LVIA Methodology

Development of National Significance Pre-Application Consultation

Alaw Môn Solar Farm

Land west of the B5112, 415m south of Llyn Alaw, 500m east of Llantrisant and 1.5km west of Llannerch-y-Medd, Anglesey

October 2023

APPENDIX 7.1: LVIA METHODOLOGY

Introduction

A7.1 The Landscape Institute and the Institute of Environmental Management & Assessment's "Guidelines for Landscape and Visual Impact Assessment" Third Edition (GLVIA 3), 2013, notes in Chapter 1 that Landscape and Visual Impact Assessment (LVIA) relates to:

"…the effects of change resulting from development on both the landscape as an environmental resource in its own right and on people's views and visual amenity"

A7.2 The methodology employed in carrying out the LVIA of the Proposed Development has been drawn from guidelines set out in GLVIA 3 and Natural England landscape character guidance. The guidelines are not intended as a prescriptive set of rules, and the approach has been adapted to the specific project.

A7.3 This LVIA has been undertaken by professional landscape architects as competent experts who were involved in the design of the landscape and the preparation of subsequent management proposals. This has allowed the assessment to proceed as an integral part of the overall scheme design. Judgements are based on training and experience, and are supported by clear evidence and reasoned argument.

A7.4 The purpose of LVIAs is to identify the potential for, and assess the likely effects of, change resulting from development. Landscape and visual assessments are separate, although linked, procedures. A distinction is made between:

- landscape - landscape character and the elements and features that contribute to it (landscape receptors); and
- visual - people who experience views within the landscape (visual receptors).

A7.5 This LVIA is accompanied by illustrative material, including baseline mapping and photographs of the Site itself and from the wider context.

A7.6 There are four key stages to the LVIA, as follows:

- Baseline Studies;
- Design;
- Assessment of Landscape and Visual Effects; and
- Cumulative Assessment (should this be required).

Baseline Studies

A7.7 The purpose of baseline studies is to record the existing landscape features, characteristics, the way the landscape is experienced and potential visual receptors. The following have been undertaken as part of the baseline studies:

- Identification of the extents of the study area. This is based on professional judgement and may vary depending on the type of development proposed and the landscape context;
- A desktop study of patterns and scale of landform, land use and built development, relevant current planning policy (including landscape designations) and landscape character publications. Further localised character assessments may also be undertaken to supplement published assessments;
- Identification of potential representative viewpoints within the study area to represent a range of visual receptors that may be affected by the Proposed Development and that will be visited during the site visit; and
- Site visit to verify the desktop baseline and to further identify views to represent receptors that may be affected by the Proposed Development. It is not practicable or possible to visit every location from which the Proposed Development is visible and therefore the viewpoints are limited to those which may experience greater magnitude of effects or are of higher sensitivity. Views may also be included to identify locations from where there will be small or no effects.

A7.8 Where relevant, the future baseline of the Site and its context has also been considered, in order to account for ongoing change in the landscape, for example developments that are under construction and which will have altered the landscape context to the Site by the time the Proposed Development would be initiated.

Design and Mitigation

A7.9 The LVIA has been undertaken by professionals who were involved in the design of the landscape, site design, and the preparation of subsequent management proposals. The design and assessment stages are iterative, with stages overlapping in part.

A7.10 Mitigation measures are embedded within the design of the Proposed Development (for an application for Planning Permission in Principle this comprises the development parameters) as a result of the desk-based study and Landscape and Visual Appraisal (LVA) field work. These measures, such as the building layout, massing and height; and arrangement of open spaces and new structural planting, are termed 'Primary Mitigation'. Effective Primary Mitigation strategies avoid or reduce adverse effects by ensuring the key principles of the design of the development, as noted above, are sympathetic with the existing baseline.

A7.11 Where the design process does not enable mitigation to be embedded within the Proposed Development, additional recommended measures to reduce adverse effects are termed 'Secondary Mitigation.' These are illustrated in material accompanying the proposal, including the Design and Access Statement.

A7.12 Secondary Mitigation strategies include:

- A Landscape Strategy Plan detailing landscape design approaches, including indicative species;
- A Construction Environmental Management Plan to minimise effects arising during the construction process, typically including tree protection in line with BS5837:2012; and
- A programme of appropriate monitoring, agreed with the regulatory authority, so that compliance and effectiveness can be readily monitored and evaluated.

A7.13 These secondary measures contribute to the assessment of residual effects.

A7.14 The contribution made by areas of planting introduced as part of the Proposed Development is also considered in terms of the effects at year 1 and the residual effects (allowing for growth of planting over time and assessed at 15 years). The height of this planting for assessment purposes is assumed to be as follows (based on an average growth rate of 1m in 3 years – the rate of growth varies according to species):

- Planting at Year 1: typically 0.7-4.5 metres; and
- Planting at Year 15: typically 5.5-9.5 metres.

Enhancement

A7.15 Enhancement measures are those effects resulting from the Proposed Development which do not serve a mitigation purpose. The beneficial changes resulting from these measures are incorporated into assessment of landscape and visual effects.

Assessment of Landscape Effects

A7.16 GLVIA 3 Paragraph 5.1 states that:

"An assessment of landscape effects deals with the effects of change and development on landscape as a resource."

A7.17 The significance of landscape effects is derived from a combination of assessments of the **sensitivity** of the landscape receptor and the **magnitude** of effect (change) experienced as a result of the Proposed Development.

Sensitivity of Landscape Receptors

A7.18 The sensitivity of a landscape receptor is a combination of the **value** of the landscape receptor and the **susceptibility** (in other words 'vulnerability') of the landscape receptor to the type of change proposed, using professional judgement.

Landscape Value

A7.19 The assessment of value is based on a combination of the importance of landscape-related planning designations and the following attributes:

- Landscape quality (condition): the measure of the physical state of the landscape. It may include the extent to which typical landscape character is represented in individual areas, the intactness of the landscape and the condition of individual elements.
- Scenic quality: the extent that the landscape receptor appeals to the visual senses;
- Perceptual aspects: the extent that the landscape receptor is recognised for its perceptual qualities (e.g. remoteness or tranquillity);
- Rarity: the presence of unusual elements or features;
- Representativeness: the presence of particularly characteristic features;
- Recreation: the extent that recreational activities contribute to the landscape receptor; and
- Association: the extent that cultural or historical associations contribute to the landscape receptor.

A7.20 Landscapes, including their character and features, may be designated for their landscape and visual qualities at a range of levels (national, county and local level).

A7.21 The overall value for each landscape receptor has been categorised as either High, Medium, Low or Very Low.

Table A7.1: Landscape Value

Level	Criteria
High	Landscape area of distinctive components and characteristics which may also be nationally designated for scenic beauty. A landscape feature which makes a strong positive contribution to landscape character e.g. a mature tree or woodland.
Medium	Landscape area of common components and characteristics which may be designated at regional or local level for its landscape and visual qualities. A landscape feature which makes some positive contribution to landscape character.
Low	Landscape area/feature of inconsequential components and characteristics, undesignated and with little or no wider recognition of value, although potentially of importance to the local community.
Very Low	Landscape area or feature that is undesignated and providing no positive contribution to the landscape.

Landscape Susceptibility

A7.22 The susceptibility of the landscape is a measure of its vulnerability to the type of development proposed, without undue consequences for the maintenance of the baseline situation. Landscape character/features of low susceptibility would have a high capacity to accommodate change, and landscape character/features of high susceptibility would have a low capacity to accommodate change. The following criteria have been taken into consideration in the assessment of the susceptibility of landscape character, although not all criteria are equally applicable or important within a given landscape / type of development proposed:

- Landform;
- Pattern/Complexity;
- Composition;
- Landcover;
- Relationship of a given landscape area to existing settlements or developments; and
- Potential for appropriate mitigation within the context of existing character and guidelines.

A7.23 With regard to landscape features, susceptibility relates to the potential for loss/retention of the relevant features in relation to the type of development proposed (for example trees within a Site are potentially highly susceptible to construction of an industrial shed, where they might not be to construction of residential units, as the latter provides more scope to mitigate by design); and the facility with which such elements may be replaced, where appropriate.

A7.24 Susceptibility of landscape character/ features is categorised as High, Medium or Low, as set out in Table A6.2.

Table A7.2: Landscape Susceptibility

Susceptibility	Criteria
High	The receptor is likely to have little scope to accommodate the type of development proposed without undue consequences upon its overall integrity.
Medium	The receptor is likely to have some scope to accommodate the type of development proposed without undue consequences upon its overall integrity.
Low	The receptor is likely to be able to accommodate the type of development proposed with little or no consequences upon its overall integrity.

A7.25 Based on the combination of value and susceptibility, an assessment of landscape sensitivity is reached, defined as High, Medium or Low. Typically a high value and high susceptibility would result in a high sensitivity; and a low value and low susceptibility would result in low sensitivity.

Landscape Magnitude of Effect (Change)

A7.26 The landscape magnitude of effect (change) is a product of the scale of the effect (i.e. how much of the resource is affected), the scale over which that effect is experienced (i.e. site, local or regional), the permanence of the effect and its reversibility, as set out in Table A6.3.

Table A7.3: Landscape Magnitude of Effect (Change)

Magnitude	Criteria
Large	Pronounced change to the existing landscape receptor that may affect an extensive area. The change may be long-term or may be irreversible.
Medium	Partial change to the existing landscape receptor that may affect a relatively extensive area. The change may be medium-term or may be irreversible.
Small	Limited change to the existing landscape receptor that may affect a relatively limited area. The change may be short-term or reversible.
Very Small	Very slight change to the existing landscape receptor that may affect a limited area. The alteration may be short-term or reversible.
None	No change to the existing landscape receptor.

Assessment of Visual Effects

A7.27 GLVIA 3 Paragraph 6.1 states that:

"An assessment of visual effects deals with the effects of change and development on the views available to people and their visual amenity."

A7.28 The significance of visual effects is derived from a combination of assessments of the **sensitivity** of the visual receptor and the **magnitude** of effect (change) experienced as a result of the Proposed Development.

Viewpoint Selection

A7.29 In order to assess the effects on visual receptors, a selection of publicly accessible viewpoints was made. It is not possible or practicable to visit every area from which the Proposed Development is visible and therefore professional practice is to identify those viewpoints which represent receptors of the highest sensitivity or on which the magnitude of effect is likely to be greatest, i.e. those which are likely to experience the most significant effects. Viewpoints include users of Core Paths, Public Rights of Way, residents of local dwellings and users of local roads.

A7.30 Views may be categorised as either near distance, medium distance or long distance with the relevant distances dependant on the size and nature of the development, based on professional judgement.

A7.31 The type of view has been described as either transient (i.e. experienced when moving) or fixed (i.e. from a static location). Views are also described in terms of the degree of screening or openness (e.g. open or uninterrupted; partial (including where partially screened or filtered) by vegetation or other structures; or curtailed by intervening land form, built form or vegetation) and the angle of view (e.g. frontal or oblique).

A7.32 Photographs of representative viewpoints are taken at eye level, using a digital SLR camera, and presented in accordance with the Landscape Institute Advice Note 01/11 'Photography and photomontage in landscape and visual impact assessment'.

Sensitivity of Visual Receptors

A7.33 The sensitivity of a visual receptor is a consideration of the **value** of the view and the **susceptibility** of the visual receptor, the latter being primarily based on consideration of the extent to which a visual receptor is focused on appreciation of the landscape. Professional

judgement is used to determine these factors, based on considerations set out in Table A6.4 and Table A6.5.

Table A7.4: Value of Views

Value	Criteria
High	View of/from a location that is likely to be of national importance, either designated or with national cultural associations.
Medium	View of/from a location that is likely to be of local importance, either designated or with local cultural associations.
Low	View of/from a location that is not designated, with minimal or no cultural associations.

Table A7.5: Susceptibility of Visual Receptor

Susceptibility	Criteria
High	People at their place of residence; People engaged in outdoor recreation, including users of Public Rights of Way (ProW), whose attention is likely to be focused on the landscape; and People travelling along recognised scenic routes or where their appreciation of the view contributes to the amenity experience of their journey.
Medium	People engaged in outdoor sport and recreation, where their appreciation of their surroundings is incidental to their enjoyment; and People travelling on secondary roads or country lanes, rail or other transport routes.
Low	People travelling on major roads. People at their place of work.

A7.34 The sensitivity of a visual receptor results from the combination of value and susceptibility and is rated as high, medium or low. Typically a high value and high susceptibility would result in a high sensitivity; and a low value and low susceptibility would result in low sensitivity.

Visual Magnitude of Effect (Change)

A7.35 In the evaluation of the effects on views and the visual amenity of the identified receptors, the magnitude of visual effect (change) is typically described with reference to:

- The scale of change in the view with respect to the loss or addition of features in the view and changes in its composition. Factors contributing to this include:
  - The angle of view in relation to the main activity of the receptor;
  - The distance of the viewer from the Proposed Development; and
  - The extent of the area over which the changes would be visible.
- Whether or not the view is experienced in fixed or transient views and, in the latter, whether it is intermittent/glimpsed or continuous; and

- The duration of the change, whether temporary or permanent.

A7.36 The criteria for magnitude of visual effect (change) are set out in Table A6.6.

Table A7.6: Visual Magnitude of Effect (Change)

Magnitude	Criteria
Large	The proposals will cause a pronounced change to the existing view, resulting in the loss or addition of features that will substantially alter the composition of the view. The change may be long-term or may be irreversible.
Medium	The proposals will cause a noticeable change in the view, resulting from the loss or addition of features in the view and will noticeably alter the composition of the view. The change may be medium-term or may be irreversible.
Small	The proposals will cause a limited change in the view, which would not materially alter the composition of the view. The change may be short-term or reversible.
Very Small	The proposals will cause a barely perceptible change in the view. The change may be short-term or reversible.
None	No change discernible in the view.

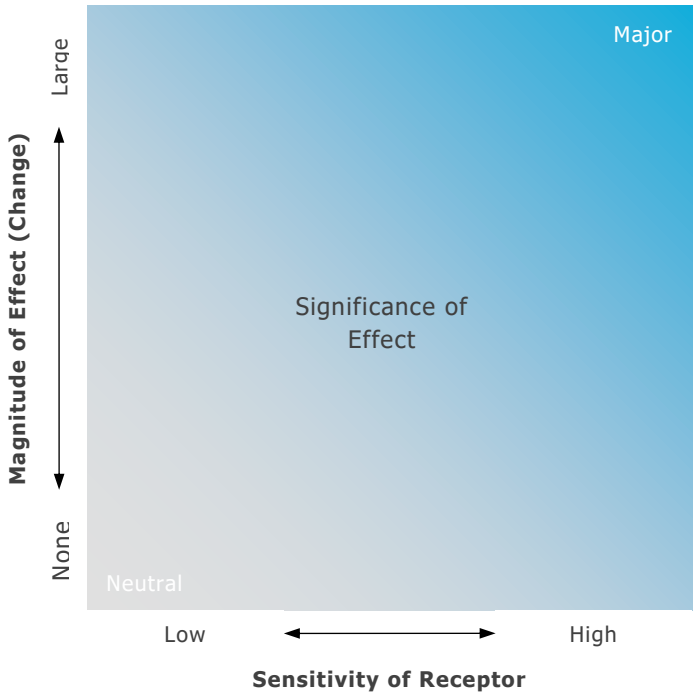
Significance of Effects

A7.37 In order to draw conclusions about the significance of landscape or visual effects, the combination of the sensitivity of the receptors and the magnitude of effect (change) are considered for the Proposed Development at Year 1 of operation; and, depending on the assessment, also at a point where planting associated with the Proposed Development will be establishing e.g. Year 15. In certain circumstances, it may also be appropriate to consider effects at construction and on decommissioning of the Proposed Development.

A7.38 Significance of effects are rated on a scale of Neutral to Major.

A7.39 Assessment of significance of effects is subject to professional judgement but in broad terms, where a receptor of high sensitivity experiences a large magnitude of effect (change) as a result of the Proposed Development, the significance of effect is likely to be major. Conversely, where a receptor of low sensitivity experiences a very small magnitude of effect (change) as a result of the Proposed Development, the significance of effect is likely to be negligible.

Figure A7.1: Significance of Effects



A7.40 Where it is considered that there is potential for both beneficial and adverse changes, these magnitudes of effect (change) are noted and the balance of these considerations used to inform conclusions on significance of effect.

A7.41 The assessment of residual effects refers to the likely effects of the Proposed Development that will remain once Secondary Mitigation measures are applied and also considers the growth of planting introduced within the Proposed Development (including where this is part of Primary or Secondary Mitigation).

A7.42 For schemes subject to Environmental Impact Assessment, as governed by the Environmental Impact Assessment Directive (2011/92/EU), an assessment of whether or not the effect is considered 'significant' is required. This is relative to each scheme but, in general, effects of Major or Moderate (adverse/beneficial) significance are deemed 'significant'.

Table A7.7: Significance of Landscape Effects – Criteria

Significance of Landscape Effect	Criteria
Major Beneficial	Alterations that result in a pronounced improvement of the existing landscape resource. Valued characteristic features would be restored or reintroduced as part of the Proposed Development.
Moderate Beneficial	Alterations that result in a partial improvement of the existing landscape resource. Valued characteristic features would be partially restored or reintroduced.
Minor Beneficial	Alterations that result in a limited improvement of the existing landscape resource. Characteristic features would be restored to a limited degree.
Negligible Beneficial	Alterations that result in a very slight improvement to the existing landscape resource, not uncharacteristic within the receiving landscape.
Neutral	Neither beneficial nor adverse effects on the existing landscape resource.
Negligible Adverse	Alterations that result in a very slight deterioration to the existing landscape resource, not uncharacteristic within the receiving landscape.
Minor Adverse	Alterations that result in a limited deterioration of the existing landscape resource. Characteristic features would be lost to a limited degree.
Moderate Adverse	Alterations that result in a partial deterioration of the existing landscape resource. Valued characteristic features would be partially lost.
Major Adverse	Alterations that result in a pronounced deterioration of the existing landscape resource. Valued characteristic features would be wholly lost.

Table A7.8: Significance of Visual Effects – Criteria

Significance of Visual Effect	Criteria
Major Beneficial	Alterations that typically result in a pronounced improvement in the existing view.
Moderate Beneficial	Alterations that typically result in a noticeable improvement in the existing view.
Minor Beneficial	Alterations that typically result in a limited improvement in the existing view.
Negligible Beneficial	Alterations that typically result in a barely perceptible improvement in the existing view.
Neutral	Neither beneficial nor adverse effects on the existing view.
Negligible Adverse	Alterations that typically result in a barely perceptible deterioration in the existing view.
Minor Adverse	Alterations that typically result in a limited deterioration in the existing view.
Moderate Adverse	Alterations that typically result in a noticeable deterioration in the existing view.
Major Adverse	Alterations that typically result in a pronounced deterioration in the existing view.

Cumulative Assessment

A7.43 The assessment of cumulative landscape and visual effects is an evolving area of practice and considers the effects that will arise as a result of additional changes to the landscape resource or visual amenity caused by the Proposed Development in combination with other emerging schemes. GLVIA3 emphasises that cumulative impact assessment should be reasonable and proportionate to the nature of the Proposed Development and local environment, focussing on likely significant effects rather than providing a comprehensive catalogue of every conceivable cumulative effect that may occur.

A7.44 The cumulative assessment takes into consideration:

- The extent to which the emerging schemes and the Proposed Development extend or intensify the landscape and/or visual effects of each scheme;
- The extent to which the landscape resource is altered due to the modifications in land use and pattern;
- The interrelations between the different types of built forms;
- The incremental changes as a result of successive built forms being introduced;
- The temporal effects arising due to simultaneous or successive construction activities over an extended period of time; and
- The indirect effects arising from the enabling works of each emerging scheme and/or the consequences of the removal of elements of the landscape.

A7.45 Cumulative landscape effects relate to the loss and/or addition of features as a result of the Proposed Development and other emerging schemes that alter the physical fabric and character of a landscape.

A7.46 Cumulative visual effects may arise as a result of combined visibility and/or sequential effects and are principally concerned with the change in the composition of available views and the visual amenity experience. Cumulative visual effects are categorised as follows:

- Combined: the influence of more than one scheme is experienced in a single view by a visual receptor;
- Successive: where two or more schemes are visible from the same location but not within the same view. i.e. an observer at a given location would need to look in distinctly different directions to view more than one scheme; and
- Sequential: occurs when an observer moves through a landscape, e.g. where the presence of the emerging schemes and the Proposed Development are visible from different locations along a recognised route of travel. The schemes do not need to be intervisible for sequential effects to arise.