA, which is **Not Significant.**

Adverse/Neutral/Beneficial

The presence of the WAA would neither enhance nor detract from the character of the landscape. As such, the negligible effect would be **neutral**.

Glöyn Byw | Butterfly Solar Farm

Appendix 6.5

Effects on Viewpoints

Prepared for: RWE Renewables UK

September 2025

3456-01

1.1.1 This Appendix of the Environmental Statement ('ES') sets out the assessment of visual effects of the Proposed Development from fourteen viewpoint locations in the 2.5 km Study Area, discussed with Wrexham County Borough Council (WCBC) prior to LVIA field assessment in February 2025, and included in the EIA Scoping Report to Planning and Environment Decisions Wales (PEDW), see **ES Appendix 2.1**. Two additional viewpoints also are assessed in this Appendix following comments from Natural Resources Wales (NRW) included in PEDWs Scoping Direction provided at **ES Appendix 2.2** and discussed where relevant to landscape and views in **ES Chapter 6, section 6.4**. These viewpoints are **Viewpoints 15 and 16** in the Clwydian Range and Dee Valley (CRDV) National Landscape, in the wider western context of the Site beyond the 2.5 km Study Area.

1.1.2 **ES Figures 6.2 a-j** of the ES show viewpoint locations and **ES Figures 6.3 a-p** show annotated photography looking towards the proposed solar array areas..

1.1.3 Photomontages have been prepared showing the Proposed Development, including proposed planting, in the existing view from Viewpoints 2, 4, 5, 7, 10, 12 and 13, at Year 0 (on completion of the Proposed Development) and at Year 15 (post completion). Photomontages are provided as **ES Figures 6.4 a-g**.

1.1.4 **ES Chapter 6.0** of the ES discusses the process by which viewpoints were selected, and **ES Appendix 6.1** provides the methodology followed in undertaking the assessment of visual effects. **ES Appendix 6.2** provides the methodology followed in the production of visualisation material.

1.1.5 The following tables provide the detailed assessment of effects on views from the sixteen viewpoint locations referred to above. **Viewpoints 1 to 14** are listed below, with reference to the solar array area the view is focussed on. The view towards the Site from **Viewpoints 15 and 16** in the CRDV National Landscape are open, elevated and far-reaching across the surrounding landscape including all three proposed solar array areas.

Western Array Area

i) Viewpoint 1: Public footpath ESC/31, bridge over the A483;
ii) Viewpoint 2: Public footpath RUA/119, near the eastern boundary of WAA;
iii) Viewpoint 3: Wat's Dyke Way, near Middle Sontley;

Central Array Area

iv) Viewpoint 4: Public footpath MAR/7, west and north of the CAA;
v) Viewpoint 5: Minor road running north south through the CAA;
vi) Viewpoint 6: Minor road, near Stryt-yr-hwch;

Eastern Array Area

vii) Viewpoint 7: B5130, Bedwell;
viii) Viewpoint 8: Public footpath ERB/13, near Waterylane Wood;
ix) Viewpoint 9: B5426, Royton Wood;
x) Viewpoint 10: Public footpath SES/9, southern boundary of EAA;
xi) Viewpoint 11: Public footpath SES/6, eastern boundary of EAA;
xii) Viewpoint 12: Public footpath SES/6, near eastern boundary of EAA;
xiii) Viewpoint 13: Public footpath BAN/13, off Millbrook Lane; and
xiv) Viewpoint 14: Public footpath BAN/14, off Millbrook Lane.

Viewpoint 1: Public footpath ESC/31 on the bridge over the A483	
Grid Reference: 331468,346131 **Description of Baseline View**: View looking northeast to southeast from the bridge over the A483 dual carriageway. The A483 is visible to the north and south, bound by mature roadside hedgerow with trees. The view northeast includes small grass fields defined by mature hedgerow and trees, with a wooded horizon and distant farm buildings and electricity pylons in the background. Larger, arable fields and farm buildings are visible to the southeast. A small area of woodland adjacent to the southeast side of the bridge embankment, screens views east into the southern part of the WAA.	
Susceptibility to Change	**Value**
Receptor: Footpath users and residents travelling along the private track. • Footpath users attention likely is focussed on the landscape. • Residents travelling to and from their residential property likely to be focused on their activities.	• No landscape designations. • View towards agricultural landscape within and partly surrounding the WAA is influenced by the A483 dual carriageway and electricity overhead lines. • Public footpath, part of the footpath network that links to Wat's Dyke Way to the east.
Sensitivity	
Receptors at the viewpoint would be users of public footpath ESC/31 which links Wat's Dyke Way in the east to Hafod Road, and the recreational areas of Bonc yr Hafod Country Park and Aberderfyn Nature Reserve to the west. Despite their proximity to the A483, walkers likely would be interested in the view of the surrounding landscape. Susceptibility to change is assessed as **High**, and the value of the view is **Medium/low.** Overall, sensitivity is **High/medium.**	
Size/Scale of Effect	**Geographical Extent**
Scale of Change in view: • Proposed solar panels would be perceptible from the bridge looking northeast and southeast although partially screened by roadside and field boundary hedgerow and trees. • Views of the Proposed Development to the east would be well screened by a small area of woodland on the east side of the bridge on the bridge embankments. **Degree of contrast/integration**: • The solar array proposed in the WAA would be partly visible in the immediate context of the A483 dual carriageway, beyond roadside hedgerow and tree cover. **Nature of the View**: • A clear view from the bridge to the north-east and southeast, with partial views to the east.	**Angle**: • Direct. **Distance to Proposed Development (Application Boundary)**: • 40 m. **Extent of area over which the described changes would be visible from**: • A483 overbridge.
Duration	**Reversibility**
• Long-term (40-year lifespan).	• Reversible following decommissioning.

Magnitude
View northeast, Y0 & Y15: **Small** View southeast, Y0 & Y15: **Negligible** Part of the western extent of the Proposed Development in the WAA, would be introduced into the elevated view looking northeast and north, beyond the bridge railings and wire mesh, and beyond the A483 dual carriageway and traffic movement in the foreground view. Mature hedgerow and trees along the western boundary of the WAA and along field boundaries within the WAA would provide some screening of the WAA. The Proposed Development would affect a small proportion of the overall view which would be experienced from a short section of the farm access track and public footpath ESC/31 where it runs eastwards on the bridge over the A483. The magnitude of change would be S**mall**, at Year 0 and at Year 15. Part of the south-western extent of the Proposed Development in the WAA, would be introduced into a small part of the view looking southeast, beyond the bridge railings and wire mesh, and beyond the A483 dual carriageway on lower ground in the foreground. Mature hedgerow and tree cover along the south-western boundary of the WAA would provide some screening of the Proposed Development in this part of the Site. The Proposed Development would affect a very small proportion of the view, which also includes large agricultural buildings visible beyond the field adjoining the south-western boundary of the WAA. During the summer months the leaves on the trees and hedgerow along the south-western boundary of the WAA would further reduce visibility of the Proposed Development. The magnitude of change would be **Negligible**, at Year 0 and at Year 15. The change in the view described above would be experienced from a short section of the farm access track and public footpath ESC/31 where they run eastwards on the bridge over the A483.
Level and Significance of Effect
The level of effect would be no greater than **Minor** and would be **Not Significant**.
Adverse/Neutral/Beneficial
The effects of the Proposed Development would be **adverse**.

Viewpoint 2: Public footpath RUA/119, near the eastern boundary of WAA	
Grid Reference: 331881,346308 **Description of Baseline View**: View is southwest to northwest from public footpath RUA/119 across undulating agricultural landscape. The Site is within fields to the west and is partially screened by intervening vegetation cover along field boundaries to the northwest and tree cover surrounding the property to the south. An electricity overhead line is seen running across the Site from north to south. Visible in the background is a wooded hill, a relict of the former Hafod Colliery and now part of Bonc Yr Hafod Country Park.	
Susceptibility to Change	**Value**
Receptor: Walkers • The views available will be the principal reason for any journey.	• No landscape designations; • Public footpath which links to Wat's Dyke Way.
Sensitivity	
Receptors at the viewpoint would be users of public footpath RUA/119 which links Wat's Dyke Way with Hafod Road, and the recreational areas of Bonc yr Hafod Country Park and Aberderfyn Nature Reserve. Walkers likely would be interested in the view and the surrounding landscape. Susceptibility to change is **high**. The viewpoint is not subject to any landscape designations, and it is unlikely that people would congregate at the viewpoint for the views available. Value is **medium**. Overall, sensitivity is **high/medium.**	
Size/Scale of Effect	**Geographical Extent**
Scale of Change in view: • The upper parts of proposed solar panels would be partially visible in the view west and north above hedgerow along part of the eastern boundary of the Site. • Change from baseline would be limited. **Degree of contrast/integration**: • Field boundary hedgerow and trees would assist in integrating proposed solar panels into the view. **Nature of the View**: • Open view across field within which the viewpoint is located. Views of the ground plane of the Site are restricted by boundary hedgerow and trees.	**Angle**: • Direct. **Distance to Proposed Development (Application Boundary)**: • 25 m. **Extent of area over which changes would be visible**: • Approx. 250m length of footpath.
Duration	**Reversibility**
• Long-term (40-year lifespan).	• Reversible following decommissioning.
Magnitude	
Y0: Small, Y15: Negligible. **See Photomontage Viewpoint 2.** The Proposed Development within the central and north-eastern extent of the WAA would be introduced into the middle-distance view from Viewpoint 2 looking west and north beyond farmland. Proposed solar panels would be partly visible above and through gaps in mature hedgerow and trees along the eastern boundary of the WAA and would be heavily filtered in the view southwest through intervening hedgerow and trees towards the southern part of the EAA.	

The Proposed Development would affect no greater a small proportion of the view from this section of public footpath RUA/119 running west through the field within which Viewpoint 2 is located in. The magnitude of change would be no greater than **small**. At Year 15, trees proposed alongside existing hedgerow along part of the eastern boundary of the WAA would be established and maturing and would provide increased filtering and screening of the Proposed Development in the north-eastern extent of the WAA. Overall, the Proposed Development at Year 15, would be barely perceptible in the view from Viewpoint 2 and the magnitude of change would reduce to being **negligible**.
Level and Significance of Effect
At Year 0, the level of effect would be **Minor** and **Not Significant.** At Year 15, the level of effect would reduce to being **Negligible**, which is **Not Significant**.
Adverse/Neutral/Beneficial
The effects of the Proposed Development would be **adverse**.

Viewpoint 3: Wat's Dyke Way, near properties at Middle Sontley	
Grid Reference: 332281,346738 **Description of Baseline View**: The view is southwest across the undulating agricultural landscape towards the Site from public footpath MAR/41, part of the Wat's Dyke Way. The footpath runs south from this viewpoint along the edge of the field which is defined by a mix of wooden post and rail fencing and hedgerow, which is low and gappy in parts allowing views westwards. The Site is located within fields approximately 500 m to the southwest and is partially screened by intervening vegetation cover along field boundaries. Electricity overhead lines can be seen in the foreground and beyond the Site and a wind turbine is visible beyond the Site. Visible in the distance are the hills in the southern part of the Clwydian Range and Dee Valley National Landscape.	
Susceptibility to Change	**Value**
Receptor: Footpath users and residents of Middle Sontley • The views available and the historical context of Wat's Dyke will be the principal reasons for any journey. • Oblique views from properties.	• No landscape designations. • Wat's Dyke Way is a promoted long-distance footpath with historical value.
Sensitivity	
The viewpoint represents views from Wat's Dyke Way and nearby properties. Susceptibility to change is **high**. Value of the view is **medium/high**. Overall, sensitivity is **high**.	
Size/Scale of Effect	**Geographical Extent**
Scale of Change in view: • The upper part of the proposed solar panels would be partially visible through gapped hedgerow along the site boundary and tree cover between the footpath and the Site. • Change would occur in the background. • Change from baseline would be limited. **Degree of contrast/integration**: • Proposed solar panels would be seen in the context of existing electricity overhead lines. **Nature of the View**: • Open with field boundary hedgerow and trees filtering and screening the Site in the middle distance.	**Angle**: • Direct Views from properties at Middle Sontley • Wat's Dyke Way runs perpendicular to the Site from north to south. **Distance to Proposed Development (Application Boundary)**: • Approximately 470 m. **Extent of area over which changes would be visible**: • Viewpoint location, approximately 1km of Wat's Dyke Way south to the B5426 and nearby properties
Duration	**Reversibility**
• Long-term (40-year lifespan).	• Reversible following decommissioning.
Magnitude	
Y0 & Y15: Negligible The Proposed Development in the WAA would be introduced into the middle-distance view looking southwest from Viewpoint 3 beyond foreground hedgerow and undulating farmland beyond. The proposed solar array in the WAA would be barely perceptible beyond and through gaps in mature hedgerow and trees along the eastern boundary of the WAA and would be seen in a very small	

proportion of the overall view from this section of public footpath RUA/119. The magnitude of change would be **negligible**. At Year 15, trees proposed alongside existing hedgerow along part of the eastern boundary of the WAA would be established and maturing and would reinforce existing tree cover along this boundary. The Proposed Development at Year 15, would continue to be barely perceptible in the view from Viewpoint 3 and the magnitude of change would remain **negligible**.
Level and Significance of Effect
The level of effect would be **Negligible** at Year 0 and at Year 15 and would be **Not Significant**.
Adverse/Neutral/Beneficial
The effect of the Proposed Development would be **adverse**.

Viewpoint 4: Public footpath MAR/7, west and north of the CAA	
Grid Reference: 333369,345482 **Description of Baseline View**: View east to southwest from footpath MAR/7 north of the south-western part of the CAA. The view extends across a gently undulating, agricultural landscape comprising arable fields, bound by hedgerow with groups of mature trees along field boundaries. Field boundary vegetation screens views of the ground plane of the Site to the south and east. An electricity overhead line supported on wood poles is visible in the southwest running towards the Site.	
Susceptibility to Change	**Value**
Receptor: Footpath users • The views available will be a principal reason for any journey.	• No landscape designations. • Public footpath which links Gyfelia with the minor road and beyond.
Sensitivity	
The viewpoint represents views available to walkers on the footpath. Susceptibility to change is **high.** The value of the view is **medium**. Overall, receptor sensitivity is **high/medium**.	
Size/Scale of Effect	**Geographical Extent**
Scale of Change in view: • The upper parts of proposed solar panels west and east of the minor road in this location would be partly visible above and between field boundary hedgerow and trees. **Degree of contrast/integration**: • Existing hedgerow and trees would assist in integrating proposed solar panels in the landscape, seen in the context of existing residential properties. **Nature of the View**: • Views of the Site are limited by dense field boundary hedgerow and tree cover.	**Angle**: • Direct. **Distance to Proposed Development (Application Boundary)**: • 64 m. **Extent of area over which changes would be visible**: • Approximately 450 m of footpath MAR/7.
Duration	**Reversibility**
• Long-term (40-year lifespan).	• Reversible following decommissioning.
Magnitude	
Y0: Small & Y15: Negligible. See **Photomontage Viewpoint 4.** The Proposed Development within the south-western part of the CAA would be introduced into middle-distance views south and southeast and into views east. The Proposed Development to the south would be partly visible above and through gaps in mature field boundary hedgerow and trees. The upper part of proposed solar panels on the eastern side of the minor road would be visible in footpath views east and southeast. Overall, the Propsoed Development would occupy a small part of the overall view. The magnitude of change would be **small**. At Year 15, proposed hedgerow and tree planting along the visible edges of the Proposed Development would provide additional filtering and screening of the Proposed Development in footpath views. The Proposed Development at Year 15, would be screened in the summer and barely perceptible in the winter view from this viewpoint. The magnitude of change would reduce to being **negligible**.	
Level and Significance of Effect	

The level of effect would be **Minor** and **Not Significant** at Year 0, reducing to **Negligible** and **Not Significant** at Year 15.
Adverse/Neutral/Beneficial
The effects of the Proposed Development would be **adverse**.

Viewpoint 5: Minor road running north south through the CAA	
Grid Reference: **333761,346001** **Description of Baseline View**: View from a field entrance north of the proposed access to the north-eastern part of the CAA. Views northeast are contained along this road by roadside hedgerow with some tree cover. Consequently, roadside hedgerow restricts views north and west of farmland in the north-western part of the CAA . To the east-southeast the view extends into and across a field bound by dense field boundary hedgerow and trees, In this view, field boundary hedgerow and trees screen adjacent farmland in the Site to the east and northeast. Views southwest towards the north-western part of the CAA extend over managed roadside hedgerow and include only a small proportion of the ground plane of this part of the Site.	
Susceptibility to Change	**Value**
Receptor: Road users. • These road users have a medium susceptibility to the change.	• No landscape designations. • Not a location promoted, or likely to be visited for its scenic quality. • Road users have views into adjacent farmland at field entrances and of residential properties and farm buildings accessed off this road
Sensitivity	
Receptors at this viewpoint include road users, who have a **medium** susceptibility to change. The value of the view is **medium/low**. Overall, road users have **medium/low** sensitivity.	
Size/Scale of Effect	**Geographical Extent**
Scale of Change in view: • The Proposed Development would introduce a new gravel access track into the view east. Proposed solar panels would be glimpsed in the view east in gaps in field boundary hedgerow. • Proposed solar panels would be partly visible above roadside hedgerow in the view southwest. **Degree of contrast/integration**: • Roadside and field boundary hedgerow and trees would assist in integrating the Proposed Development in the view. **Nature of the View**: • Transient oblique views into the Site through the field entrance and over mature roadside hedgerow.	**Angle**: • Direct and Oblique. **Distance to Proposed Development (Application Boundary)**: • Within the Site. **Extent of area over which changes would be visible**: • Approximately 350 m of the minor road.
Duration	**Reversibility**
• Long-term (40-year lifespan).	• Reversible following decommissioning.
Magnitude	
Y0: Small Y15: Small See **Photomontage Viewpoint 5**.	

The section of hedgerow in the foreground view south would be removed from the view to accommodate the proposed access track and visibility splay and would open up views across farmland in the adjacent field. Proposed solar panels would be introduced into only a very small part of the view east, barely visible above and through gaps in field boundary hedgerow. Solar panels proposed in the field west of the minor road would be partly visible in the view southwest beyond roadside hedgerow. The removal of a section of hedgerow in close views would result in a notable change in the view. The built components of the Proposed Development would result in a small change in the view overall. At Year 15, taller hedgerow and maturing tree would provide increased filtering and screening of the proposed solar panels introduced into the view southeast and southwest. Hedgerow in the close view southeast would be mature and would replace removed hedgerow from the foreground view. The magnitude of change in the view would be **small** at Year 0 as a result of proposed built components in the view. At Year 15 proposed solar panels would be screened and the change in the view would relate to the proposed access track.
Level and Significance of Effect
The level of effect would be **Minor** overall at Year 0 and at Year 15, which is **Not Significant.**
Adverse/Neutral/Beneficial
The effects of the Proposed Development would be **adverse**.

Viewpoint 6: Minor road, near Stryt-yr-hwch	
Grid Reference: 333858,346325 **Description of Baseline View**: The view extends south along the minor road which continues south through the CAA and also extends east along Bwgan-Ddu Lane. Both roads are contained by mature roadside hedgerow and are part of the route of the proposed cable connection between the EAA and the CAA. Roadside hedgerows largely screen road user views towards the Site. There is a view south and southeast through a field entrance which extends across undulating pasture grassland towards hedgerow and trees defining part of the northern boundary of the CAA. Electricity pylons clearly visible in the view, seen crossing part of the field of view from the east.	
Susceptibility to Change	**Value**
Receptor: Road users • Have a medium susceptibility to change.	• A functional road, with no stopping place nearby. • Viewpoint is not a location where people likely will congregate to appreciate its scenic qualities.
Sensitivity	
The viewpoint represents the view available to road users on the minor roads in the northern context of the CAA. Susceptibility to change is **medium**. The value of the view is **medium/low**. Receptor sensitivity is **medium/low**.	
Size/Scale of Effect	**Geographical Extent**
Scale of Change in view: • The Proposed Development would be well screened by dense hedgerows at the junction and along the northern boundary of the CAA. • There would be potential glimpsed views of the upper part of proposed solar panels to the south, above boundary hedgerow. • Little change from baseline. **Degree of contrast/integration**: • Hedgerow screening would assist in integrating the proposed solar panels in the view, which includes an electricity overhead line. **Nature of the View**: • A transient view, experienced by road users at the junction.	**Angle**: • Direct to southbound travel **Distance to Proposed Development (Application Boundary)**: • Within Site. **Extent of area over which changes would be visible**: • Limited to the road junction looking through and beyond the field entrance.
Duration	**Reversibility**
• Long-term (40-year lifespan).	• Reversible following decommissioning.
Magnitude	
Y0 & Y15: Negligible The Proposed Development in the northern part of the EAA would be barely perceptible above boundary hedgerow in the limited view southwards. The magnitude of change on the view would be **negligible**.	

Level and Significance of Effect
The level of effect would be **Negligible,** and **Not Significant** at Year 0 and at Year 15.
Adverse/Neutral/Beneficial
The effects of the Proposed Development would be **adverse**.

Viewpoint 7: B5130 (Kiln Lane) Bedwell	
Grid Reference: 336324, 346391 **Description of Baseline View**: View northeast to southwest along the B5130 in the foreground include mature roadside hedgerow and trees along the southern side of the B5130, which define part of the northern boundary of the EAA. The ground plane of the Site is heavily filtered by roadside hedgerow in the winter view. Mature trees in the Site are visible above roadside hedgerow. Resident's views south towards the Site are partially filtered and screened by property boundary trees and shrubs in addition to the roadside hedgerow referred to above. Views are from the side of the property, which are not the principal views from the property, and are from the property garden defined by wooden post and rail fencing and with boundary trees and shrubs.	
Susceptibility to Change	**Value**
Receptor: Road users and nearby residents on Bryn Afon Lane • Views along road corridor partly contained by roadside hedgerow, trees and adjacent properties. • Views from southern property are limited by property boundary trees and shrubs and roadside hedgerow.	• Busy road lined by roadside hedgerow and trees. • Road junction with Bryn Afon Lane provides a temporary stopping place for nearby residents and road users. • Property views are limited by surrounding vegetation.
Sensitivity	
Road users have a **medium** susceptibility to change, and the value of the road user view is **medium/low**. Overall, road users have **medium/low** sensitivity to visual change. Residents have **high** susceptibility to change, and the value of their view/s is **medium**. Residents have **high/medium** sensitivity to visual change.	
Size/Scale of Effect	**Geographical Extent**
Scale of Change in view: • Proposed solar panels would be perceptible above and through roadside hedgerow in winter views. • Proposed tree planting along the northern edge of the Proposed Development in the view (in addition to existing hedgerow) would reduce visibility overtime. **Degree of contrast/integration**: • Roadside hedgerow would assist in integrating the proposed solar panels into the view. **Nature of the View**: • A transient road user view. Resident view south limited by property shrubs and trees and roadside hedgerow along the northern edge of the Proposed Development.	**Angle**: • Direct and oblique. **Distance to Proposed Development (Application Boundary)**: • Opposite side of the road to the Site boundary. **Extent of area over which changes would be visible**: • Approximately 300 m of the B5130.
Duration	**Reversibility**
• Long-term (40-year lifespan).	• Reversible following decommissioning.

Magnitude
Y0: Small Y15: Negligible (road-users); Small/Negligible (residents and walkers) A new footpath signpost and pedestrian gate providing access to the proposed permissive path running around the edge of the EAA, and associated hedgerow removal would be introduced into the view. Part of the north-western extent of the EAA would be visible beyond the new gate and above and through roadside hedgerow. Proposed tree planting alongside existing mature roadside hedgerow would provide additional filtering and screening of proposed solar panels and CCTV post. Overall, the Proposed Development would result in a small change in the view at Year 0. At Year 15, existing roadside hedgerow would be taller, at a minimum height of 3 m and in combination with maturing trees planted alongside this hedgerow would provide increased screening of the proposed solar panels and CCTV post in the view. The magnitude of change in the view would be **Small** in road user, residents and walkers' views at Year 0. The magnitude of change would reduce to being **Negligible** on road user views and **Small/negligible** on residents and walker's views at Year 15.
Level and Significance of Effect
The level of effect on road user views would be **Minor** at Year 0 reducing to **Negligible** at Year 15, which is **Not Significant.** The level of effect on resident's and walker's views would be **Moderate/minor** at Year 0, reducing to **Minor/negligible** at Year 15, which is **Not Significant.**
Adverse/Neutral/Beneficial
The effects of the Proposed Development would be **adverse**.

Viewpoint 8: Public footpath ERB/13, near Waterylane Wood	
Grid Reference: 336466,344711 **Description of Baseline View**: View north from footpath ERB/13, across large scale arable farmland rising gradually to the north and defined by low hedgerow, interspersed with mature trees. The ground plane of the Site is not distinguishable in the view. The semi-detached property adjacent to the B5426 and Waterylane Cottages closer in the view, are visible in the right of the view. A block of woodland on the horizon likely to be at the northern end of Pentre Nant Lane is visible in the left of the view. The Site is located approximately 1 km to the north of the viewpoint, on slightly higher ground, with visibility restricted by intervening landform, hedgerow and tree cover.	
Susceptibility to Change	**Value**
Receptor: Footpath users • The views available will be the principal reason for any journey.	• No landscape designations; • Public footpath between Eytonhall Lane in the south and the B5426 in the north, running past Waterylane Cottages and alongside a semi-detached property adjacent to the B5426. .
Sensitivity	
Receptors at the viewpoint would be walkers and the view would be one of the main reasons for any visit. Susceptibility to change is **high**. The value of the view is **medium**. Receptor sensitivity is **high/medium**.	
Size/Scale of Effect	**Geographical Extent**
Scale of Change in view: • The Proposed Development in the EAA would be well screened by intervening landform, hedgerow and tree cover. • Potential for long-range views of the most upper part of some of the proposed solar panels in the western part of the EAA. • The Proposed Development would be a very limited addition in the expansive panorama view. • Change from the baseline would be limited. • Visibility of the Proposed Development would be reduced to glimpsed views as proposed tree planting and hedgerow infilling becomes established along the southern boundary of the EAA. **Degree of contrast/integration**: • Existing and enhanced hedgerow and tree cover would integrate the Proposed Development in the view. **Nature of the View**: • An open panorama, which can be experienced at the leisure of the viewer.	**Angle**: • Direct. **Distance to Proposed Development (Application Boundary)**: • 1.1 km. **Extent of area over which changes would be visible**: • Intermittent visibility along approximately 800m of footpath ERB/13 from Waterylane Cottages to Eytonhall Lane.
Duration	**Reversibility**
• Long-term (40-year lifespan).	• Reversible following decommissioning.

Magnitude
Y0 & Y15: Negligible The Proposed Development in the western part of the EAA would be barely perceptible in the distant view north beyond intervening field boundary hedgerow and trees. The magnitude of change on the view would be no greater than **negligible**.
Level and Significance of Effect
The level of effect would be no greater than **Negligible,** and **Not Significant** at Year 0 and at Year 15.
Adverse/Neutral/Beneficial
Not applicable.

Viewpoint 9: B5426, near Royton Cottages	
Grid Reference: 336793,345273 **Description of Baseline View**: View north across B5426 in the foreground with the Site located across arable fields approximately 500m to the north. The density of the hedgerow on the northern side of the road prevents views of the fields to the north, although the gap in the hedgerow created by the gate creates a limited view of the Site. Distant views to the Clwydian Range to the west in the left of view. Trees located within the Site are visible in the skyline above the hedgerow and through the gate with a distinct line of trees running north from the B5426 in the east to join a larger block of woodland called The Hopyard, this extent of woodland screens views of much of the eastern extent of the EAA.	
Susceptibility to Change	**Value**
Receptor: Road users on B5426 • Medium susceptibility to change.	• A functional road, with no stopping place nearby. • People highly unlikely to gather to experience the views available.
Sensitivity	
Road users: Susceptibility to change is **medium** and the value of the view is **medium/low**. Overall, sensitivity is **medium/low.** Residents: Susceptibility to change is **high** and the value of the view is **medium**. Overall, sensitivity is **high/medium.**	
Size/Scale of Effect	**Geographical Extent**
Scale of Change in view: • Most of the proposed solar panels would be well screened by dense hedgerows along the B5426 and along the southern boundary of the eastern array, with only the highest parts of some of the proposed solar panels likely to be visible. • The block of woodland at The Hopyard effectively screens views of the eastern part of the eastern array from this location. • Visibility of the Proposed Development would diminish further with the proposed new tree planting along the southern boundary. • Little change from baseline. • Change would occur in the background. **Degree of contrast/integration**: • Proposed solar panels would not be a contrasting feature in the rural agricultural landscape. **Nature of the View**: • A transient view from vehicles on the B5426 and direct views from upper storey of nearby semi-detached property.	**Angle**: • Oblique for road users. Direct view from semi-detached property. **Distance to Proposed Development (Application Boundary)**: • 560 m. **Extent of area over which changes would be visible**: • Adjacent stretch of road and adjacent property.
Duration	**Reversibility**
• Long-term (40-year lifespan).	• Reversible following decommissioning.

Magnitude
Y0 & Y15: No change (road users) Y0: Small (residents) reducing to Negligible at Y15 The upper part of the Proposed Development in the western part of the EAA would not be distinguishable in the transient oblique view north through the gap in roadside hedgerow. There would be **no perceivable change** in the road user's view. The Proposed Development would be introduced into no greater than a small part of the view from upper storey property windows belonging to the semi-detached property near this viewpoint. The magnitude of change would be no greater than **small** at Year 0, reducing to **negligible** at Yeat 15.
Level and Significance of Effect
There would be no effect on road user views at Year 0 and at Year 15. The level of effect on resident's views would be M**oderate/minor adverse** at Year 0. The effect would reduce to **Negligible,** and **Not Significant** at Year 15.
Adverse/Neutral/Beneficial
The effect of the Proposed Development on resident's views would be **adverse.**

Viewpoint 10: Public footpath SES/9, southern boundary of EAA	
Grid Reference: 337073,3457829 **Description of Baseline View**: View north from public footpath SES/9 which runs along a track parallel to part of the southern boundary of the EAA. Visible in the foreground is a large arable field, that rises gradually to the north, and which includes gappy boundary hedgerow and mature trees. This field comprises part of the southern extent of the EAA. The adjacent field to the west, also part of the Site rises to the north forming part of the visible horizon. A residential property named Gerwyn Hall is visible in the view north, located on higher ground and its boundary defined by mature trees and hedgerow. To the right of the view, in the foreground, there is a group of trees either side of the footpath. Further east in the view, there is arable farmland, which rises gently to the north, but which do not form part of the Site. An electricity overhead line runs through the Site east to west and is clearly visible.	
Susceptibility to Change	**Value**
Receptor: Footpath users • The surroundings are likely to play a part in any journey.	• No landscape designations; • Public footpath across farmland connecting with the local road network and individual properties.
Sensitivity	
Receptors at the viewpoint would be walkers and the view would be one of the main reasons for any visit. Susceptibility to change is **High**. Value is **Medium**. The viewpoint is not subject to any landscape designations. Overall, sensitivity is **High/medium**.	
Size/Scale of Effect	**Geographical Extent**
Scale of Change in view: • Proposed solar panels within the central southern part of the EAA would be visible in the open close view from this location. Solar panels proposed on higher ground in the western part of the EAA would be perceptibe in more distant views north and northwest. • Proposed hedgerow with tree planting along the visible edges of the Proposed Development would screen views of the Proposed Development. **Degree of contrast/integration**: • Proposed solar panels would be a contrasting feature in the arable landscape. **Nature of the View**: • Expansive open view across sloping arable farmland.	**Angle**: • Direct. **Distance to Proposed Development (Application Boundary)**: • Adjacent boundary **Extent of area over which changes would be visible**: • Approximately 450 m of footpath SES/9.
Duration	**Reversibility**
• Long-term (40-year lifespan).	• Reversible following decommissioning.
Magnitude	
Y0 & Y15: Large. See **Photomontage Viewpoint 10.** The Proposed Development in the central southern part of the EAA would be introduced into open close views from the section of public footpath SES/9 which would runs along the southern edge of	

the Proposed Development. Proposed solar development would affect a large proportion of the view and would contrast with the existing view comprising arable farmland. The magnitude of change would be **Large** at Year 0. At Year 5 onwards, new hedgerow planted along the southern edge of the Proposed Development, in the foreground of footpath views would be maturing and would provide heavy filtering and screening of the Proposed Development. A **Large** magnitude of change would remain at Year 15; however, the change in the view would relate to the presence of mature hedgerow and maturing trees in the view northwards, which currently is open across adjacent arable farmland.
Level and Significance of Effect
The level of effect would be **Major** at Year 0 and at Year 15, which would be **Significant**.
Adverse/Neutral/Beneficial
The effects of the Proposed Development would be **adverse**.

Viewpoint 11: Public footpath SES/6, eastern boundary of the EAA	
Grid Reference: 337357,346240 **Description of Baseline View**: This view from public footpath SES/6, on the boundary of the north-eastern extent of the EAA, extends west to north across arable farmland in the northern part of a large field that falls to the south behind viewpoint 11. Two mature oak trees are a feature of the view looking west and are located on the boundary of the Site in this location. Looking northwest from an elevated position on the Site boundary, the upper storeys of Gerwyn Hall are partially visible beyond mature tree cover. The property is surrounded by mature woodland which forms a wooded horizon to the west. Hedgerow and hedgerow trees along the eastern boundary of this part of the Site is visible in the view north.	
Susceptibility to Change	**Value**
Receptor: Footpath users • The surroundings are likely to play a part in any journey.	• No landscape designations; • Public footpath across farmland connecting with the local road network and individual properties.
Sensitivity	
Receptors at the viewpoint would be walkers and the view would be one of the main reasons for their journey. Susceptibility to change is **High**. The value of the view is **Medium**. Overall, receptor sensitivity is **High/medium.**	
Size/Scale of Effect	**Geographical Extent**
Scale of Change in view: • Proposed solar panels in the most eastern part of the EAA would be clearly visible from this location. • Proposed hedgerow and tree planting would provide screening of the Proposed Development overtime. **Degree of contrast/integration**: • Proposed solar panels would be a contrasting feature in the agricultural landscape. **Nature of the View**: • Open, expansive view across arable farmland in the most eastern part of the EAA and beyond.	**Angle**: • Direct. **Distance to Proposed Development (Application Boundary)**: • At boundary. **Extent of area over which changes would be visible**: • Approximately 150 m stretch of footpath.
Duration	**Reversibility**
• Long-term (40-year lifespan).	• Reversible following decommissioning.
Magnitude	
Y0 & Y15: Large. The Proposed Development within the most eastern part of the EAA would be introduced into open close views from a short section of public footpath SES/6 which would run through proposed solar development in this location. Proposed solar development would affect a large proportion of the view and would contrast with the existing view comprising arable farmland. The magnitude of change would be **Large** at Year 0. By Year 5, proposed hedgerow along both sides of this footpath running through this part of the Proposed Development would be maturing and would provide heavy filtering and screening of the Proposed Development. The magnitude of change on views from a short section of this footpath would be **Large** for the long-term.	

A **Large** magnitude of change would remain at Year 15; however, the change in the view experienced from a short section of the footpath network in this location, would relate to the presence of mature hedgerow alongside the footpath, where the view currently is open across farmland and beyond. Views southwest from this footpath viewpoint would include a small part of the southern extent of the EAA on lower ground in the view. Proposed hedgerow and tree along the eastern edge of the southern part of the EAA would provide filtering and screening of the Proposed Development overtime. Views looking south from this footpath viewpoint towards the wider landscape would remain.
Level and Significance of Effect
The level of effect would be **Major** at Year 0 and at Year 15, which would be **Significant**.
Adverse/Neutral/Beneficial
The effects of the Proposed Development would be **adverse**.

Viewpoint 12: Public footpath SES/6, east of EAA	
Grid Reference: 337554,346066 **Description of Baseline View**: Views extend southwest to northwest towards the Site from this viewpoint on public footpath SES/6 across a large south-facing arable field. The view northwest extends towards the southern (undefined) boundary of the most eastern part of the EAA, and the view south-west extends towards the central southern part of the EAA. The view south extends across sloping farmland towards the wider landscape, including the Dee Floodplain, and the land rising beyond the floodplain creating a distant skyline on the opposite side of the River Dee. An overhead line is visible in the view west running towards and beyond the southern part of the EAA and the distant hills in the CRDV National Landscape provide the backdrop in the view.	
Susceptibility to Change	**Value**
Receptor: Footpath users • The surroundings are likely to play a part in any journey.	• No landscape designations; • Public footpath which connects farms and settlements to the west of Bangor-on-Dee.
Sensitivity	
Receptors at the viewpoint would be walkers and the view would be one of the main reasons for their journey. Susceptibility to change is **High**. The value of the view is **Medium/high**. Overall, receptor sensitivity is **High.**	
Size/Scale of Effect	**Geographical Extent**
Scale of Change in view: . • The upper part of the proposed solar panels in the most eastern part of the EAA would be visible looking northwest beyond intervening rising farmland. Visibility would reduce as proposed hedgerow and tree planting on the southern edge of this part of the Proposed Development matures and overtime screens proposed solar panels in this view. • Proposed solar panels in the southern part of the EAA would be visible to the west, although visibility would be limited by intervening vegetation, and this would further reduce once proposed hedgerow and tree planting becomes established and matures. **Degree of contrast/integration**: • Proposed solar panels would introduce a new built element into the view which comprises a rural agricultural landscape; however, these new elements would be low scale and existing and proposed hedgerow and tree cover would assist in integrating the Proposed Development into the view. **Nature of the View**: • Open and expansive across sloping arable farmland and beyond.	**Angle**: • Perpendicular to the direction of travel. **Distance to Proposed Development (Application Boundary)**: • 255m **Extent of area over which changes would be visible**: • Approximately 300m stretch of footpath.

Duration	Reversibility
• Long-term (40-year lifespan).	• Reversible following decommissioning.
Magnitude	
Y0: Medium/small Y15: Small See **Photomontage Viewpoint 12.** The Proposed Development would be introduced into the view southwest and the view northwest from this footpath viewpoint seen beyond intervening farmland. The edge of the proposed solar array would be seen on higher ground to the northwest with some backgrounding and filtering by existing trees and would be visible on lower ground to the southwest where a hybrid inverter-battery station also would be introduced into the view. The Proposed Development would be backgrounded by mature trees and distant hills in the view southeast. Views south towards and across the Dee Floodplain would be unaffected by the Proposed Development. Overall, the magnitude of change would be **Medium/small** in the views available from this section of footpath. At Year 15, proposed hedgerow and trees on the edges of the Proposed Development to the northwest and southwest would reduce visibility of the Proposed Development and would integrate the Proposed Development into the view. The magnitude of change would be no greater than **small** overall.	
Level and Significance of Effect	
The level of effect would be **Moderate adverse** at Year 0 and would reduce to **Minor** adverse at Year 15, which would be **Not Significant**.	
Adverse/Neutral/Beneficial	
The effects of the Proposed Development would be **adverse**.	

Viewpoint 13: Public footpath BAN/13, off Millbrook Lane	
Grid Reference: 339238, 344593 **Description of Baseline View**: View northwest from public footpath BAN/13, representative of long-distance views from this footpath. The Site, specifically the eastern extent of the EAA, is located in the middle-distance of the far-reaching view comprising rising ground on the other side of the River Dee Floodplain occupying a very small part of the wide panoramic view. The remainder of the Site is screened from view by mature trees and hedgerow in the immediate context of the Site. In the distance the hills of the Clwydian Range define the horizon. The view includes partial visibility of individual properties and the white track barriers at Bangor-on-Dee racecourse.	
Susceptibility to Change	**Value**
Receptor: Footpath users • Open, far-reaching views across the Dee floodplain and beyond. • The views available are likely to be an important reason for visiting.	• Within Lower Dee Floodplain SLA. • Public footpath which is part of a network of footpaths running across sloping farmland providing access between minor roads and residential properties. • Receptors are likely to value expansive views across the Dee Floodplain and distant views towards higher ground within the CRDV National Landscape.
Sensitivity	
Receptors at the viewpoint would be walkers and the view would be one of the main reasons for any visit. Susceptibility to change is **high**. Value is **medium to high**. The viewpoint is in the Lower Dee Floodplain SLA, which is valued for its perceived landscape qualities, especially during times of flood. Overall, receptor sensitivity is **high**.	
Size/Scale of Effect	**Geographical Extent**
Scale of Change in view: • Part of the EAA and to a lesser extent the CAA would be visible albeit from a long distance. • The intervening woodland and hedgerow cover would limit visibility especially during the summer months when trees are in full leaf. • Proposed planting on the southern Site boundaries would further reduce visibility of the Proposed Development once established. • The expansive view and large scale of the landscape from this viewpoint would reduce the overall impact of the development on the landscape. **Degree of contrast/integration**: • Proposed solar panels would be seen in the context of large agricultural buildings in the view. **Nature of the View**: • An open, panoramic and far-reaching view, which can be experienced at the leisure of the viewer.	**Angle**: • Direct. **Distance to Proposed Development (Application Boundary)**: • 2.4 km **Extent of area over which changes would be visible**: • Approximately 300 m of footpath.

Duration	Reversibility
• Long-term (40-year lifespan).	• Reversible following decommissioning.
Magnitude	
Y0 & Y15: Negligible. See **Photomontage Viewpoint 13**. The Proposed Development in the EAA would be visible in a very small part of the view. Proposed boundary hedgerow and tree planting would further reduce visibility of the Proposed Development at Year 15. Overall, the magnitude of change on the view would be **negligible**.	
Level and Significance of Effect	
The level of effect would be **Negligible,** and **Not Significant** at Year 0 and at Year 15.	
Adverse/Neutral/Beneficial	
The effect of the Proposed Development would be **adverse**.	

Viewpoint 14: Public footpath BAN/14, off Millbrook Lane	
Grid Reference: 339238,344593 **Description of Baseline View**: View northwest towards the Site from public footpath BAN/14 running northwest off Millbrook Lane. The view is representative of long-distance views from public footpath BAN/14, and from nearby residential properties including Cloy House. The public footpath runs across a large undulating grass field, that falls steeply to the north. Individual farmsteads with associated agricultural buildings and small groups of residential properties are visible in the view towards the Site. Sloping arable farmland in the eastern extent of the EAA is partly visible, on the opposite side of the River Dee Floodplain, backgrounded by mature tree cover and distant hills beyond, in the Clwydian Range and Dee Valley National Landscape which extends across the view.	
Susceptibility to Change	**Value**
Receptor: Walkers and residents off Millbrook Lane • Open, far-reaching views across the Dee floodplain and beyond. • The views available are likely to be an important reason for visiting.	• Within the Lower Dee Floodplain SLA. • Public footpath which is part of a network of footpaths running across sloping farmland providing access between minor roads and residential properties. • Receptors are likely to value expansive views across the Dee Floodplain and distant views towards higher ground within the CRDV National Landscape.
Sensitivity	
Receptors at the viewpoint likely would value the open, expansive views across the landscape. Susceptibility to change is **high**. The viewpoint is within the Lower Dee Floodplain SLA, which is valued for its perceived landscape qualities, especially during times of flood. The value of the view is **medium to high**. Overall, sensitivity is **high**.	
Size/Scale of Effect	**Geographical Extent**
Scale of Change in view: • Part of the EAA would be perceptible in the distant view towards the Site. • Mature tree cover and hedgerow field boundaries south of the EAA limits visibility which would be reduced further during the summer months when trees are in full leaf. • Once established and maturing, proposed planting along the southern edges of the Proposed Development would further reduce visibility of the Proposed Development. • The expansive view and large scale of the landscape from this viewpoint would reduce the overall impact of the development on the landscape. **Degree of contrast/integration**: • Proposed solar panels would be seen in the context of large agricultural buildings in the view. **Nature of the View**:	**Angle**: • Direct. **Distance to Proposed Development (Application Boundary)**: • Approximately 2 km. **Extent of area over which changes would be visible**: • Approximately 200 m of footpath BAN/14.

• An open, panoramic and far-reaching view, which can be experienced at the leisure of the viewer.	
Duration	**Reversibility**
• Long-term (40-year lifespan).	• Reversible following decommissioning.
Magnitude	
Y0 & Y15: Negligible The Proposed Development in the EAA would be introduced into a very small part of the view at Year 0. Proposed hedgerow and tree planting would further reduce visibility of the Proposed Development at Year 15. The magnitude of change on the view would be **negligible**.	
Level and Significance of Effect	
The level of effect would be **Negligible,** and **Not Significant** at Year 0 and at Year 15.	
Adverse/Neutral/Beneficial	
The effect of the Proposed Development would be **adverse**.	

<table>
<tr><th colspan="2">Viewpoint 15: Public footpath on Ruabon Mountain</th></tr>
<tr><td colspan="2">Grid Reference: 324851, 345190

Description of Baseline View:
View west towards the Site from a public footpath on Ruabon Mountain. The view is representative of long-distance footpath views east towards the Site from the CRDV National Landscape. The public footpath runs across open high ground with views across the surrounding landscape.</td></tr>
<tr><th>Susceptibility to Change</th><th>Value</th></tr>
<tr><td>Receptor: Walkers
Open, far-reaching views across the surrounding landscape.
The views available are an important reason for visiting.</td><td>Within the CRDV National Landscape.
Receptors are likely to value expansive views across the surrounding landscape.</td></tr>
<tr><th colspan="2">Sensitivity</th></tr>
<tr><td colspan="2">Receptors at the viewpoint likely would value the open, expansive views across the surrounding landscape. Susceptibility to change is high. The viewpoint is in the CRDV National Landscape, and the value of the view is high. Overall, sensitivity is high.</td></tr>
<tr><th>Size/Scale of Effect</th><th>Geographical Extent</th></tr>
<tr><td>Scale of Change in view:
The Proposed Development in the WAA and EAA would be difficult to distinguish in the view and where visible would comprise a very small proportion of the open expansive view across the landscape which includes other larger scale development in the view.
Once established and maturing, proposed planting would further reduce visibility of the Proposed Development.
Degree of contrast/integration:
Proposed solar and substation development would be difficult to distinguish in the view which includes existing urban development and field boundary hedgerow and trees and woodland.
Nature of the View:
An open, panoramic and far-reaching view from an elevated vantage point experienced at the leisure of the viewer.</td><td>Angle:
Direct.
Distance to Proposed Development (Application Boundary):
Approximately 5.3 km.</td></tr>
<tr><th>Duration</th><th>Reversibility</th></tr>
<tr><td>Long-term (40-year lifespan).</td><td>Reversible following decommissioning.</td></tr>
<tr><th colspan="2">Magnitude</th></tr>
<tr><td colspan="2">Y0 & Y15: Negligible
The Proposed Development would be introduced into a very small part of the view at Year 0 and would be barely distinguishable. At Year 15, proposed hedgerow and tree planting would further integrate the Proposed Development into the view. The magnitude of change on the view would be negligible.</td></tr>
<tr><th colspan="2">Level and Significance of Effect</th></tr>
<tr><td colspan="2">The level of effect would be Negligible, and Not Significant at Year 0 and at Year 15.</td></tr>
<tr><th colspan="2">Adverse/Neutral/Beneficial</th></tr>
<tr><td colspan="2">The effect of the Proposed Development would be neutral (neither adverse of beneficial).</td></tr>
</table>

<table>
<tr><th colspan="2">Viewpoint 16: Public footpath on Esclusham Mountain</th></tr>
<tr><td colspan="2">Grid Reference: 325703, 350538

Description of Baseline View:
View west towards the Site from a public footpath on Esclusham Mountain. The view is representative of long-distance footpath views southeast towards the Site from the CRDV National Landscape. The public footpath runs across open high ground with views across the surrounding landscape.</td></tr>
<tr><th>Susceptibility to Change</th><th>Value</th></tr>
<tr><td>Receptor: Walkers
Open, far-reaching views across the surrounding landscape.
The views available are an important reason for visiting.</td><td>Within the CRDV National Landscape.
Receptors are likely to value expansive views across the surrounding landscape.</td></tr>
<tr><th colspan="2">Sensitivity</th></tr>
<tr><td colspan="2">Receptors at the viewpoint likely would value the open, expansive views across the surrounding landscape. Susceptibility to change is high. The viewpoint is in the CRDV National Landscape, and the value of the view is high. Overall, sensitivity is high.</td></tr>
<tr><th>Size/Scale of Effect</th><th>Geographical Extent</th></tr>
<tr><td>Scale of Change in view:
The Proposed Development in the WAA would be difficult to distinguish in the view and where visible would comprise a very small proportion of the open expansive view across the landscape which includes other larger scale development in the view..
Once established and maturing, proposed planting would further reduce visibility of the Proposed Development.
Degree of contrast/integration:
Proposed solar and substation development would be difficult to distinguish in the view which includes existing urban development and field boundary hedgerow and trees and woodland.
Nature of the View:
An open, panoramic and far-reaching view from an elevated vantage point experienced at the leisure of the viewer.</td><td>Angle:
Direct.
Distance to Proposed Development (Application Boundary):
Approximately 4.3 km.</td></tr>
<tr><th>Duration</th><th>Reversibility</th></tr>
<tr><td>Long-term (40-year lifespan).</td><td>Reversible following decommissioning.</td></tr>
<tr><th colspan="2">Magnitude</th></tr>
<tr><td colspan="2">Y0 & Y15: Negligible
The Proposed Development in the WAA would be introduced into a very small part of the view at Year 0 and would be barely distinguishable. At Year 15, proposed hedgerow and tree planting would further integrate the Proposed Development into the view. The magnitude of change on the view would be negligible.</td></tr>
<tr><th colspan="2">Level and Significance of Effect</th></tr>
<tr><td colspan="2">The level of effect would be Negligible, and Not Significant at Year 0 and at Year 15.</td></tr>
<tr><th colspan="2">Adverse/Neutral/Beneficial</th></tr>
<tr><td colspan="2">The effect of the Proposed Development would be neutral (neither adverse of beneficial).</td></tr>
</table>