Chapter 11

Landscape and Visual Effects

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11. Landscape and Visual

11.1 Introduction

11.1.1 This chapter provides a preliminary assessment of the likely significant Landscape and Visual effects arising from construction, operation and decommissioning of the Project as part of this Preliminary Environmental Impact Report (PEIR).

11.1.2 A detailed description of the Project Site and the Project is provided in **Chapter 3: Project and Site Description**. A glossary of terms and list of abbreviations used in this chapter is provided at the start of this PEIR.

11.1.3 Landscape and visual effects are interrelated with other environmental effects but are assessed separately. Whilst elements of the landscape, such as Listed Buildings or ecologically designated areas, are important elements of the landscape and contribute to its character and influence its quality and value, assessment of the significance of effects on these features is considered in **Chapter 8: Ecology**, **Chapter 13: Historic Environment** and **Chapter 14: Socio-economics**.

11.1.4 This chapter is supported by the following technical appendices presented in:

- Appendix 11.1: LANDMAP Aspect Data;
- Appendix 11.2: Landscape Assessment; and
- Appendix 11.3: Visual Assessment.

11.1.5 The Landscape and Visual Impact Assessment (LVIA) has been informed by previous consultation undertaken associated with the 2014 PEIR, Scoping Opinion and recent consultation as part of the design evolution of the project.

a) Objectives of the assessment

11.1.6 The LVIA considers how the Project may have an effect upon landscape character and visual amenity. It considers how:

- Landscape effects associated with a development relate to change to the fabric, character and quality of the landscape resource and how it is experienced; and
- Visual effects relate closely to landscape effects but also concern changes in views as visual assessment is also concerned with people's perception and response to changes in visual amenity.

11.2 Changes since the 2014 PEIR

11.2.1 There have been changes to the Project design as a result of design evolution and consultation as detailed in **Chapter 3: Project and Site Description**. To aid the reader, Table 11-1 outlines the changes to this assessment compared with the Landscape and Visual section of the 2014 PEIR.

Table 11-1: Summary of changes since the 2014 PEIR to the Landscape and Visual Assessment

Section	Changes since the 2014 PEIR	Section Reference
Methodology	Methodology	The detail contained in the methodology including the criteria for sensitivity, magnitude and significance varies between the 2014 PEIR and the 2018 PEIR, however both are in accordance with GLVIA3 and the differences reflect professional judgements on methodology. Viewpoint 10 has been replaced with Viewpoint 17 as the site visit in November 2017 revealed that foreground views now contain a solar farm and associated security fencing. The stack height has increased to 45 m in the 2018 PEIR, however the study area for visual amenity has remained the same in both the PEIRs at 15 km. This has been agreed through consultation.
Baseline	Baseline	The baseline has changed since the 2014 PEIR, most notably with the construction of solar farms within the 5 km landscape study area.
Significance of Effect	Significance of Effect	Effects are similar between the 2014 PEIR and 2018 PEIR with the same conclusions drawn on overall significance.

11.3 Legislation, policy and guidance

11.3.1 This section identifies and describes legislation, policy and guidance of relevance to the assessment of the potential landscape and visual impacts associated with the Project.

11.3.2 Legislation and policy has been considered on an international, national, regional and local level. The following is considered to be relevant to the landscape and visual assessment as it has influenced the sensitivity of receptors and requirements for mitigation or the scope and/or methodology of the PEIR.

a) International

11.3.3 The European Landscape Convention (ELC) came into force on 1st March 2004 in the UK and is the first international convention to be exclusively devoted to all aspects of the landscape. Its purpose is to develop policies to the protection,

management and planning of landscape and the integration into relevant policies, including cultural, heritage and economic policies. In 2008 the Council of Europe adopted guidelines for the implementation of the ELC. In delivering the outcomes of the ELC in the UK, a framework for Implementation in England has been drawn up (Integrating the European Landscape Convention: Part 1-3 Guidance (2009) Ref.11.1).

b) National

11.3.4 There are three NPSs that are relevant to the Project; the overarching NPS EN-1 covering all nationally important energy infrastructure and the technology specific NPS EN-2 for Fossil Fuel Electricity Generating Infrastructure and NPS EN-4 for Gas Supply Infrastructure and Gas Oil Pipelines.

i. *Overarching National Policy Statement for Energy (NPS EN-1)*

11.3.5 NPS EN-1 directs those deciding applications on what general policies and considerations they should assess with regards to an energy Nationally Significant Infrastructure Project (NSIP), such as the Project. Within, it recognises that NSIPs will have potential landscape and visual impacts, which is outlined in section 5.9 and the therefore the Applicant should "…*include the effects during construction of the project and the effects of the completed development and its operation on landscape components and landscape character. The assessment should include the visibility and conspicuousness of the project during construction and of the presence and operation of the project and potential impacts on views and visual amenity. This should include light pollution effects, including on local amenity, and nature conservation*".

11.3.6 NPS EN-1 also recognises that the scale of development located outside the boundaries of national designated areas may have impacts as structures may be visible within such designated areas. It states that "*the aim should be to avoid compromising the purposes of designation and such projects should be designed sensitively given the various siting, operational, and other relevant constraints. … The fact that a proposed project will be visible from within a designated area should not in itself be a reason for refusing consent*."

11.3.7 In response to the potential landscape and visual impacts, NPS EN-1 has outlined guidance in terms of mitigation. It states "*Within a defined site, adverse landscape and visual effects may be minimised through appropriate siting of infrastructure within that site, design including colours and materials, and landscaping schemes, depending on the size and type of the proposed project. Materials and designs of buildings should always be given consideration*."

ii. *National Policy Statement for Fossil Fuel Electricity Generating Infrastructure (NPS EN-2)*

11.3.8 The NPS EN-2 is to be read in conjunction with NPS EN-1, with EN-2 specifically covering gas fired infrastructure projects such as the Project. It recognises that applicants should demonstrate good design in respect to landscape and visual amenity set out in section 2.6 and detailed in EN-1. NPS EN-2 also requires the

Applicant to have given considerations to the aesthetic design of a development, and siting of the development in the context of existing landscape, landform and vegetation.

iii. *National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (NPS EN-4)*

11.3.9 The NPS EN-4 covers infrastructure involving underground gas pipelines, such as included in the Project. The potential landscape and visual impacts are outlined in section 2.14 of which it notes that pipeline construction can cause temporary landscape and visual impacts.

iv. *National Policy Statement for Electricity Networks Infrastructure (NPS EN-5)*

11.3.10 The NPS EN-5 covers infrastructure for electricity networks including transmission systems and the associated infrastructure such as substations. Section 2.8 identifies principles to be followed when designing the route of overhead line proposals including consideration of undergrounding lines where there is the potential for adverse landscape and visual effects.

v. *Future Landscapes: Delivering for Wales*

11.3.11 The Future Landscapes: Delivering for Wales was published in 2017 and provides an independent review of designated landscapes in Wales. The findings and recommendations contained in this report follow in the spirit of the Well-Being of Future Generations (Wales) Act 2015 and the Environment (Wales) Act 2016.

vi. *Planning Policy Wales (Edition 9)*

11.3.12 Planning Policy Wales (Edition 9, November 2016) (PPW) sets out the land use planning policies of the Welsh Government and is supplemented by topic based Technical Advice Notes (TANs).

11.3.13 TANs considered to be relevant to the landscape and visual resource include Technical Advisory Note 12: Design (TAN12) (2016).

11.3.14 TAN 12 provides advice on how developments should promote sustainability through good design. Specifically in relation to landscape, it states "*appraisal of the landscape should focus on its quality in terms of geology and geomorphology, vegetation and habitats, visual and sensory quality and historic and cultural quality*." It also provides design solutions and guidance to help promote sustainability in terms of landscape setting and local environment outlined in section 5.5.2 in the following terms: "*The aim should be to achieve good design solutions which maximise the natural landscape assets and minimise environmental impact on the landscape. It is particularly important that proposals to amend or create new landscape are not considered as an afterthought and that the long term impact of development on the landscape is fully understood*."

c) Local

11.3.15 The City and Council of Swansea Unitary Development Plan (UDP) was adopted on the 10th November 2008. It sets out a range of policies and proposals relating to future development and contains a number of policies which are relevant to the landscape and visual resource as follows:

- Policy EV1: Design – Outlines a number of objectives to achieve good design in all new developments such as "*be appropriate to its local context in terms of scale, height, massing, elevational treatment, materials and detailing, layout, form, mix and density*." Such developments should be sensitive to the county's unique settings and respect its surroundings.
- Policy EV2: Siting and Location – The policy recognises that new proposed developments must have regards to the physical character and topography of the site and its surroundings. It outlines guidance such as "*effectively integrating with the landscape, seascape or coastline by utilising topography to integrate into the contours of the site and avoiding conspicuous locations on prominent skylines and ridge*".
- Policy EV11: Historic Parks, Gardens and Landscapes – Insures that all new development will not harm registered historic parks and gardens and the character of the historic landscapes.
- Policy EV26: Areas of Outstanding Natural Beauty – Within the Gower AONB, the policy's objective is the conservation and enhancement of the area's beauty. Therefore, proposed development will not have adverse effect or impact on the area.
- Policy EV30: Trees, Woodland and Hedgerow Protection – The policy ensures the protection of existing woodland, trees and hedgerow.
- Policy EV32: Environment Enhancement – The policy recognises that new developments should be combined with improvements to the overall environmental quality, and to avoid significant adverse environmental impacts from the new development.

11.3.16 The Deposit Local Development Plan (LDP) was published for consultation between the 18th July and 31st August 2016. The deposit LDP presents the policies and proposals for managing the future growth and change that will occur within the City and County of Swansea. The LDP is not yet adopted and is not therefore part of the statutory development plan. As emerging policy, it cannot be afforded full weight. Please see **Chapter 2: Regulatory and Policy Background** for further detail. The policies relevant to the Landscape and Visual resource are as follows:

- ER 2: Strategic Green Infrastructure Network: This Policy seeks to maintain or enhance the extent, quality and connectivity of the County's multi-functional green infrastructure network.
- ER 3: Green Belt and Green Wedges. This Policy seeks to ensure that within the Greenbelt and Green Wedges, development will only be permitted if it maintains the openness and character of the land.
- ER 4: Gower Area of Outstanding Natural Beauty. This Policy seeks to conserve and enhance the natural beauty of the AONB, whilst accommodating the sustainable development needs of the local community and visitors to the area.

- ER 5: Landscape Protection. The aim of this policy is to ensure that the character and quality of the County's most valued landscapes are protected from inappropriate development and to encourage the management, enhancement and creation of key landscape features wherever possible. This Policy relates to areas outside the AONB including Special Landscape Areas (SLAs) of which three separate areas are identified.
- ER 7: Undeveloped Coast. This purpose of this policy is to safeguard the undeveloped coast from inappropriate development.
- ER 11: Trees and Development. This Policy seeks to protect trees, woodland and hedgerows of public amenity, natural/cultural heritage value or that provide important ecosystem services from being adversely affected by development.

11.4 Methodology

11.4.1 This section sets out the methodology for the LVIA for the Project. It builds on the general assessment methodology presented in **Chapter 4: Approach to Environmental Impact Assessment** and develops this to take account of the range of likely significant effects on the landscape character and visual amenity arising from the construction, operation and decommissioning of the Project.

11.4.2 This section of the chapter presents the following:

- Identification of the information sources that have been consulted throughout preparation of this chapter;
- Details of consultation undertaken with respects to the landscape and visual resource;
- The methodology behind the assessment of landscape and visual effects, including the criteria for the determination of the significance of the receptor and the magnitude of change from the baseline condition;
- An explanation as to how the identification and assessment of potential landscape and visual effects has been reached; and;
- The significance criteria and terminology for assessment of the residual effects to the landscape and visual resource.

11.4.3 The approach to the LVIA has been devised to address the specific effects likely to result from developments of this scale and nature. The methodology draws upon the following established best practice guidance:

- Guidelines for Landscape and Visual Impact Assessment, 3rd Edition (GLVIA3) (Landscape Institute and Institute of Environmental Assessment and Management, 2013) (Ref. 11.2);
- LANDMAP Methodological Guidance Series 2016 (Ref. 11.3);
- Photographs from representative viewpoints and Visually Verified Montages (VVM) of the Project have been produced in compliance with Landscape Institute Advice Note 01/11: Photography and photomontage in landscape and visual impact assessment (Landscape Institute, 2011) (Ref. 11.4).

11.4.4 The following terminology has been used throughout the assessment:

- **Landscape Character Areas (LCA)**: Areas of relatively homogenous landscape character. They are defined by the combination of elements that

contribute to landscape context, character and value. Typical landscape elements include landform, land use, built development, vegetation and open space. More subjective criteria are also considered such as scale, unity and enclosure. In Wales landscape character is mapped using LANDMAP. LANDMAP is an all-Wales landscape resource where landscape characteristics, qualities and influences on the landscape are recorded and evaluated.

- **Zone of Theoretical Visibility (ZTV)**: A computer generated map based on a 3D model of the Project and the topography within the surrounding landscape, which shows areas of land within which the Project will theoretically be visible.
- **Visual amenity:** Relates to the way in which people visually experience the surrounding landscape. Adverse visual effects may occur through the intrusion of new elements into established views, which are out of keeping with the existing structure, scale and composition of the view. Visual effects may also be beneficial, where an attractive focus is created in a previously unremarkable view or the influence of previously detracting features is reduced. The significance of effects will vary, depending on the nature and degree of change experienced and the perceived value and composition of the existing view.
- **Visual Receptors**: Special interest or viewer groups who will have views of the Project. Visual receptors have been identified through desk study and fieldwork.
- **Representative Viewpoint**: Viewpoints selected to represent the experience of different types of visual receptor (viewer) including settlements and residential properties, transport and recreational routes and other outdoor locations. Representative viewpoints are located predominantly within publicly accessible locations and have been selected in consultation with CCS and NRW.

a) Basis of Assessment

11.4.5 Table 3-2 in **Chapter: 3 Project and Site Description** outlines the parameters which form the basis of the assessment of likely significant effects on landscape and visual amenity. The LVIA assesses only the effects of the maximum parameters, as for this topic the maximum parameters represent the realistic worst-case scenario.

b) Scope of the assessment

11.4.6 GLVIA3 requires that a clear distinction is drawn between landscape and visual effects:

- Landscape effects relate to the degree of change to characteristics or physical components of a rural area, which together form the character of that landscape, e.g. topography, land use, vegetation and open space.
- Visual effects relate to the degree of change to an individual receptor's or a receptor group's view of that landscape, e.g. local residents, users of public open space, footpaths or motorists passing through the area.

11.4.7 By assessing the construction, operational and decommissioning stages of the Project separately, distinctions may be drawn between temporary and permanent effects, with permanent effects typically being of greater importance. Residual effects are those likely to arise from the Project taking into account all additional mitigation measures.

11.4.8 The scope of this assessment has been determined through a formal EIA scoping process undertaken with the Secretary of State. Comments raised on the EIA Scoping Report have been taken into account in the development of the assessment methodology and these are detailed where relevant in this chapter. Responses to the comments raised in the EIA Scoping Opinion can be found in Appendix 4.1. Additional consultation has been carried out with both NRW and CCS and these are outlined in more detail below.

c) Consultation

11.4.9 The scope of the assessment has also been informed by ongoing consultation with statutory consultees throughout the design and assessment process, including NRW and CCS.

11.4.10 A summary of the comments raised and responses are detailed in Table 11-2.

Table 11-2: Summary of consultation responses that have informed the scope and methodology of the Landscape and Visual Effects assessment

Consultee	Date	Comment	Response
SoS Scoping Opinion (paragraph 3.66)	August 2014	Recommends that NRW and CCS are consulted over viewpoint locations.	NRW and CCS have been consulted during November 2017 over viewpoint locations – refer to entry below.
SoS Scoping Opinion (paragraph 3.66)	August 2014	Consideration to be given to potential views from Brecon Beacons National Park and that the National Park Authority should be consulted about viewpoints.	The ZTV shows that there will be no theoretical visibility from any part of the National Park. NRW have also confirmed that because of this they don't require the Park Authority to be consulted or any viewpoints to be included from within the Park.
SoS Scoping Opinion (paragraph 3.67)	August 2014	Recommends that the Applicant provides a description of existing landscape interests within and in the vicinity of the Project Site.	A full description of the landscape character and its characteristic features within the Project Site and wider area is contained in the LVIA.
SoS Scoping Opinion (paragraph 3.68)	August 2014	Lighting impacts to be considered in the ES.	The LVIA considers lighting within the overall assessment of effects.
SoS Scoping Opinion (paragraph 3.75)	August 2014	Recommends that where any landscape is proposed only slow and low growing species of trees and shrubs should be planted beneath and adjacent to the existing transmission line.	The landscape mitigation proposals take this into account.

Consultee	Date	Comment	Response
2017 Consultation			
NRW	15th Nov 2017	NRW responded on the 4th December 2017 requesting an additional two viewpoints are considered at Mynydd Gelliwastad and Fairwood Common.	On the 6th December, AECOM requested clarification of the exact location of the two viewpoints either with grid-references or a plan. These viewpoints are not included in this PEIR but discussion is ongoing and is expected to be resolved by the time of the DCO application and included as necessary in the final ES.
CCS	15th Nov 2017	CCS responded on the 21st November querying why the ZTV had decreased in extent from the 2014 PEIR despite the increase in stack height. They also suggested that viewpoints within the two neighbouring authorities (Carmarthenshire and Neath Port Talbot) could be considered. A final comment was made that the impact of the Project on heritage assets will need to be assessed along with discussion with Cadw (Welsh Government's historic environment service). A subsequent email received on the 29th November 217 requested an additional viewpoint at Brynwhilach.	AECOM responded on the 30th November 2017 providing an explanation as to why the current ZTV differs from the 2014 PEIR. A viewpoint table was also provided showing the AECOM viewpoint numbering and the 2014 PIER viewpoints. AECOM suggested that based on the areas of theoretical visibility within the neighbouring authorities combined with AECOM's assessment findings from viewpoints at a similar distance from the site (VP 12 and VP13) that the combination of distance and intervening built form, vegetation and landform means that the development would not be discernible in views. AECOM therefore suggested that additional viewpoints in the neighbouring authorities would not provide additional benefit to the LVIA. With regards to heritage assets AECOM clarified that the Archaeology and Cultural Heritage assessment would specifically look at the effects on heritage assets and would consult with CADW as required.

d) Study area

11.4.11 The extent of the study area for the landscape assessment has been determined by desk based study and field survey and is defined by a 5 km radius from the location of the stack within the Project Site. Beyond this distance the Project is not considered likely to have any potential to give rise to significant landscape effects, due to the distance and intervening landform, settlement pattern and vegetation.

11.4.12 In order to determine an initial broad study area for the visual baseline it is necessary to understand the likely visibility of the Project. The extent of the study area for the visual assessment has been identified through a review of maps and aerial photographs of the Project Site and surrounding area alongside the ZTV. The ZTV was developed using a 3D model of the maximum parameters of the Project and the topography within 15 km of the Project, to take account of the 45 m maximum height of the stack (beyond this distance significant adverse effects on views and visual amenity are considered unlikely). Fieldwork has been used to refine the theoretical visibility by establishing the influence of existing landform, buildings and vegetation. It is considered that significant adverse effects on visual amenity are likely to be limited to within 5 km of the Project Site which is reflected in the spread of viewpoints chosen to represent the variety of potential views of the Project Site.

11.4.13 The study area for the landscape assessment is 5 km from the stack and for the visual assessment is 15 km from the stack as illustrated in Figures 11.7 and 11.8.

11.4.14 Photographs and Visually Verified Montages (VVMs) have been used to describe and illustrate the view from each viewpoint and are contained in Vol II: Figures and Photomontages.

e) Temporal Scope

11.4.15 Landscape and visual effects change over time as the existing landscape external to the Project evolves and proposed mitigation planting establishes and matures. The assessments therefore report on potential effects during construction, decommissioning and at operation both during winter (Year of opening) and summer (Year 15 once the embedded mitigation is expected to be established). The assessments have been carried out, as is best practice, by assuming the worst case scenario, i.e. on a clear bright day, when haze would not interfere with the clarity of the view obtained.

f) Baseline Data Collection

11.4.16 The baseline data has been informed by a combination of desktop study and fieldwork. Desk based research has been undertaken with the aid of various published documents, including LANDMAP Aspect Data, designation citations, policy documents, and computer tools/software, including Ordnance Survey maps / digital terrain models (DTM), Google Maps and ArcGIS.

11.4.17 Field survey visits have been undertaken during periods of clear visibility between July 2017 and November 2017. This has allowed the landscape character and

visual amenity of the study area to be experienced in a range of different conditions and takes into account seasonal variation.

11.4.18 A detailed study of the existing landscape components and character of the study area and views within and around the Project Site has been carried out in consideration of the following:

- Site context;
- Topography and hydrology;
- Movement and connectivity;
- Land use including settlement and vegetation patterns;
- Landscape character (with reference to LANDMAP Aspect Areas); and
- Representative views.

11.4.19 The visual amenity of the study area was surveyed to note the general characteristics and nature of existing views. This included identification of a comprehensive range of viewpoints that represent a cross section of locations, views and viewer types likely to experience views of the Project. These viewpoints include locations at a variety of distances, aspects, elevations and visual extent and are representative of a range of receptor types, including residential areas and individual properties, transport and recreational routes.

11.4.20 Field survey is essential to develop an understanding of the key characteristics of the existing landscape or view, in order to establish the baseline against which proposed change can be assessed.

g) Impact Assessment Methodology

11.4.21 The following provides details of the process and classification criteria employed in undertaking the landscape and visual assessments. The criteria detailed in Tables 11-3 to Table 11-11 are not intended to be prescriptive. Rather these examples are used to illustrate potential combinations of judgements which relate to the scales for value, susceptibility, sensitivity to change, magnitude of change and significance of effect as described subsequently.

h) Sensitivity

i. *Landscape Receptors*

11.4.22 Landscape receptors are described within GLVIA3 (para 5.34) as *'components of the landscape that are likely to be affected by the Project*'. These can include overall character and key characteristics, individual elements or features and specific aesthetic or perceptual aspects. It is the interaction between the different components of the Project and these landscape receptors which has potential to result in landscape effects (both adverse and beneficial).

11.4.23 The sensitivity of the landscape receptor is a combination of the value of the landscape (undertaken as part of the baseline study) and the susceptibility to change of the receptor to the specific type of development being assessed.

11.4.24 Landscape value is frequently addressed by reference to international, national, regional and local designations, determined by statutory bodies and planning agencies. Absence of such a designation does not necessarily imply a lack of quality or value. Factors such as accessibility and local scarcity can render areas of nationally unremarkable quality, highly valuable as a local resource. The quality and condition has also been considered in the determination of the value of a landscape. The evaluation of landscape value has been undertaken with reference to a three point scale, as outlined in Table 11-3, below.

Table 11-3: Landscape Value Criteria

Value	Classification Criteria
High	Protected by a statutory landscape designation, an iconic landscape contributing strongly to a sense of place, or an unspoilt landscape containing unique or scarce elements/features with few, if any, detracting elements/features.
Medium	Regionally or locally designated landscape or an undesignated landscape with locally important, but more commonplace, features and containing some detracting elements/features.
Low	Undesignated landscape with few, if any, notable elements/features, or containing several detracting elements/features.

11.4.25 The susceptibility to change is a measure of the ability of a landscape to "*accommodate the proposed development without undue consequences for the maintenance of the baseline situation and/or the achievement of landscape planning policies and strategies*" (Ref. 11.1 para 5.40, GLVIA).

11.4.26 The guidance also refers to the fact that many existing assessments provide a valuation of landscape character areas/types for their 'intrinsic' or 'inherent' sensitivity, with no reference to specific development types. Paragraph 5.42 of GLVIA (Ref. 11.1) states that "*these cannot reliably inform assessment of the susceptibility to change since they are carried out without reference to any particular type of development and so do not relate to the specific development proposed.*" Furthermore, it goes on to say "*since landscape effects in LVIA are particular to both the specific landscape in question and the specific nature of the project, the assessment of susceptibility must be tailored to the project. It must not be recorded as part of the landscape baseline but should be considered as part of the assessment of the effects.*"

11.4.27 Landscape susceptibility has been appraised through consideration of the baseline characteristics of the landscape, and in particular, the scale or complexity of a given landscape. The evaluation of landscape susceptibility has been undertaken with reference to a three point scale, as outlined in Table 11-4, below.

Table 11-4: Landscape Susceptibility Criteria

Susceptibility	Classification Criteria
High	Attributes that contribute to a landscape which is considered to

Susceptibility	Classification Criteria
	be intolerant of even minor change without fundamentally altering key characteristics.
Medium	Attributes that contribute to a landscape which offers some opportunities to accommodate change without fundamentally altering the key characteristics.
Low	Attributes that contribute to a landscape which is considered to be tolerant of a large degree of change without fundamentally altering the key characteristics.

11.4.28 Landscape sensitivity to change has been determined by employing professional judgement to combine and analyse the identified value and susceptibility and has been defined with reference to the three point scale outlined in Table 11-5, below. In combining susceptibility and value GLVIA3 indicates that this can be achieved in a number of ways and needs to include professional judgement. However it is generally accepted that a combination of high susceptibility and high value is likely to result in the highest sensitivity, whereas a low susceptibility and low value is likely to result in the lowest level of sensitivity.

Table 11-5: Sensitivity of Landscape Receptors

Sensitivity	Classification Criteria
High	Landscape of national or regional value with distinctive elements and characteristics, considered to have a limited ability to absorb change without fundamentally altering the key characteristics.
Medium	Landscape of regional or local value, or rarity, exhibiting some distinct elements/features, considered tolerant of some degree of change without fundamentally altering the key characteristics.
Low	Landscape with few distinctive elements/features or valued characteristics and considered tolerant of a large degree of change without fundamentally altering the key characteristics.

ii. *Visual Receptors*

11.4.29 Sensitivity of visual receptors has been defined through appraisal of the viewing expectation, or value placed on the view as identified in the baseline study, and its susceptibility to change.

11.4.30 Value of the view is an appraisal of the value attached to views and is often informed by the appearance on Ordnance Survey or tourist maps and in guidebooks, literature or art. Value can also be indicated by the provision of parking or services and signage and interpretation. The nature and composition of the view is also an indicator. Value of the view has been determined with reference to the three point scale and criteria outlined in Table 11-6.

Table 11-6: Value of the View

Value	Classification Criteria
High	Nationally recognised view, a view with cultural associations (recognised in art, literature, or other medium), or a recognised high quality view of the landscape with very few, if any detracting elements.
Medium	Regionally or locally recognised view, or unrecognised but pleasing and well composed view, with few detracting elements.
Low	Typical or poorly composed view, often with numerous detracting elements.

11.4.31 Visual susceptibility relates to the importance of views to receptors at a certain location and is informed by the type of receptor and the activity with which they are engaged. This considers the extent to which receptors' attention or interest is focused on the view or visual amenity. For example, residents in their home, walkers whose interest may tend to be focused on the landscape or a particular view, or visitors at an attraction where views are an important part of the experience, may indicate a higher level of susceptibility. Whereas, receptors occupied in outdoor sport where views are not important or at their place of work could be considered less susceptible to change. Visual susceptibility has been determined with reference to the three point scale and criteria outlined in Table 11-7, below.

Table 11-7: Visual Susceptibility Criteria

Susceptibility	Classification Criteria
High	Locations where the view is of primary importance and receptors are likely to notice even minor change.
Medium	Locations where the view is important but not necessarily the primary focus and receptors are tolerant of some change.
Low	Locations where the view is incidental or unimportant to receptors and tolerant of a high degree of change.

11.4.32 Visual sensitivity to change has been determined by employing professional judgement to combine and analyse the identified value and susceptibility and has been defined with reference to the three point scale outlined in Table 11-8. In combining susceptibility and value it is generally accepted that a combination of high susceptibility and high value is likely to result in the highest sensitivity, whereas a low susceptibility and low value is likely to result in the lowest level of sensitivity.

Table 11-8: Sensitivity of Visual Receptors

Sensitivity	Classification Criteria
High	Locations where receptors experience an impressive or well composed view containing few detracting elements, with limited ability to absorb change.

Sensitivity	Classification Criteria
Medium	Locations where receptors experience a valued view which generally represents a pleasing composition but may include some detracting features and is tolerant of a degree of change.
Low	Locations where the view is incidental or not important to the receptors and the nature of the view is of limited value or poorly composed with numerous detracting features and is tolerant of a large degree of change.

i) Landscape Magnitude of Change

11.4.33 The magnitude of landscape change refers to the extent to which the Project would alter the existing characteristics of the landscape. Changes to landscape characteristics can be both direct and indirect.

11.4.34 Magnitude of landscape change refers to the extent to which the Project would alter the existing characteristics of the landscape. It is an expression of the size or scale of change to the landscape, the geographical extent of the area influenced and its duration and reversibility. The variables involved are described below:

- 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 character of the landscape;
- The extent to which aesthetic or perceptual aspects of the landscape are altered either by removal of existing components of the landscape or by addition of new ones;
- Whether the change alters the key characteristics of the landscape, which are integral to its distinctive character;
- The geographic area over which the change will be felt (within the application boundary itself, the immediate setting, at the scale of the landscape character area, on a larger scale influencing several landscape character areas); and
- The duration of the change short term, medium term or long term and its reversibility (whether it is permanent, temporary or partially reversible).

11.4.35 Magnitude of landscape change has been evaluated with reference to Table 11-9 below ranging from higher to lower levels of magnitude described using a four point scale (high, medium, low, negligible).

Table 11-9: Magnitude of Landscape Change

Level of Magnitude	Size or Scale of Change	Geographical Extent	Duration	Reversibility
Higher	• Highly noticeable change, affecting many key characteristics and dominating the experience of the landscape; and • Introduction of highly incongruous development	• Very extensive affecting several landscape types or character areas.	Long-term (10 years +)	Irreversible
	• Noticeable change, affecting some key characteristics and the experience of the landscape; and • Introduction of some uncharacteristic elements.	• Affecting a substantial proportion of the landscape character area.	Medium-term (5-10 years)	Partially reversible
	• Minor change, affecting some characteristics and the experience of the landscape to an extent; and • Introduction of elements that are not uncharacteristic.	• Affecting the immediate setting of the Project Site.	Short-term (0-5 years)	Reversible
Lower	• Little perceptible change	• Limited to within the Development application boundary.	Short-term (0-5 years)	Reversible

j) Visual Magnitude of Change

11.4.36 Visual magnitude of change relates to the extent to which the Project would alter the existing view and is an expression of the size or scale of change in the view, the geographical extent of the area influenced and its duration and reversibility. The variables involved are described below:

- The scale of the change in the view with respect to the loss or addition of features in the view and changes in its composition, including the proportion of the view occupied by the Project;
- The degree of contrast or integration of any new features or changes in the form, scale, composition and focal points of the view;
- The nature of the view of the Project in relation to the amount of time over which it will be experienced and whether views will be full, partial or glimpsed;

- The angle of view in relation to the main activity of the receptor, distance of the viewpoint from the Project and the extent of the area over which the changes would be visible; and
- The duration of the change short term, medium term or long term and its reversibility (whether it is permanent, temporary or partially reversible).

11.4.37 Visual magnitude of change has been evaluated with reference to Table 11-10, ranging from higher to lower levels of magnitude described using a four point scale (high, medium, low, negligible).

Table 11-10: Magnitude of Visual Change

Level of Magnitude	Size or Scale of Change	Geographical Extent	Duration	Reversibility
Higher	• Extensive change to the existing view including the loss of existing characteristic features, and/or introduction of new discordant features; • A change to an extensive proportion of the view. • Views where the Project would become the dominant landscape feature or contrast heavily with the current view.	• The development is located in the main focus of the view; and or at close range over a large area	Long-term (10 years +)	Irreversible
	• The Project will result in a change to the view but not fundamentally change its characteristics. • Changes that would be immediately visible but not the key feature of the view.	• Changes where the Project is located obliquely to the main focus of the view; and/or at medium range; and/or over a narrow area.	Medium-term (5-10 years)	Partially irreversible
	• The Project would result in a small change to the composition of the view. • Changes that would only affect a small portion of the view or introduce new features that were partially screened.	• Changes where the Project is located on the periphery to the main focus of the view; and/or long range; and/or over a small area	Short-term (0-5 years)	Partially reversible
Lower	• Little perceptible change in the existing view	• Changes where the Project is peripheral to the overall view.	Short-term (0-5 years)	Reversible

a) Significance of Landscape Effect

11.4.38 Determination of the significance of landscape effects has been undertaken by employing professional judgement to combine and analyse the magnitude of change, against the identified sensitivity of the receptor. The assessment takes account of direct and indirect change on existing landscape elements, features and key characteristics and evaluates the extent to which these would be lost or modified, in the context of their importance in determining the existing baseline character.

11.4.39 The levels of landscape effects are described with reference to the four point scale outlined in Table 11-11, below.

Table 11-11: Significance of Landscape Effect

Significance	Classification Criteria
Major	Considerable change over an extensive area of a more sensitive landscape, fundamentally affecting the key characteristics and the overall impression of its character.
Moderate	Small or noticeable change to a more sensitive landscape or more intensive change to a less sensitive landscape, affecting some key characteristics and the overall impression of its character.
Minor	Small change to a limited area of more sensitive landscape or a more widespread area of a less sensitive landscape, affecting few characteristics and not altering the overall impression of its character.
Negligible	Scarcely any perceptible change to the existing landscape.

11.4.40 Following the classification of an effect as detailed in Table 11.10, a clear statement is made as to whether the effect is ‘significant’ or ‘not significant’. As a general rule, major and moderate effects are considered to be significant and minor and negligible effects are considered to be not significant. However, professional judgement is also applied where appropriate.

b) Significance of Visual Effect

11.4.41 Determination of the significance of visual effects has been undertaken by employing professional judgement to combine and analyse the magnitude of change against the sensitivity of the receptor. The assessment takes into account likely changes to the visual composition, including the extent to which new features would distract or screen existing elements in the view or disrupt the scale, structure or focus of the existing view.

11.4.42 The levels of visual effects are described with reference to the four point scale outlined in Table 11-12, below.

Table 11-12: Significance of Visual Effect

Significance	Classification Criteria
Major	Substantial loss, alteration or replacement of existing components which causes a very noticeable change in the existing view.
Moderate	Whilst some existing characteristic components of the existing view remain, there is a noticeable change in the overall composition.
Minor	The Project would be visible in the view but would form a small component and the majority of the view would be unaffected.
Negligible	The Project would be scarcely perceptible in the existing view.

11.4.43 Following the classification of an effect as detailed in Table 11-12, a clear statement is made as to whether the effect is 'significant' or 'not significant'. As a general rule, major and moderate effects are considered to be significant and minor and negligible effects are considered to be not significant. However, professional judgement is also applied where appropriate.

11.5 Baseline Environment

11.5.1 This section describes the baseline environmental characteristics for the Project and surrounding areas with specific reference to the landscape and visual resource and respective study areas. It should be read with reference to Figures 11.1 – 11.8.

a) Project Site Location and Context

i. *Site Location and Landform*

11.5.2 The Project Site is situated on open agricultural land located approximately 2 km north of junction 46 of the M4 within the administrative boundary of the City and County of Swansea Council (CCS). Figure 11.1 shows the location of the Project approximately 1 km southeast of Felindre and 1.4 km north of Llangyfelach. The Project Site covers an area of up to approximately 30 ha and lies centrally within the Afon Lian Valley which forms a wide lowland basin with higher ground and steep valleys to the north and east. The valley floor is wide and undulating, backed to the north by upland moorland rising to over 250 m AOD and divided by numerous steep, narrow valleys.

11.5.3 The Project Site is located within a valley with ground rising to the north, east and west which provides visual containment. Ground levels vary across the Project Site from approximately 140 m AOD in the north-west corner to 80 m AOD along the southern perimeter. Ground levels generally fall in a southerly and south easterly direction.

ii. *Movement and Connectivity*

11.5.4 Junction 46 on the M4 lies approximately 2 km to the south of the Project Site providing immediate access to the strategic road network between London and

South Wales. To the immediate north of Junction 46 lies a Park and Ride at Brynwhilhach adjacent to the un-developed Felindre Business Park. A network of minor roads dissect the 5 km study area, connecting settlements and farmsteads. These are typically surrounded by earthbanks with hedgerow and tree planting which contains views along them and successfully integrates them into the wider landscape. The study area is well served with Public Rights of Way (PRoW) although not all are easily accessible or appear to be regularly used. A section of the Gower Way, a long distance footpath through the Afon Lliw valley passes within approximately 2 km at its closest point to the northern boundary of the Project Site.

iii. *Land Use and Built Form*

11.5.5 The Project Site is predominantly covered with pasture which is currently used for sheep and horse grazing as well as a band of broadleaf woodland to the east. A soft surface horse training track, known as 'The Gallops', crosses the Project Site and runs diagonally north-west to south-east. Broadleaf woodland which is classified in part as Ancient Woodland lies to the east of the Project Site as well as around the Access Road to the Substation and Felindre Gas Compressor Station. Fields across the Project Site are subdivided by ditches, post and wire fencing, remnant hedgerows and are interspersed with scrub vegetation.

11.5.6 Pastoral land and woodland are the predominant land uses within the wider valley, including Penllergaer Forest and other smaller broadleaved woodlands that are scattered throughout the valley. Combined with the network of hedgerows and hedgerow tree planting which define many of the small and irregular shaped fields as well as the network of minor roads, the landscape displays a well vegetated character. This character of woodland, rolling topography and visual containment helps integrate developments in the rural fabric.

11.5.7 The western part of the Project Site encompasses part of the Substation, adjacent to the Felindre Gas Compressor Station. Both the Substation and the Felindre Gas Compressor Station comprise large scale power infrastructure facilities characterised by tall industrial structures enclosed by security fencing and set within woodland planting. Pylons are prominent across the landscape and converge at the Substation. Pylons range in height with the closest pylon to the north of the Project Site 44 m in height and the pylon to the south of the Project Site, 51 m tall.

11.5.8 To the west of the Project Site lies an Air-Insulated Switchgear (AIS) substation at Waun Ffyrdd. The associated overhead transmission lines and steel pylons are prominent elements within the valley landscape. To the north lies the Felindre Water Treatment Works at Waun y Garn-wen which is partially screened by planting although apparent in more elevated views from the north.

11.5.9 A number of solar farms lie around the Project Site particularly to the north-east and east as well as to the north-west. The Felindre Business Park adjacent to the Park and Share at Brynwhilhach has been partially constructed with service infrastructure in place along with an outline landscape structure including stone walls and planting.

11.5.10 The main settlement in the 5 km study area is Swansea, with the northern edges of the city forming notable built form in the south and south eastern parts of the study area, approximately 2 km from the Project Site. The Driver and Vehicle Licensing Agency (DVLA) office block forms a prominent tall building and local landmark in many views that look south. Morriston hospital complex at Pant-lasau lies to the south-east of the Project Site with the settlement of Clydach extending to the east. Settlement locally is dispersed comprising small villages such as Felindre to the north-west or scattered properties and farmsteads.

b) Landscape Character

i. *Landscape Designations*

11.5.11 Landscapes can be given international, national, regional or local designations in recognition of their importance, outstanding scenic interest or attractiveness. The Brecon Beacons National Park lies 11.8 km to the northern edge of the Project Site at its closest point. The ZTV (Figure 11.8) indicates that there is no theoretical visibility between the Project and the National Park and as such the Brecon Beacons National Park as a landscape receptor is not considered further in the assessment.

11.5.12 The Gower Area of Outstanding Natural Beauty (AONB) lies 9.1 km to the south-west of the Project Site. The Gower AONB was designated in 1956 for its classic limestone coast and the variety of natural habitats. The Gower's scenery ranges from dune and salt marsh in the north to dramatic limestone cliffs along the south coast, interspersed by sandy beaches. Inland the hills of Cefn Bryn and Rhossili Down dominate the landscape of traditional small fields, wooded valleys and open commons. The ZTV illustrates limited visibility between the Project and the AONB. Views of the Project Site from within the Gower AONB are substantially screened by intervening woodland at Penllergaer Forest and Valley Wood, intervening hedgerows, hedgerow trees and copses and built form within settlements at Gorseinion, Penllergaer, Gowerton and Waunarlwydd, as well as extensive urban development within Swansea.

11.5.13 Special Landscape Areas (SLAs) are identified in the draft UDP within Policy ER 5: Landscape Protection and are identified on Figure 11.1. The Policy state states that priority will be given to protecting, managing and enhancing the character and quality of the three SLAs:

- Mawr Uplands;
- Lower Loughor Valley and Estuary and Southern part of the Burry Inlet; and
- North East Gower and Cockett Valley.

11.5.14 Within the SLAs, development will only be permitted where proposals include measures to protect, manage and enhance the character and quality of the particular landscape features for which the SLA has been designated. The aim of the Policy is to ensure that the character and quality of the County's most valued landscapes are protected from inappropriate development and to encourage the

management, enhancement and creation of key landscape features where possible.

11.5.15 There are four Country Parks within the wider landscape but all lie beyond the 15 km study area and do not experience any theoretical visibility.

ii. *Landscape Character Areas*

11.5.16 LANDMAP is the formally recognised national landscape resource in Wales to understand Landscape Character. It is an all-Wales landscape resource where landscape characteristics, qualities and influences on the landscape are recorded and evaluated. LANDMAP evaluates areas in terms of five key spatial datasets or Aspect areas:

- Geological Landscape: considers the physical, primarily geological influences that have shaped the contemporary landscape and identifies those landscape qualities which are linked to the control or influence exerted by bedrock, surface processes, landforms and hydrology;
- Landscape Habitats: identifies the characteristics and spatial relationships of habitats and vegetation at scales broadly comparable to other Evaluated Aspects;
- Visual and Sensory: identifies perceptual landscape qualities as well as the physical attributes of landform and land cover including visible patterns of distribution and the relationships between them;
- Historic Landscape: identifies those qualities that depend on key historic land uses, patterns and features; and
- Cultural Landscape: considers the links between landscape and people, how human activity shapes the landscape and how culture can shape the way people think about the landscape. Its aim is to identify those cultural patterns that are keeping the landscape alive today, rather than those that sustained it in the past.

11.5.17 All of the above Aspect areas have been analysed with respect to the Project in order to inform the assessment of landscape character and are presented in Appendix 11.1 and Figures 11.2 to 11.6. NRW in response to the 2014 PEIR noted '*that the assessment of landscape character and sensitivity should consider information from all five aspect areas. As well as the overall evaluation for each aspect, the rarity/uniqueness evaluation for Geological Landscape, the connectivity/cohesion evaluation for Landscape Habitats, the scenic quality and character evaluation for Visual and Sensory and the rarity and group value for Historic Landscape and Cultural Landscape should be taken account of*'. Landscape character derives from all five aspects within LANDMAP and it is the analysis and evaluation of all the aspects which has informed judgements on value, susceptibility and sensitivity.

11.5.18 Effects on landscape character are considered at a Project Site level and also within the 5 km study area. All five aspects have been analysed within the Project Site and immediate visual influence to inform judgements on value, susceptibility and sensitivity of the landscape character at the Project Site level. The Visual and Sensory Aspect areas have been considered in greater detail within the 5 km study

area as it is considered that this Aspect area is most likely to be affected by indirect effects on the wider landscape setting. However, where theoretical visibility exists within the 5km study area, other Aspect data including Historic and Cultural elements have also been considered to understand the potential indirect effects on the landscape resource.

c) Visual Amenity

11.5.19 A series of 18 representative viewpoint locations have been selected to form the basis of the visual assessment. These have been identified to provide a representative cross section of visual receptors within the study area and have been selected in consultation with CCS and NRW. Three additional viewpoints have been subsequently requested by CCS and NRW and these will be included within the final LVIA. The locations of the viewpoints are provided on Figures 11.7 and 11.8 and details of each, including a description of the baseline view are provided in Table 11.12. Vol II: Figures and Photomontages provides photography of the baseline view from each of the viewpoint locations.

Table 11-12: Representative Viewpoints

No.	Viewpoint name/description	Grid Reference		Approximate Distance to closest part of Project Site (m)	Receptor Groups
		Easting	Northing		
1	**North side of J64 of M4, on B4489**: This view is representative of road users travelling north along the B4489. Wide, panoramic views are experienced across the rural wooded landscape extending to the rising upland which defines the skyline to the north. Road infrastructure including lighting columns and signage are prominent in the foreground view along with the extensive network of pylons and overhead lines which extend into and across the mid-ground of the view, punctuating the skyline. The Felindre Gas Compressor Station and Substation are prominent features within the centre of the view, all set within the extensive wooded landscape.	264903.57	199456.46	1208	Road User
2	**Fforest-newydd** This view is representative of views from a nearby residential property. Foreground views extend over gently rising grazing land with woodland along field boundaries to the periphery of the view. Pylons and associated overhead lines are prominent and dominate in the view.	263926.24	201366.08	687	Residential
3	**Gower Way, Felindre** This view is representative of views from the Gower Trail to the east of Felindre. Views extend over a shallow valley, under pasture with a	264164.92	202975.05	1072	Recreational

No.	Viewpoint name/description	Grid Reference		Approximate Distance to closest part of Project Site (m)	Receptor Groups
		Easting	Northing		
	farmstead in the middle distance. Woodland extends along the skyline and on the lower slopes of the valley as well as along field boundaries. Pylons and overhead lines are visible in the periphery of the view.				
4	**Llwyngwenno, Heol Glyn-Dyfal** This view is representative of views from an adjacent residential property, which sits in an elevated position above the road level. Views from this elevated position are wide and extend across the rolling mosaic of woodland and grazed fields subdivided by hedgerow plating and copses of trees. Prominent features include the Felindre Water Treatment Works buildings in the mid distance along with a network of pylons and overhead lines which converge at the Substation. Solar farms are also apparent in the view along with the Felindre Gas Compressor Station. The southern edge of Swansea is visible in the distance with the DVLA premises a noticeable landmark building on the skyline. Note: The baseline photograph was taken from the road at the end of the property's drive. Tall hedgerows along earth banks surround the Heol Glyn-Dyfal minor road which screen large sections of the view described above.	263713.69	203508.13	1761	Residential
5	**Mynydd Pysgodlyn** This view is representative of walkers using the Public Right of Way	263515.23	204260.20	2451	Recreational

No.	Viewpoint name/description	Grid Reference		Approximate Distance to closest part of Project Site (m)	Receptor Groups
		Easting	Northing		
	that follows a farm track to access neighbouring communities. Views are panoramic from this elevated position on the edge of the high moorland sweeping across a series of wide, shallow valleys towards the northern suburbs of Swansea. This expansive view sweeps from the surrounding moorland across the rolling valleys beyond where a mosaic of fields interspersed by vegetated field boundaries and tracts of woodland predominate. The Felindre Water Treatment Works buildings, Gas Compressor Station and Substation are visible in the middle distance of the view along with network of pylons and transmission lines which are prominent in the view.				
6	**Tor Clawdd, adjacent to Ring Cairn** This view is representative of walkers using the open access area, near a heritage feature (Ring Cairn – a banked and ditched circular earthwork, about 20 m in diameter). Views from this exposed hillside are expansive with wide views to the south over moorland towards distant valleys and hills. The northern suburbs of Swansea and the DVLA premises provide a distant backcloth to views. Pylons and associated transmission lines are discernible stretching across the middle distance of the view.	267025.48	206300.56	4107	Recreational
7	**Tor Clawdd, southern end** This view is representative of road users travelling along the local road to Ammanford, just north of Rhhd-y-gwin overlooking the patchwork of smaller pastoral fields on the lower valley sides that	267111.55	204576.74	2675	Road User

No.	Viewpoint name/description	Grid Reference		Approximate Distance to closest part of Project Site (m)	Receptor Groups
		Easting	Northing		
	give way to open grazed moorland on the upper slopes. Views extend into the well wooded Afon Llan valley where extensive woodland cover is evident with large mature trees. Pylons and transmission lines are apparent within the view terminating at the Substation in the middle distance of the view. The northern suburbs of Swansea including the DVLA premises are visible in the distance along with the distant Gower peninsula.				
8	**Rhyd-y-pandy road near Cynghordy** This view is representative of road users travelling along Rhyd-y-pandy road near the property of Cynghordy. Views from the majority of this local road are screened by the adjacent earth banks and hedgerows. This view is taken from a break in the roadside vegetation where views of scrub and rough grassland can be seen in the foreground of the view with glimpsed views of pasture enclosed by hedgerows and mature trees in the middle distance. Swansea is visible in the distance against a ridgeline with a rural backdrop. Pylons and wood pole lines are prominent vertical features in both the foreground and mid ground of the view.	266079.85	203076.56	880	Road User
9	**Public Right of Way, north of Aber-gelli fach** This view is representative of walkers using the PRoW north of Aber-gelli fach, just south of the junction of footpaths LC35B and LC35A. Views extend across pasture with occasional farm buildings in view. Field boundaries defined by hedgerows and mature trees are	265289.87	202233.17	28	Recreational

No.	Viewpoint name/description	Grid Reference		Approximate Distance to closest part of Project Site (m)	Receptor Groups
		Easting	Northing		
	particular features in the view along with extensive woodland beyond the farm. Pylons and wood pole lines are prominent in the view along with solar farms visible in the periphery of the view. The northern Swansea suburbs are visible in the distance with the DVLA building visible against the skyline.				
10	This viewpoint (which was included in the 2014 PEIR) will be removed as the site visit of November 2017 revealed that foreground views now contain a solar farm and associated security fencing. Viewpoint 17 will replace this view.				
11	**Llangyfelach Churchyard** This view is representative of people visiting the churchyard and views from adjacent residential properties. The view is from the northern side of the valley looking towards Abergelli where the Felindre Gas Compressor Station, Substation and pylons and solar farms are noticeable in the mid ground view with a backdrop of higher ground beyond. Foreground views are concentrated on the immediate graveyard setting where vegetation even in winter substantially limits views beyond.	264667.81	198972.21	1693	Residential Recreational
12	**Carnglas** This view is representative of residential and recreational users. The view is from an elevated location overlooking an industrial estate at	261771.15	194480.84	6506	Residential Recreational

No.	Viewpoint name/description	Grid Reference		Approximate Distance to closest part of Project Site (m)	Receptor Groups
		Easting	Northing		
	Myndd bach-y-glo in the foreground and the north western edge of Swansea in the middle distance. On clear days distant views of the high ground at Cwmcerdinen and Tor Cawdd can be seen with the Brecon Beacons National Park in the far distance.				
13	**Three Crosses** This view is representative of residential and recreational users. The foreground of the view overlooks a shallow valley under pasture with riparian woodland on the lower slopes. Settlements at Waunarlwydd and the north western edge of Swansea are visible in the middle distance. Distant views extend to the higher ground at Cwmcerdinen and Tor Cawdd and the Brecon Beacons National Park in the far distance.	257580.52	194915.11	8613	Residential Recreational
14	**Public Right of Way near Maes-eglwys Farm** This view is representative of recreational users of the PRoW and views from the nearby residential properties. Views from the path are occasionally screened by boundary planting but otherwise open out with foreground views of the pastoral field and cluster of properties and farm buildings at Maes-eglwys farm. The small fields are subdivided by low earth banks and hedgerow trees with woodland in the distance providing a vegetated backcloth to the view. Pylons and overhead lines are prominent features across the view and are often seen against the skyline.	265348.65	200565.45	285	Residential Recreational

No.	Viewpoint name/description	Grid Reference		Approximate Distance to closest part of Project Site (m)	Receptor Groups
		Easting	Northing		
	Maes-eglwys farm and associated residential buildings are apparent in the right hand side of the view. Views from the rear of the properties extend over the intervening farmland along with the pylons appearing prominent in the view.				
15	**Public Right of Way and minor road** This view is representative of recreational users of the PRoW and minor road which lead to the small settlement of Pant-lasau. The PRoW follows the minor (no through) road and views are generally contained by roadside hedgerows and trees. Breaks in the hedgerow planting and field access gates provide views across agricultural land to extensive woodland which extends across the entire mid ground view. Land rises to the north and the mosaic of grazing land and hedgerow tree planting is evident in the distance of the view with a backcloth of hills within the Mawr uplands in long distance views. Pylons and associated transmission lines are prominent across the view, appearing against the skyline with a cluster around the Substation which along with the Felindre Gas Compressor Station is noticeable built elements in the mid ground left of the view.	265734.84	200069.07	683	Recreational
16	**Dorglwyd** This view is representative of views from Dorglwyd farmhouse looking northwest across agricultural land. Filtered views are available from this property through intervening boundary vegetation. Views of grazing land rising to the northwest are interspersed by	265943.79	200652.58	289	Residential

No.	Viewpoint name/description	Grid Reference		Approximate Distance to closest part of Project Site (m)	Receptor Groups
		Easting	Northing		
	woodland and hedgerow tree planting. Pylons and transmission lines are prominent features within the view, seen against the skyline. Moorland within the Mawr uplands is visible on the horizon in the far distance of the view.				
17	**Cefn Betingau Farm** This view is representative of views from the cluster of properties at Cefn Betingau Farm. Foreground views extend across the gardens of the properties and the small pastoral field defined by post and wire fence and hedgerow planting. Solar panels, part of the larger solar farm are prominent in the view with some mature specimen trees partially screening views towards them. Within the mid ground of the view extensive woodland planting screens the majority of views of the valley beyond. Where views extend to the valley beyond, grazed fields and further planting are apparent along with structures associated with the Felindre Gas Compressor Station. Pylons and transmission lines are prominent in the view and seen against the skyline. The northern suburbs of Swansea are visible in the distance.	265986.97	201509.92	405	Residential
18	**Footpath on the north side of the A48 Clasemont Road** This view is representative of views from the residential properties which line the south side of Clasemont Road. There are very few publicly accessible views due to the roadside hedgerow and tree	265591.10	198863.65	1874	Residential

No.	Viewpoint name/description	Grid Reference		Approximate Distance to closest part of Project Site (m)	Receptor Groups
		Easting	Northing		
	planting which line the north side of the road and provide an effective screen even in the winter. Foreground views extend across grazing land with pockets of marshy vegetation. Extensive tree and woodland cover with hedgerows defining field boundaries extends across the mid ground of the view. Pylons and transmission lines are prominent features in the view converging on the Substation which is apparent in the centre of the middle ground of the view. The open moorland on the distant hills provides a backdrop to the view.				

11.6 Embedded Mitigation

11.6.1 As detailed in **Chapter 3: Project and Site Description**, a number of embedded mitigation measures have been identified through the iterative EIA process and have been incorporated into the design and construction planning of the Project.

11.6.2 As these mitigation measures have been embedded into the design, are legal requirements or are standard practices that will be implemented, the assessment of likely significant effects assumes that they are in place.

11.6.3 Embeded mitigation measures are described in **Chapter 3: Project Site and Description** and summarised below.

11.6.4 Mitigation measures will be implemented during the construction phase as set out in the Outline CEMP (Appendix 3.1) in order to limit impacts on the landscape and visual resource.

11.6.5 No additional or secondary mitigation measures have been proposed as there is no feasible additional landscape mitigation within the Project Site which could further reduce the landscape and visual effects due to the height of the stack and the scale and mass of the Power Generation Plant. However, there may be an opportunity for affected parties to be engaged in a voluntary scheme of off-site planting, however, as this would be entirely voluntary and would not be committed, it can't be included in this assessment. All effects described in Assessment of Effects (Section 11.7) below are therefore residual.

11.6.6 Utilising technology (OCGT) will allow a significant reduction in stack height compared to other technology types. As a result of selecting OCGT technology, there will be no visible plume arising from the stack. The high temperature of the exhaust gases means that water vapour is well above the condensation point which would give rise to a visible plume.

11.6.7 The architectural design of the buildings and structures on the Project Site has been designed to reduce glare and to assimilate the Project into the surrounding landscape as much as possible by using neutral recessive colours to lessen the contrast with the surrounding landscape and break up the overall massing of the large scale structures.

11.6.8 External lighting has been designed to reduce trespass and configured to avoid glare and spillage, in accordance with the Outline CEMP (Appendix 3.1) undertaken in accordance with the Institution of Lighting Professionals Guidelines.

11.6.9 A landscape mitigation strategy has been developed to both provide reinstatement planting as well as to integrate the Project into the landscape and its wider setting (Figure 11.10). The outline planting proposals shown on Figure 11.10 will be developed further for inclusion in the Environmental Statement, in accordance with the various utility and service constraints within the Project Site.

11.6.10 The landscape proposals will cover a minimum period of five years of monitoring, management and maintenance to ensure the landscape objectives are successfully achieved.

11.7 Assessment of Effects

11.7.1 This section presents the findings of the landscape and visual effects assessment for the construction phase, operational and decommissioning phase of the Project. Landscape and visual effects arising from the construction and decommissioning phases would be similar and have been grouped together under the construction phase to avoid repetition.

11.7.2 This section should be read in conjunction with the following Appendices and figures:

- Appendix 11.2 – Assessment of Landscape Effects;
- Appendix 11.3 – Assessment of Visual Effects; and
- Vol II: Figures and Photomontages

11.7.3 Appendix 11.2 provides a detailed assessment of landscape effects for the construction/decommissioning and operational phases of the Project, identifying the value, susceptibility and sensitivity of the Aspect areas affected along with magnitude of change and resulting level of effect.

11.7.4 Similarly, Appendix 11.3 provides a detailed assessment of visual effects on each of the viewpoints for the construction/decommissioning and operational phases of the Project, identifying the value, susceptibility and sensitivity of the receptors affected along with the magnitude of change and resulting level of effect.

11.7.5 The sections below therefore provide a summary of the likely significant effects during construction/decommissioning and operation on the landscape and visual resource. For the full assessment, reference should be made to Appendix 11.2 and 11.3.

a) Construction – Summary of likely significant landscape effects

11.7.6 A detailed assessment of landscape effects during the construction/ decommissioning phase is contained in Appendix 11.2. The likely significant effects are summarised below. Whilst construction effects are all temporary (up to 2 years), there will be differences in the duration of the temporary effects for the Power Generation Plant, Gas Connection and Electrical Connection with the construction effects associated with the Power Generation Plant extending for the longest period of time.

11.7.7 Significant landscape effects are only predicted to result on the landscape resource of the Project Site. Effects on the surrounding landscape character within the 5 km study area would not be significant and are described in detail in Appendix 11.2.

Landscape Character – Project Site

11.7.8 The landscape character of the Project Site is made up of the following LANDMAP Aspect Areas:

- Visual and Sensory Aspect Areas – Rhyd-y-pandy and Penllergaer forest;
- Landscape Habitats Aspect Areas – North of Gorseinon and Swansea; East of Penllergaer; Waun Y Garn Wen;
- Historic Landscape Aspect Area – H27 Gower Supraboscus Agricultural;
- Geological Landscape Aspect Area – Penllergaer; and
- Cultural Landscape Aspect Area – The Mawr.

11.7.9 It is the combination of all of the above Aspect areas which defines the overall character of the landscape at the Project Site level and as such value, susceptibility and sensitivity have been determined by consideration of each of these Aspect areas which have led to the following judgements.

11.7.10 **Value**: With reference to the LANDMAP overall evaluation, the Aspect areas range from Moderate to Outstanding. The Aspect areas considered to be of High or Outstanding value tend not to be particularly apparent within the Project Site and consequently the landscape character of the Project Site is considered to be of Medium value.

11.7.11 **Susceptibility**: The landscape resource of the Project Site is considered to have some capacity to accommodate the Project without effects upon its overall integrity. The pattern of the landscape reflects a mostly intact pattern of elements, with features in reasonable condition although a number of detracting elements exist such as the prominent power lines and adjacent Felindre Gas Compressor Station and Substation. Taking all of this into account, landscape susceptibility to change is considered to be Medium.

11.7.12 **Sensitivity**: Taking into account value judgements and susceptibility, overall sensitivity of the landscape character for the Project Site is considered to be Medium.

i. *Power Generation Plant*

11.7.13 Construction of the Power Generation Plant would result in temporary adverse effects as a result of the construction plant and activities, laydown areas and temporary structures on site. During construction there would be a permanent loss of landscape features including grazing land, trees and scrub vegetation along with extensive earth re-profiling. Construction noise, activities and lighting would reduce the relative tranquillity in the vicinity of the Project Site. Construction of the Access Road would result in the removal of trees and some woodland although the wider woodland structure and the associated strong degree of enclosure and shelter it currently provides would remain intact.

11.7.14 Across the entire Project Site, the temporary presence of construction plant, activities and lighting would introduce noticeable features uncharacteristic of the landscape at present. As a result of these changes and the partial loss and

alteration of some of the key characteristics, magnitude of change is considered to be Medium.

11.7.15 The Medium sensitivity of the landscape character of the Project Site combined with the Medium magnitude of change would result in a Moderate Adverse effect on the landscape character of the Project Site during construction.

ii. *Gas Connection*

11.7.16 The construction of the Gas Connection would result in temporary adverse effects as a result of the construction plant and activity involved in constructing the Above Ground Installation (AGI) along with an access road into it off the Rhyd-y-pandy road and the underground Gas Pipeline. The open trench method of constructing the Gas Pipeline would result in the temporary removal of grazing land and the permanent removal of sections of field boundary hedgerow and trees.

11.7.17 The temporary presence of construction plant, activities and lighting would introduce noticeable features uncharacteristic of the landscape at present. As a result of these changes and the partial loss and alteration of some of the key characteristics, magnitude of change is considered to be Medium.

11.7.18 The Medium sensitivity assessed combined with the Medium magnitude of change would result in a **Moderate Adverse** effect on the landscape character of the Project Site during construction.

iii. *Electrical Connection*

11.7.19 The Electrical Connection route would run immediately adjacent to the alignment of the new Access Road and so disruption associated with its construction would be similar to that of the new Access Road as described above. However, the construction activity and plant associated with the Electrical Connection alone would only result in localised and limited effects to the landscape character resulting in a small loss of woodland and hedgerow planting which would not affect the integrity or key characteristics of the landscape. Magnitude of change would be Low which combined with the Medium sensitivity would result in a **Minor Adverse** effect on the landscape character of the Project Site during construction.

iv. *The Project (all components)*

11.7.20 Construction of the Power Generation Plant would result in temporary adverse effects as a result of the construction plant and activities, laydown areas and temporary structures on site. During construction there would be a permanent loss of landscape features including grazing land, trees and scrub vegetation along with extensive earth re-profiling. Construction noise, activities and lighting would reduce the relative tranquillity in the vicinity of the Project Site. Construction of the Access Road would result in the removal of trees and some woodland although the wider woodland structure and its associated strong degree of enclosure and shelter it currently provides would remain intact.

11.7.21 The construction of the Gas Connection would result in temporary adverse effects as a result of the construction plant and activity involved in constructing the AGI along with an Access Road into it off the Rhyd-y-pandy road and the Gas Connection. The open trench method of constructing the Gas Pipeline would result in the temporary removal of grazing land and the permanent removal of sections of field boundary hedgerow and trees.

11.7.22 The Electrical Connection route would follow the alignment of the new Access Road and so disruption associated with its construction would be similar to that of the new Access Road as described above.

11.7.23 Across the entire Project Site, the temporary presence of construction plant, activities and lighting would introduce noticeable features uncharacteristic of the landscape at present. As a result of these changes and the partial loss and alteration of some of the key characteristics, magnitude of change is considered to be Medium.

11.7.24 The Medium sensitivity assessed combined with the Medium magnitude of change would result in a **Moderate Adverse** effect on the landscape character of the Project Site during construction.

b) Construction – Summary of likely significant visual effects

11.7.25 A detailed assessment of visual effects during the construction and decommissioning phases is contained in Appendix 11.3. Of the 18 representative viewpoints assessed only 5 of the viewpoints representing views from residential receptors or recreational routes within 700 m of the Project Site would experience significant effects during the construction and decommissioning phases of the Project. All other viewpoints across the 15 km study area would either experience a **Minor Adverse** or **Negligible** effect or no effect at all.

11.7.26 The Project Site lies within a valley where it is visually contained from the north, east and west by the higher valley sides and vegetation. Views from local roads are screened or filtered by hedges and earth banks. Views overlooking the Project Site from higher ground to the north and more distant views from the south east close to the Gower AONB would not experience significant effects due to the intervening distance, vegetation and built form. Where views of the construction of the upper parts of the Power Generation Plant and stack are visible in the middle distance of views, they would be seen in the context of the existing network of pylons and transmission lines as well as the tall structures present at the Felindre Gas Compressor Station and Substation and as a result would not experience significant visual effects.

11.7.27 The remaining significant effects would be experienced by viewpoints representative of residential and recreational receptors within close proximity to the Project Site and are summarised below.

i. *Power Generation Plant*

11.7.28 Significant effects during construction are predicted to be experienced at 5 of the 18 representative viewpoints assessed.

11.7.29 **Viewpoint 9** – Public Right of Way, north of Aber-gelli fach.

11.7.30 This view overlooks the Power Generation Plant where construction plant and activity associated with the upper parts of the gas turbine unit and stack would be visible in the view. Much of the Project Site would be screened by intervening woodland and scrub vegetation. The degree of screening provided by existing vegetation would reduce during winter months when some construction plant and activities including lighting would be more visible through the intervening woodland and hedgerows.

11.7.31 Magnitude of change would be Medium which when combined with a Medium sensitivity would result in a **Moderate Adverse** effect.

11.7.32 **Viewpoint 14** – Public Right of Way near Maes-eglwys Farm

11.7.33 Construction activity and plant associated with the Power Generation Plant would be prominent in views from this location. Whilst some of the construction of the lower sections of plant would be screened by tall hoardings (>3 m high) and intervening vegetation in summer months, the change to the view whilst temporary would be extensive and prominent affecting a wide part of the view.

11.7.34 Magnitude of change would be High which when combined with the High sensitivity would result in a **Major Adverse** effect.

11.7.35 **Viewpoint 15** – Public Right of Way and Minor Road

11.7.36 Temporary construction activity and taller plant such as cranes associated with the construction of the stack and upper parts of the Power Generation Plant would be visible against the skyline. Intervening trees and woodland would limit the extent of construction activity visible in the view although, the degree of screening provided by existing vegetation would reduce during winter months when some construction plant and activities including lighting would be more visible through the intervening woodland and hedgerows.

11.7.37 Magnitude of change would be Medium which combined with the Medium Sensitivity would result in a **Moderate Adverse** effect.

11.7.38 **Viewpoint 16** – Dorglwyd

11.7.39 The lower part of the Power Generation Plant would be screened by intervening trees during the construction period. Construction plant associated with the gas turbine unit and stack would be prominent in the view and visible against the skyline. The change to the view whilst temporary would be extensive and prominent affecting a wide part of the view.

11.7.40 Magnitude of change would be High which combined with the High Sensitivity would result in a **Major Adverse** effect.

11.7.41 **Viewpoint 17** – Cefn Betingau Farm

11.7.42 Construction activity and plant associated with the Power Generation Plant would be prominent in views from this location. Whilst some of the construction of the lower sections of plant would be screened by extensive intervening woodland and landform the taller plant and lighting would be prominent in the view.

11.7.43 Whilst the intervening woodland would limit the extent of construction activity visible in the view in the summer months, the degree of screening provided by the woodland would reduce during winter months when construction plant and activities including lighting, whilst temporary, would be extensive and prominent affecting a wide part of the view.

11.7.44 Magnitude of change would be High which when combined with the High sensitivity would result in a **Major Adverse** effect.

ii. *Gas Connection*

11.7.45 During construction significant effects resulting from the construction of the Gas Connection are predicted to only occur at one of the representative viewpoints.

11.7.46 **Viewpoint 9** – Public Right of Way, north of Aber-gelli fach.

11.7.47 The focus of this view is towards the Power Generation Plant, however, the Gas Connection route would cut across the fields to the right of the view where the construction activity and plant would be a prominent although temporary element of the view. Further south some screening would be provided by intervening trees and hedges. Whilst the construction of the AGI would not be visible from this particular point on the PRoW, construction of it would be prominent in the view of walkers as they travel north.

11.7.48 Magnitude of change would be Medium which when combined with a Medium sensitivity would result in a **Moderate Adverse** effect.

iii. *Electrical Connection*

11.7.49 There would be no significant effects on any of the views from the representative viewpoints as a result of construction of the Electrical Connection.

iv. *The Project (all components)*

11.7.50 The construction plant and activity associated with the construction of the most visually prominent element of the Project would be the Power Generation Plant including the stack. As such the significant visual effects experienced by receptors for the construction and decommissioning phases of the Project as a whole would be as described in the Power Generation Plant section above with significant effects experienced at 5 of the 18 representative viewpoints assessed (viewpoints 9, 14, 15, 16 and 17).

c) Operation – Summary of significant landscape effects

11.7.51 A detailed assessment of landscape effects during the operation phase is contained in Appendix 11.2. The significant effects are summarised below.

11.7.52 Significant landscape effects are only predicted to result on the landscape resource of the Project Site. Effects on the surrounding landscape character within the 5 km study area would not be significant and are described in detail in Appendix 11.2.

Landscape Character – Project Site

11.7.53 The landscape character of the Project Site is made up of the following LANDMAP Aspect Areas:

- Visual and Sensory Aspect Areas – Rhyd-y-pandy and Penllergaer forest;
- Landscape Habitats Aspect Areas – North of Gorseinon and Swansea; East of Penllergaer; Waun Y Garn Wen;
- Historic Landscape Aspect Area – H27 Gower Supraboscus Agricultural;
- Geological Landscape Aspect Area – Penllergaer; and
- Cultural Landscape Aspect Area – The Mawr.

11.7.54 It is the combination of all of the above Aspect areas which defines the overall character of the landscape at the Project Site level and as such value, susceptibility and sensitivity have been determined by consideration of each of these Aspect areas which have led to the following judgements.

11.7.55 **Value**: With reference to the LANDMAP overall evaluation, the Aspect areas range from Moderate to Outstanding. The Aspect areas considered to be of High or Outstanding value tend not to be particularly apparent within the Project Site and consequently the landscape character of the Project Site is considered to be of Medium value.

11.7.56 **Susceptibility**: The landscape resource of the Project Site is considered to have some capacity to accommodate the Project without effects upon its overall integrity. The pattern of the landscape reflects a mostly intact pattern of elements, with features in reasonable condition although a number of detracting elements exist such as the prominent power lines and adjacent Felindre Gas Compressor Station and Substation. Taking all of this into account, landscape susceptibility to change is considered to be Medium.

11.7.57 **Sensitivity**: Taking into account value judgements and susceptibility, overall sensitivity of the landscape character for the Project Site is considered to be Medium.

i. *Power Generation Plant*

11.7.58 Once operational the Power Generation Plant would be a prominent feature within the immediate landscape of the Project Site. It would result in the partial loss to landscape features, including grazing land, trees and scrub vegetation, which

would result in a partial change to some of the landscape characteristics although it would not diminish the overall integrity of the landscape.

11.7.59 The Access Road would lie substantially within the woodland characteristic of the Penllergaer Forest Aspect Area which would retain its qualities providing a strong degree of enclosure and shelter.

11.7.60 Across the wider Project Site there would be a partial loss to some of the key characteristics of the landscape but this would not result in an obvious change to the overall character of the area. These effects would be long term. At year of opening the magnitude of change would be Medium which when combined with the Medium sensitivity to change would result in a **Moderate Adverse** effect on the landscape character of the Project Site.

11.7.61 Once the structure planting around the Power Generation Plant establishes it would assist in providing some additional structure to the landscape which would assist in integrating elements of the development into the local landscape. Nonetheless, despite the establishment of the planting, the magnitude of effect is considered to remain Medium in the long term (year 15) as there would remain a noticeable alteration of the existing components of the landscape of the Project Site. This would result in a Moderate Adverse effect on the landscape character of the Project Site.

ii. *Gas Connection*

11.7.62 There would be no significant effects on the landscape character as a result of the Gas Connection.

iii. *Electrical Connection*

11.7.63 There would be no significant effects on the landscape character as a result of the Electrical Connection.

iv. *The Project (all components)*

11.7.64 Once operational the Power Generation Plant would be a prominent feature within the immediate landscape of the Project Site. It would result in the partial loss to landscape features, including grazing land, trees and scrub vegetation, which would result in a partial change to some of the landscape characteristics although it would not diminish the overall integrity of the landscape.

11.7.65 The Access Road would lie substantially within the woodland characteristic of the Penllergaer Forest Aspect Area which would retain its qualities providing a strong degree of enclosure and shelter.

11.7.66 The Gas Pipeline would be reinstated upon operation with fields returned to grazing and field boundaries reinstated with hedgerow and tree planting. Structure planting and reinstatement boundary vegetation would be planted around the AGI to assist in assimilating it within the immediate landscape pattern. Planting would extend up

to existing field boundaries in order to retain the field pattern and avoid land severance.

11.7.67 The Electrical Connection route would be buried immediately adjacent to the Access Road and the long term residual effects on the landscape would be similar to the Access Road as described above.

11.7.68 Across the wider site there would be a partial loss to some of the key characteristics of the landscape but would not result in an obvious change to the overall character of the area. These effects would be long term. At year of opening the magnitude of change would be Medium which when combined with the Medium sensitivity to change would result in a **Moderate Adverse** effect on the landscape character of the Project Site.

11.7.69 Once the structure planting around the Power Generation Plant and AGI establishes it would assist in providing some additional structure to the landscape which alongside the reinstatement hedgerow planting and fields returned to grazing along the Gas Pipeline route would assist in integrating elements of the development into the local landscape. Nonetheless, despite the establishment of the planting, the magnitude of effect is considered to remain Medium at year 15 as there would remain a noticeable alteration of the existing components of the landscape of the Project Site. This would result in a **Moderate Adverse** effect on the landscape character of the Project Site.

d) Operation – Summary of significant visual effects

11.7.70 A detailed assessment of visual effects during the operation phase is contained in Appendix 11.3. Of the 18 representative viewpoints assessed only 5 of the viewpoints representing views from residential receptors or recreational routes within 700 m of the Project Site would experience significant effects once the Project is operational. All other viewpoints across the 15 km study area would either experience a **Minor Adverse** or **Negligible** effect or no effect at all.

11.7.71 The Project Site lies within a valley where it is visually contained from the north, east and west by the higher valley sides and vegetation. Views from local roads are screened or filtered by hedges and earth banks. Views overlooking the Project Site from higher ground to the north and more distant views from the south east close to the Gower AONB would not experience significant effects due to the intervening distance, vegetation and built form. Where the upper parts of the Power Generation Plant and stack are visible in the middle distance of views, they would be seen in the context of the existing network of pylons and transmission lines as well as the tall structures present at the Felindre Gas Compressor Station and Substation and as a result would not experience significant visual effects.

11.7.72 The remaining significant effects would be experienced by viewpoints representative of residential and recreational receptors within close proximity (700 m) to the Project Site where the landscape mitigation planting (Figure 11.10) would not be able to reduce the significant effects experienced. These significant effects are summarised below.

i. *Power Generation Plant*

11.7.73 Significant effects associated with the Power Generation Plant during operation would be experienced at 5 of the 18 representative viewpoints assessed.

11.7.74 **Viewpoint 9** – Public Right of Way, north of Aber-gelli fach.

11.7.75 Once operational the upper part of the gas turbine and stack would be visible against the vegetated backcloth of rising ground to the south, within a small portion of the centre of the mid ground of the view. Whilst they would be seen in the immediate context of the pylons and the stack would not be visible against the skyline, it would introduce a noticeable element into the view resulting in a partial change to the composition of the view.

11.7.76 Magnitude of change would be Medium which when combined with a Medium sensitivity would result in a **Moderate Adverse** effect.

11.7.77 **Viewpoint 14** – Public Right of Way near Maes-eglwys Farm

11.7.78 The Power Generation Plant and in particular the upper part of the Generating Equipment Site would appear prominent in the view, at close range, changing an extensive proportion of the view. The stack would appear against the skyline at a similar height as the adjacent pylons but more apparent due to the solid mass of the stack structure. Whilst mitigation structure planting once established would help to screen lower parts of the Power Generation Plant, the taller structures would remain prominent. Overall there would be an extensive change to the composition of the existing view.

11.7.79 Magnitude of change would be High which combined with the High Sensitivity would result in a **Major Adverse** effect.

11.7.80 **Viewpoint 15** – Public Right of Way and Minor Road

11.7.81 The taller structures in the Power Generation Plant including the stack would be visible from this viewpoint. The stack would be seen against the skyline and at a similar height as the adjacent pylons although would appear more prominent as it would be a denser structure. There would be a partial change to the composition of the view which whilst immediately visible would not become the key features in the view particularly given the existing industrial elements apparent in the view.

11.7.82 Magnitude of change would be Medium which combined with the Medium Sensitivity would result in a **Moderate Adverse** effect.

11.7.83 **Viewpoint 16** – Dorglwyd

11.7.84 Once operational and during winter months, there would be clear views of the taller structures within the Power Generation Plant, viewed over extensive intervening woodland. The stack would be prominent and seen against the skyline. Whilst it would appear smaller than the adjacent pylon in the view, the stack would appear as prominent due to its denser structure. During summer months the Power

Generation Plant including the stack would be barely discernible due to the boundary screen planting, however, the degree of screening provided by this vegetation would reduce during winter months when the taller structures would remain prominent. Overall there would be an extensive change to the composition of the existing view.

11.7.85 Magnitude of change would be High which combined with the High Sensitivity would result in a **Major Adverse** effect.

11.7.86 **Viewpoint 17** – Cefn Betingau Farm

11.7.87 The Power Generation Plant and in particular the upper part of the generating equipment would appear prominent in the view, at close range, changing an extensive proportion of the view, particularly during winter months. The stack would appear against the skyline at a similar height as the adjacent pylons but more apparent due to the solid mass of the stack structure. Whilst mitigation structure planting once established would help to screen lower parts of the Power Generation Plant, the taller structures would remain prominent particularly during the winter when the intervening vegetation would offer less screening. Overall there would be an extensive change to the composition of the existing view.

11.7.88 Magnitude of change would be High which combined with the High Sensitivity would result in a **Major Adverse** effect.

ii. *Gas Connection*

11.7.89 Once operational, the Gas Connection would not result in any significant visual effects from the representative viewpoints assessed.

iii. *Electrical Connection*

11.7.90 Once operational, the Electrical Connection would not result in any significant visual from the representative viewpoints assessed.

iv. *Project "in combination" Effects*

11.7.91 The most visually prominent element of the Project would be the Power Generation Plant including the stack. Although the Project Site is surrounded by existing woodland and undulating topography which would screen the lower parts of the Power Generation Plant the stack and upper parts of the Power Generation Plant would be visible above it. The existing vegetation screen would be strengthened by additional woodland and hedgerow planting as part of the landscape mitigation strategy (Figure 11.10). Nonetheless the Power Generation Plant would result in significant adverse visual effects for the viewpoints representative of views experienced by nearby residential properties and recreational receptors within 700 m of the Project Site.

11.7.92 As such the visual effects associated with the Project as a whole would be the same as those described in the Power Generation Plant section above with

significant effects experienced at 5 of the 18 representative viewpoints assessed (viewpoints 9, 14, 15, 16 and 17).

11.8 Mitigation and Monitoring

11.8.1 Embedded mitigation measures, which have been incorporated within the design of the Project or are standard practice measures that have been committed to are summarised in Section 11.5. All mitigation measures for the landscape and visual assessment are embedded.

11.9 Residual Effects

11.9.1 As all mitigation is embedded in the Project and there is no additional mitigation, all effects described in the Assessment of Effects section above are residual. The following tables therefore present a summary of the landscape and visual assessment.

Table 11-13: Landscape and Visual Assessment Summary of Effects Arising during Construction and Decommissioning Phases

Receptor	Description of Effect	Classification of effect	Additional Mitigation	Classification of Residual Effect	Significant / Not Significant
The Project (all components)					
Landscape Character around Project Site (refer to Appendix 11.2 for LANDMAP Aspect Areas)	Effect on Landscape Character	Moderate Adverse	N/A	Moderate Adverse	Significant
Landscape Character within 5 km study area (refer to Appendix 11.2 for LANDMAP Aspect Areas)	Effect on Landscape Character	Minor Adverse to Negligible (refer to Appendix 11.2)	N/A	Minor Adverse to Negligible (refer to Appendix 11.2)	Not significant
VP 1	Effect on Visual Amenity	Minor Adverse	N/A	Minor Adverse	Not significant
VP 2	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 3	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 4	Effect on Visual Amenity	Negligible Effect	N/A	Negligible Effect	Not significant
VP 5	Effect on Visual Amenity	Negligible Effect	N/A	Negligible Effect	Not significant
VP 6	Effect on Visual Amenity	Negligible Effect	N/A	Negligible Effect	Not significant
VP 7	Effect on Visual Amenity	Negligible Effect	N/A	Negligible Effect	Not significant
VP 8	Effect on Visual Amenity	Minor Adverse	N/A	Minor Adverse	Not significant
VP 9	Effect on Visual Amenity	Moderate Adverse	N/A	Moderate Adverse	Significant
VP 10 (this viewpoint will be removed as the site visit of November 2017 revealed that foreground views now contain a solar farm and associated security fencing. Viewpoint 17 will replace this view.					

Receptor	Description of Effect	Classification of effect	Additional Mitigation	Classification of Residual Effect	Significant / Not Significant
VP 11	Effect on Visual Amenity	Minor Adverse	N/A	Minor Adverse	Not significant
VP 12	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 13	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 14	Effect on Visual Amenity	Major Adverse	N/A	Major Adverse	Significant
VP 15	Effect on Visual Amenity	Moderate Adverse	N/A	Moderate Adverse	Significant
VP 16	Effect on Visual Amenity	Major Adverse	N/A	Major Adverse	Significant
VP 17	Effect on Visual Amenity	Major Adverse	N/A	Major Adverse	Significant
VP 18	Effect on Visual Amenity	Minor Adverse	N/A	Minor Adverse	Not significant
Power Generation Plant					
Landscape Character around Project Site (refer to Appendix 11.2 for LANDMAP Aspect Areas)	Effect on Landscape Character	Moderate Adverse	N/A	Moderate Adverse	Significant
Landscape Character within 5 km study area (refer to Appendix 11.2 for LANDMAP Aspect Areas)	Effect on Landscape Character	Minor Adverse to Negligible (refer to Appendix 11.2)	N/A	Minor Adverse to Negligible (refer to Appendix 11.2)	Not significant
VP 1	Effect on Visual Amenity	Minor Adverse	N/A	Minor Adverse	Not significant
VP 2	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 3	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 4	Effect on Visual Amenity	Negligible Effect	N/A	Negligible Effect	Not significant

Receptor	Description of Effect	Classification of effect	Additional Mitigation	Classification of Residual Effect	Significant / Not Significant
VP 5	Effect on Visual Amenity	Negligible Effect	N/A	Negligible Effect	Not significant
VP 6	Effect on Visual Amenity	Negligible Effect	N/A	Negligible Effect	Not significant
VP 7	Effect on Visual Amenity	Negligible Effect	N/A	Negligible Effect	Not significant
VP 8	Effect on Visual Amenity	Minor Adverse	N/A	Minor Adverse	Not significant
VP 9	Effect on Visual Amenity	Moderate Adverse	N/A	Moderate Adverse	Significant
VP 10 (this viewpoint will be removed as the site visit of November 2017 revealed that foreground views now contain a solar farm and associated security fencing. Viewpoint 17 will replace this view.					
VP 11	Effect on Visual Amenity	Minor Adverse	N/A	Minor Adverse	Not significant
VP 12	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 13	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 14	Effect on Visual Amenity	Major Adverse	N/A	Major Adverse	Significant
VP 15	Effect on Visual Amenity	Moderate Adverse	N/A	Moderate Adverse	Significant
VP 16	Effect on Visual Amenity	Major Adverse	N/A	Major Adverse	Significant
VP 17	Effect on Visual Amenity	Major Adverse	N/A	Major Adverse	Significant
VP 18	Effect on Visual Amenity	Minor Adverse	N/A	Minor Adverse	Not significant
Gas Connection					
Landscape Character around Project Site (refer to Appendix 11.2 for LANDMAP Aspect Areas)	Effect on Landscape Character	Moderate Adverse	N/A	Moderate Adverse	Significant
Landscape Character	Effect on Landscape	Minor Adverse	N/A	Minor Adverse to	Not significant

Receptor	Description of Effect	Classification of effect	Additional Mitigation	Classification of Residual Effect	Significant / Not Significant
within 5 km study area (refer to Appendix 11.2 for LANDMAP Aspect Areas)	Character	to Negligible (refer to Appendix 11.2)		Negligible (refer to Appendix 11.2)	
VP 1	Effect on Visual Amenity	Minor Adverse	N/A	Minor Adverse	Not significant
VP 2	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 3	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 4	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 5	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 6	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 7	Effect on Visual Amenity	Negligible Effect	N/A	Negligible Effect	Not significant
VP 8	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 9	Effect on Visual Amenity	Moderate Adverse	N/A	Moderate Adverse	Significant
VP 10 (this viewpoint will be removed as the site visit of November 2017 revealed that foreground views now contain a solar farm and associated security fencing. Viewpoint 17 will replace this view.					
VP 11	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 12	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 13	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 14	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 15	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 16	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant

Receptor	Description of Effect	Classification of effect	Additional Mitigation	Classification of Residual Effect	Significant / Not Significant
VP 17	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 18	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
Electrical Connection					
Landscape Character around Project Site (refer to Appendix 11.2 for LANDMAP Aspect Areas)	Effect on Landscape Character	Minor Adverse	N/A	Minor Adverse	Not significant
Landscape Character within 5 km study area (refer to Appendix 11.2 for LANDMAP Aspect Areas)	Effect on Landscape Character	Minor Adverse to Negligible (refer to Appendix 11.2)	N/A	Minor Adverse to Negligible (refer to Appendix 11.2)	Not significant
VP 1	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 2	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 3	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 4	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 5	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 6	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 7	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 8	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 9	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 10 (this viewpoint will be removed as the site visit of November 2017 revealed that foreground views now contain a solar farm and associated security fencing. Viewpoint 17 will replace this view.					

Receptor	Description of Effect	Classification of effect	Additional Mitigation	Classification of Residual Effect	Significant / Not Significant
VP 11	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 12	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 13	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 14	Effect on Visual Amenity	Minor Adverse	N/A	Minor Adverse	Not significant
VP 15	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 16	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 17	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 18	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant

Table 11-13: Landscape and Visual Assessment Summary of Effects Arising during Operational Phase

Receptor	Description of Effect	Classification of effect	Additional Mitigation	Classification of Residual Effect	Significant / Not Significant
The Project (all components)					
Landscape Character around Project Site (refer to Appendix 11.2 for LANDMAP Aspect Areas)	Effect on Landscape Character	Moderate Adverse	N/A	Moderate Adverse	Significant
Landscape Character within 5 km study area (refer to Appendix 11.2 for LANDMAP Aspect Areas)	Effect on Landscape Character	Minor Adverse to Negligible (refer to Appendix 11.2)	N/A	Minor Adverse to Negligible (refer to Appendix 11.2)	Not significant
VP 1	Effect on Visual Amenity	Minor Adverse	N/A	Minor Adverse	Not significant

Receptor	Description of Effect	Classification of effect	Additional Mitigation	Classification of Residual Effect	Significant / Not Significant
VP 2	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 3	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 4	Effect on Visual Amenity	Negligible Effect	N/A	Negligible Effect	Not significant
VP 5	Effect on Visual Amenity	Negligible Effect	N/A	Negligible Effect	Not significant
VP 6	Effect on Visual Amenity	Negligible Effect	N/A	Negligible Effect	Not significant
VP 7	Effect on Visual Amenity	Negligible Effect	N/A	Negligible Effect	Not significant
VP 8	Effect on Visual Amenity	Minor Adverse	N/A	Minor Adverse	Not significant
VP 9	Effect on Visual Amenity	Moderate Adverse	N/A	Moderate Adverse	Significant
VP 10 (this viewpoint will be removed as the site visit of November 2017 revealed that foreground views now contain a solar farm and associated security fencing. Viewpoint 17 will replace this view.					
VP 11	Effect on Visual Amenity	Minor Adverse	N/A	Minor Adverse	Not significant
VP 12	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 13	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 14	Effect on Visual Amenity	Major Adverse	N/A	Major Adverse	Significant
VP 15	Effect on Visual Amenity	Moderate Adverse	N/A	Moderate Adverse	Significant
VP 16	Effect on Visual Amenity	Major Adverse	N/A	Major Adverse	Significant
VP 17	Effect on Visual Amenity	Major Adverse	N/A	Major Adverse	Significant
VP 18	Effect on Visual Amenity	Minor Adverse	N/A	Minor Adverse	Not significant
Power Generation Plant					
Landscape Character around Project Site	Effect on Landscape Character	Moderate Adverse	N/A	Moderate Adverse	Significant

Receptor	Description of Effect	Classification of effect	Additional Mitigation	Classification of Residual Effect	Significant / Not Significant
(refer to Appendix 11.2 for LANDMAP Aspect Areas)					
Landscape Character within 5 km study area (refer to Appendix 11.2 for LANDMAP Aspect Areas)	Effect on Landscape Character	Minor Adverse to Negligible (refer to Appendix 11.2)	N/A	Minor Adverse to Negligible (refer to Appendix 11.2)	Not significant
VP 1	Effect on Visual Amenity	Minor Adverse	N/A	Minor Adverse	Not significant
VP 2	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 3	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 4	Effect on Visual Amenity	Negligible Effect	N/A	Negligible Effect	Not significant
VP 5	Effect on Visual Amenity	Negligible Effect	N/A	Negligible Effect	Not significant
VP 6	Effect on Visual Amenity	Negligible Effect	N/A	Negligible Effect	Not significant
VP 7	Effect on Visual Amenity	Negligible Effect	N/A	Negligible Effect	Not significant
VP 8	Effect on Visual Amenity	Minor Adverse	N/A	Minor Adverse	Not significant
VP 9	Effect on Visual Amenity	Moderate Adverse	N/A	Moderate Adverse	Significant
VP 10 (this viewpoint will be removed as the site visit of November 2017 revealed that foreground views now contain a solar farm and associated security fencing. Viewpoint 17 will replace this view.					
VP 11	Effect on Visual Amenity	Minor Adverse	N/A	Minor Adverse	Not significant
VP 12	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 13	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant

Receptor	Description of Effect	Classification of effect	Additional Mitigation	Classification of Residual Effect	Significant / Not Significant
VP 14	Effect on Visual Amenity	Major Adverse	N/A	Major Adverse	Significant
VP 15	Effect on Visual Amenity	Moderate Adverse	N/A	Moderate Adverse	Significant
VP 16	Effect on Visual Amenity	Major Adverse	N/A	Major Adverse	Significant
VP 17	Effect on Visual Amenity	Major Adverse	N/A	Major Adverse	Significant
VP 18	Effect on Visual Amenity	Minor Adverse	N/A	Minor Adverse	Not significant
Gas Connection					
Landscape Character around Project Site (refer to Appendix 11.2 for LANDMAP Aspect Areas)	Effect on Landscape Character	Minor Adverse	N/A	Minor Adverse	Not significant
Landscape Character within 5 km study area (refer to Appendix 11.2 for LANDMAP Aspect Areas)	Effect on Landscape Character	Minor Adverse to Negligible (refer to Appendix 11.2)	N/A	Minor Adverse to Negligible (refer to Appendix 11.2)	Not significant
VP 1	Effect on Visual Amenity	Negligible	N/A	Negligible	Not significant
VP 2	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 3	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 4	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 5	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 6	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 7	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant

Receptor	Description of Effect	Classification of effect	Additional Mitigation	Classification of Residual Effect	Significant / Not Significant
VP 8	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 9	Effect on Visual Amenity	Negligible	N/A	Negligible	Not significant
VP 10 (this viewpoint will be removed as the site visit of November 2017 revealed that foreground views now contain a solar farm and associated security fencing. Viewpoint 17 will replace this view.					
VP 11	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 12	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 13	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 14	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 15	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 16	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 17	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 18	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
Electrical Connection					
Landscape Character around Project Site (refer to Appendix 11.2 for LANDMAP Aspect Areas)	Effect on Landscape Character	Negligible	N/A	Negligible	Not significant
Landscape Character within 5 km study area (refer to Appendix 11.2 for LANDMAP Aspect Areas)	Effect on Landscape Character	Negligible	N/A	Negligible	Not significant

Receptor	Description of Effect	Classification of effect	Additional Mitigation	Classification of Residual Effect	Significant / Not Significant
VP 1	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 2	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 3	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 4	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 5	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 6	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 7	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 8	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 9	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 10 (this viewpoint will be removed as the site visit of November 2017 revealed that foreground views now contain a solar farm and associated security fencing. Viewpoint 17 will replace this view.					
VP 11	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 12	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 13	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 14	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 15	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 16	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 17	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant
VP 18	Effect on Visual Amenity	No Effect	N/A	No Effect	Not significant

11.10 Cumulative Effects

a) Assessment of Potential Cumulative Effects – Construction and Decommissioning

i. *Description of Impact*

11.10.1 The following potential cumulative effects on landscape and visual receptors have been identified as potentially arising as a result of construction and decommissioning of the Project in combination with other schemes set out in **Chapter 17: Cumulative Impacts**. Only receptors considered to experience significant residual effects as identified in the landscape and visual assessment of the Project have been considered below in combination with the potential effects from the cumulative projects.

- Landscape character of the Project Site comprising the following Aspect Areas:
  - Visual and Sensory Aspect Areas – Rhyd-y-pandy and Penllergaer forest;
  - Landscape Habitats Aspect Areas – North of Gorseinon and Swansea; East of Penllergaer; Waun Y Garn Wen;
  - Historic Landscape Aspect Area – H27 Gower Supraboscus Agricultural;
  - Geological Landscape Aspect Area – Penllergaer; and
  - Cultural Landscape Aspect Area – The Mawr
- Viewpoint 9 – views experienced from the PRoW north of Aber-gelli fach;
- Viewpoint 14 – views experienced from the PRoW near Maes-eglwys Farm;
- Viewpoint 15 – views experienced from the PRoW and minor road which lead to Pant-lasau;
- Viewpoint 16 – views from Dorglwyd residential property; and
- Viewpoint 17 – views from Cefn Betingau Farm.

11.10.2 However, no cumulative development would be visible from viewpoints 14, 16 and 17 and are therefore not considered any further in the cumulative assessment.

ii. Assessment of cumulative effect

11.10.3 The following cumulative developments are located within the Aspect areas which characterise the landscape of the Project Site:

<u>Rhyd-y-pandy (Visual and Sensory)</u>

- 1.9.11 (Felindre Business Park)
- Identified/Allocated sites 23, 24, 27-29

<u>Penllergaer forest (Visual and Sensory)</u>

- 6 – Former J R Steelworks, Bryntywod
- 10 – Llettyr Morfil Farm
- 12 – Griffiths Waste Management Site
- 21 – Land at Bryntywod

11.10.4 The construction activity and plant associated with the Project in combination with the construction of these cumulative developments would result in localised effects

on these Visual and Sensory Aspect areas, with the cumulative developments concentrated in areas that are already influenced by development. As such the introduction of construction activity and lighting associated with the Project into this cumulative picture would result in a partial change to some of the landscape characteristics although it would not be sufficient to diminish the overall integrity of the landscape.

North of Gorseinon and Swansea (Landscape Habitats)

- Identified/Allocated sites 23, 28, 29

East of Penllergaer (Landscape Habitats)

- 1, 9, 11 (Felindre Business Park)
- 6 – Former J R Steelworks, Bryntywod
- 10 – Llettyr Morfil Farm
- 12 – Griffiths Waste Management Site
- 24 – NW of M4 J46, Llangyfelach

Waun Y Garn Wen (Landscape Habitats)

- No cumulative schemes

11.10.5 The construction activity and plant associated with the Project in combination with these cumulative schemes is considered to have localised effects on the grassland habitats but not sufficient to result in a noticeable change to the landscape habitat characteristics.

H27 Gower Supraboscus Agricultural (Historic Landscape)

- 1, 9, 11 (Felindre Business Park)
- 6 – Former J R Steelworks, Bryntywod
- 10 – Llettyr Morfil Farm
- 12 – Griffiths Waste Management Site
- 24 – NW of M4 J46, Llangyfelach
- Identified/Allocated sites 24, 27-29

11.10.6 The construction activity and plant associated with the Project in combination with these cumulative schemes is considered to have a localised effect on the enclosed pattern of fields typical of this historic landscape Aspect area.

Penllergaer (Geological Landscape)

- 1, 9, 11 (Felindre Business Park)
- 6 – Former J R Steelworks, Bryntywod
- 10 – Llettyr Morfil Farm
- 12 – Griffiths Waste Management Site
- 24 – NW of M4 J46, Llangyfelach
- Identified/Allocated sites 24, 27-29

11.10.7 The construction activity and plant associated with the Project in combination with these cumulative schemes is not considered to affect key features of geological or geomorphological significance.

The Mawr (Cultural Landscape)

- 1, 9, 11 (Felindre Business Park)
- 6 – Former J R Steelworks, Bryntywod
- 10 – Llettyr Morfil Farm
- 12 – Griffiths Waste Management Site
- 24 – NW of M4 J46, Llangyfelach
- Identified/Allocated sites 24, 27-29

11.10.8 The construction activity and plant associated with the Project in combination with these cumulative schemes is not considered to affect the multi-period historic and evolved cultural significance.

11.10.9 Overall the construction activity and plant associated with the Project in combination with the construction of these cumulative schemes would result in localised effects on these Aspect areas which define the landscape character of the Project Site, with the cumulative developments mainly concentrated in areas that are already influenced by development. As such the introduction of construction plant and lighting associated with the Project into this cumulative picture would result in a partial change to some of the landscape characteristics of the Project Site area although it would not be sufficient to diminish the overall integrity of the landscape.

11.10.10 Cumulative magnitude of change would be Low which combined with the Medium sensitivity would result in a **Minor** Adverse cumulative effect which is not significant.

Viewpoint 9 – ProW, north of Aber-gelli fach

11.10.11 The construction of the following cumulative developments would potentially be visible from this viewpoint:

- 1 – Felindre Business Park
- 6 – Former Steelworks, Bryntywod
- 10 – Llettyr Morfil Farm
- 11 – Plot 8 Felindre Business Park
- 12 – Griffiths Waste Management Site
- 15 – Land at Llewellyn Road
- 16 – Royal Fern Golf Resort
- 17 – Parc Ceirw
- 19 – Former Civic Centre Penllergaer
- Identified/Allocated sites 21-24, 26-29

11.10.12 Construction associated with the majority of the above cumulative schemes would be barely discernible in the view due to distance, intervening planting, landform and built fabric. The only cumulative developments where the plant and construction

activity might be visible in combination with the Project would be schemes 27 and 29, both of which are Identified/Allocated sites, where little information is currently available. Construction plant and activity associated with the residential development in scheme 27 might appear in the distant view against the urban backcloth of north Swansea. The construction of the potential Combined Heat and Power (CHP) facility (scheme 29) might potentially be visible in the mid-ground of the view.

11.10.13 The construction of the Project in combination with these two schemes has the potential to introduce construction activity into small, separate parts of the view resulting in a limited cumulative change. As such the construction of the Project in combination with these two cumulative schemes would result in a Low magnitude of cumulative change which when combined with the Medium sensitivity of the receptor would result in a Minor Adverse cumulative effect which is not significant.

11.10.14 **Viewpoint 15** – ProW and Minor Road

11.10.15 The construction of the following cumulative development would potentially be visible from this viewpoint:

- 28 – Morriston Hospital

11.10.16 This is an Identified/Allocated site and little information is available about the future development, either in terms of location or scale. Construction plant and activity associated with the Project in combination with the construction of cumulative scheme 28 might result in small changes to the mid-ground view, although intervening vegetation would limit the extent of construction activity visible.

11.10.17 At worst, cumulative magnitude of change would be Low which combined with the Medium sensitivity would result in a Minor Adverse cumulative effect.

ii. *Mitigation*

11.10.18 As no significant cumulative effects are predicted, it is not considered necessary to identify additional mitigation, management actions or monitoring.

iii. *Residual cumulative effect*

11.10.19 As no mitigation is proposed, all effects described in Section 0 above are residual. These are summarised in Table 11-14.

Table 11-14: Cumulative landscape and visual effects arising during construction and decommissioning phases

Receptor	Sensitivity	Cumulative Magnitude	Level of cumulative effects/significance
Landscape Character around Project Site (refer to Appendix 11.2 for LANDMAP Aspect Areas)	Medium	Low	Minor Adverse Not significant
Viewpoint 9	Medium	Low	Minor Adverse

Receptor	Sensitivity	Cumulative Magnitude	Level of cumulative effects/significance
			Not significant
Viewpoint 15	Medium	Low	Minor Adverse Not significant

b) Assessment of Potential Cumulative Effects – Operation

i. *Description of impact*

11.10.20 The following potential cumulative impacts on landscape and visual receptors have been identified as potentially arising as a result of operation of the Project in combination with other schemes set out in Chapter 17. Only receptors considered to experience significant residual effects as identified in the landscape and visual assessment of the Project have been considered below in combination with the potential effects from the cumulative projects.

- Landscape character of the Project Site comprising the following Aspect Areas:
  - Visual and Sensory Aspect Areas – Rhyd-y-pandy and Penllergaer forest;
  - Landscape Habitats Aspect Areas – North of Gorseinon and Swansea; East of Penllergaer; Waun Y Garn Wen;
  - Historic Landscape Aspect Area – H27 Gower Supraboscus Agricultural;
  - Geological Landscape Aspect Area – Penllergaer; and
  - Cultural Landscape Aspect Area – The Mawr
- Viewpoint 9 – views experienced from the PRoW north of Aber-gelli fach;
- Viewpoint 14 – views experienced from the PRoW near Maes-eglwys Farm;
- Viewpoint 15 – views experienced from the PRoW and minor road which lead to Pant-lasau;
- Viewpoint 16 – views from Dorglwyd residential property; and
- Viewpoint 17 – views from Cefn Betingau Farm.

11.10.21 However, no cumulative development would be visible from viewpoints 14, 16 and 17 and are therefore not considered any further in the cumulative assessment.

ii. *Assessment of cumulative effect*

11.10.22 The following cumulative developments are located within the Aspect areas which characterise the landscape of the Project Site:

<u>Rhyd-y-pandy (Visual and Sensory)</u>

- 1.9.11 (Felindre Business Park)
- Identified/Allocated sites 23, 24, 27-29

<u>Penllergaer forest (Visual and Sensory)</u>

- 6 – Former J R Steelworks, Bryntywod
- 10 – Llettyr Morfil Farm

- 12 – Griffiths Waste Management Site
- 21 – Land at Bryntywod

11.10.23 The Project in combination with these cumulative developments would result in localised effects on these Visual and Sensory Aspect areas, with the cumulative developments concentrated in areas that are already influenced by development. As such the introduction of the Project into this cumulative picture would result in a partial change to some of the landscape characteristics although it would not be sufficient to diminish the overall integrity of the landscape.

North of Gorseinon and Swansea (Landscape Habitats)

- Identified/Allocated sites 23, 28, 29

East of Penllergaer (Landscape Habitats)

- 1, 9, 11 (Felindre Business Park)
- 6 – Former J R Steelworks, Bryntywod
- 10 – Llettyr Morfil Farm
- 12 – Griffiths Waste Management Site
- 24 – NW of M4 J46, Llangyfelach

Waun Y Garn Wen (Landscape Habitats)

- No cumulative schemes

11.10.24 The Project in combination with these cumulative schemes is considered to have localised effects on the grassland habitats but not sufficient to result in a noticeable change to the landscape habitat characteristics.

H27 Gower Supraboscus Agricultural (Historic Landscape)

- 1, 9, 11 (Felindre Business Park)
- 6 – Former J R Steelworks, Bryntywod
- 10 – Llettyr Morfil Farm
- 12 – Griffiths Waste Management Site
- 24 – NW of M4 J46, Llangyfelach
- Identified/Allocated sites 24, 27-29

11.10.25 The Project in combination with these cumulative schemes is considered to have a localised effect on the enclosed pattern of fields typical of this historic landscape Aspect area.

Penllergaer (Geological Landscape)

- 1, 9, 11 (Felindre Business Park)
- 6 – Former J R Steelworks, Bryntywod
- 10 – Llettyr Morfil Farm
- 12 – Griffiths Waste Management Site
- 24 – NW of M4 J46, Llangyfelach
- Identified/Allocated sites 24, 27-29

11.10.26 The Project in combination with these cumulative schemes is not considered to affect key features of geological or geomorphological significance.

The Mawr (Cultural Landscape)

- 1, 9, 11 (Felindre Business Park)
- 6 – Former J R Steelworks, Bryntywod
- 10 – Llettyr Morfil Farm
- 12 – Griffiths Waste Management Site
- 24 – NW of M4 J46, Llangyfelach
- Identified/Allocated sites 24, 27-29

11.10.27 The Project in combination with these cumulative schemes is not considered to affect the multi-period historic and evolved cultural significance.

11.10.28 Overall the Project in combination with these cumulative schemes would result in localised effects on these Aspect areas which define the landscape character of the Project Site, with the cumulative developments mainly concentrated in areas that are already influenced by development. As such the introduction of the Project into this cumulative picture would result in a partial change to some of the landscape characteristics of the Project Site area although it would not be sufficient to diminish the overall integrity of the landscape.

11.10.29 Cumulative magnitude of change would be Low which combined with the Medium sensitivity would result in a **Minor** Adverse cumulative effect which is not significant.

Viewpoint 9 – ProW, north of Aber-gelli fach

11.10.30 The following cumulative developments would potentially be visible from this viewpoint:

- 1 – Felindre Business Park
- 6 – Former Steelworks, Bryntywod
- 10 – Llettyr Morfil Farm
- 11 – Plot 8 Felindre Business Park
- 12 – Griffiths Waste Management Site
- 15 – Land at Llewellyn Road
- 16 – Royal Fern Golf Resort
- 17 – Parc Ceirw
- 19 – Former Civic Centre Penllergaer
- Identified/Allocated sites 21-24, 26-29

11.10.31 The majority of the above cumulative schemes would be barely discernible in the view due to distance, intervening planting, landform and built fabric. The only cumulative developments which might be visible in combination with the Project would be schemes 27 and 29, both of which are Identified/Allocated sites and so little information is currently available. Once operational the residential mixed use development (scheme 27) would be barely discernible from the northern urban edge of Swansea. Depending on the scale of the CHP facility (scheme 29) it might

be visible in the mid-ground of the view, partially screened by intervening vegetation. The Project in combination with scheme 29 would introduce another industrial development into the mid-ground of the view, although it would occupy a different horizontal extent of the view and would be partially screened by vegetation. The Low cumulative magnitude of change combined with the medium sensitivity would result in a **Minor** Adverse cumulative effect which would not be significant.

Viewpoint 15 – ProW and Minor Road

11.10.32 The following cumulative development would potentially be visible from this viewpoint:

- 28 – Morriston Hospital

11.10.33 This is an Identified/Allocated site and little information is available about this future development, either in terms of location or scale. There is a possibility that the Project would be visible in combination with cumulative scheme 28, however, intervening vegetation is likely to screen much of cumulative scheme 28 and the introduction of the Project into this cumulative picture would at worst result in a Low cumulative magnitude of change. This combined with the Medium sensitivity would result in a **Minor Adverse** cumulative effect which would not be significant.

iii. *Mitigation*

11.10.34 As no significant cumulative effects are predicted, it is not considered necessary to identify additional mitigation, management actions or monitoring.

iv. *Residual cumulative effect*

11.10.35 As no mitigation is proposed, all effects described in Section 0 above are residual. These are summarised in Table 11-15.

Table 11-15: Cumulative landscape and visual effects arising during operation phase

Receptor	Sensitivity	Cumulative Magnitude	Level of cumulative effects/significance
Landscape Character around Project Site (refer to Appendix 11.2 for LANDMAP Aspect Areas)	Medium	Low	Minor Adverse Not significant
Viewpoint 9	Medium	Low	Minor Adverse Not significant
Viewpoint 15	Medium	Low	Minor Adverse Not significant

11.11 Conclusions and Next Steps

11.11.1 The Project Site is situated on open agricultural land approximately 2 km north of junction 46 of the M4. It sits within the Afon Lian Valley which forms a wide lowland basin with higher ground and steep valleys to the north and east. The valley floor is wide and undulating, backed to the north by upland moorland and divided by numerous steep, narrow valleys. To the south the northern suburbs of Swansea extend to the M4 corridor. Pastoral land and woodland are the predominant land uses within the wider valley including Penllergaer Forest as well as other smaller broadleaved woodlands. Combined with the network of hedgerows and hedgerow tree planting which define many of the small and irregular shaped fields and the network of minor roads, the landscape displays a well vegetated character. This character of woodland, rolling topography and visual containment helps integrate developments into the rural fabric.

11.11.2 Large scale power infrastructure predominates within the landscape with the Felindre Gas Compressor Station and Substation immediately adjacent to the Project Site and the Air-Insulated Switchgear substation to the south west. The associated network of overhead transmission lines and steel pylons are prominent elements within the valley landscape. To the north lies the Felindre Water Treatment Works at Waun y Garn-wen and around the Project Site lie a number of solar farms.

11.11.3 The Project comprises three main components, which have the potential to affect the landscape and visual resource; Power Generation Plant including a 45 m high stack, Gas Connection and Electrical Connection. The potential effects of these components as well as the Project as a whole on the landscape and visual resource have been considered across the construction/decommissioning and operation phases of the Project. The LANDMAP Aspect areas have been analysed and the effects on the character of these have been considered at a Project Site level as well as within the 5 km landscape study area. Eighteen representative viewpoints have been selected to represent a range of receptor types and distances across the 15 km visual study area and have informed the visual assessment.

11.11.4 During the construction/decommissioning phase of works, significant adverse effects would be limited to the LANDMAP Aspect areas at a Project Site level and five of the eighteen viewpoints, where the embedded mitigation would not be sufficient to reduce these significant adverse effects. Once operational the embedded landscape mitigation would assist in screening lower parts of the Power Generation Plant but would not be sufficient to reduce significant adverse effects on the LANDMAP Aspect areas at a Project Site level and from five of the eighteen viewpoints. This is due to the scale and mass of the Power Generation Plant and height of the stack.

11.11.5 However, the landscape resource contained within the 5 km study area and the majority of viewpoints would not experience significant adverse effects. The Project Site lies within a valley which combined with the existing woodland and undulating topography provides a high degree of visual containment. Views from local roads are screened or filtered by hedgerows and earth banks. Views overlooking the Project Site from higher ground to the north and from more distant views to the south east near to the Gower AONB would not experience significant effects due to the intervening distance, vegetation and built form. Where views of the upper parts of the Power Generation Plant and stack are visible in the middle distance of views, they would be seen in the context of the existing network of pylons and transmission lines as well as the tall structures present at the Felindre Gas Compressor Station and Substation. As a result significant residual effects on the landscape and visual resource are localised and not extensive.

11.11.6 The Project would not result in any significant cumulative effects on the landscape and visual resource.

11.12 References

Ref. 11.1 Prepared by Natural England by Land Use Consultants. Integrating the European Landscape Convention: Parts 1-3 Guidance. 2009

Ref. 11.2 Landscape Institute and Institute of Environmental Assessment and Management. Guidelines for Landscape and Visual Impact Assessment. 3rd Edition. 2013

Ref. 11.3 Natural Resources Wales. LANDMAP Methodological Guidance Series. 2016

Ref. 11.4 Landscape Institute. Landscape Institute Advice Note 01/11: Photography and photomontage in landscape and visual impact assessment. Landscape Institute, 2011