



Abergelli Power Project

Non-Technical Summary

January 2018

Contents

1.	Introduction	9
2.	The Project	11
2.1	What is the Project?	11
2.2	What will it involve?	11
2.3	What changes have been made to the design since the 2014 PEIR?	12
2.4	How does an OCGT power station work?	13
2.5	Where is it located?	14
2.6	The Need for the Project	14
2.7	Alternatives to the Project.....	15
2.8	Who is the Applicant?	15
2.9	What planning framework applies to the Project?	15
2.10	What steps are being taken to mitigate the Project impacts?	16
3.	Methodology: Significance of Effects	18
3.1	What are receptors and how are they identified within the PEIR?	18
3.2	How are environmental impacts measured within the PEIR?	19
3.3	How are the environmental effects measured within the PEIR?	20
4.	Environmental Impact Assessment.....	21
4.1	Air Quality	21
4.2	Noise and Vibration	24
4.3	Ecology.....	26
4.4	Water Quality and Resources.....	29
4.5	Geology, Ground Conditions and Hydrogeology	31
4.6	Landscape and Visual Effects	33
4.7	Traffic, Transport, and Access	37
4.8	Historic Environment	39
4.9	Socio-Economics.....	41
4.10	Other Effects	42
5.	Cumulative Effects	45
6.	Conclusions and Next Steps.....	52
7.	References	53

Abbreviations

Abbreviation	Description
AGI	Above Ground Installation
AONB	Area of Outstanding Natural Beauty
APL	Abergelli Power Limited
BAT	Best Available Techniques
BOP	Balance of Plant
BPM	Best Practical Means
BREF	BAT Reference documents
BS	British Standard
CAA	Civil Aviation Association
CCGT	Combined Cycle Gas Turbine
CCR	Carbon Capture Readiness
CCS	City and Country of Swansea
CEMP	Construction Environmental Management Plan
CHP	Combined Heat & Power
CIEEM	Chartered Institute of Ecology and Environmental Management
CO	Carbon Monoxide
CO ₂	Carbon Dioxide
CSTP	Construction Staff Traffic Plan
CTMP	Construction Traffic Management Plan
DAM	Development Advice Map
dB	Decibel, Unit of Volume
DBEIS	Department of Business, Energy and Industrial Strategy
DCLG	Department for Communities and Local Government
DCO	Development Consent Order
DECC	Department of Energy and Climate Change
EA	Environment Agency
EIA	Environmental Impact Assessment
EMF	Electromagnetic Fields
ES	Environmental Statement
EU	European Union
FCA	Flood Consequences Assessment
GCN	Great Crested Newt

Abbreviation	Description
GI	Ground Investigation
GLVIA	Guidelines for Landscape and Visual Impact Assessment
Ha	Hectare, Unit of Area
HER	Historic Environment Record
HGV	Heavy Goods Vehicle
HRA	Habitats Regulations Assessment
HSE	Health and Safety Executive
IAQM	Institute of Air Quality Management
IED	Industrial Emissions Directive
IPPC	Integrated Pollution Prevention Control
km	Kilometre, Unit of Length
kV	Kilovolt, Unit of Electric Potential
LCA	Landscape Character Areas
LDP	Local Development Plan
LNR	Local Nature Reserve
LPA	Local Planning Authority
LVIA	Landscape and Visual Impact Assessment
M	Metre, Unit of Length
m/s	Metres per second, Unit of Speed
MOC	Minimum Offtake Connection
MoD	Ministry of Defence
MW (or MWe)	Megawatts, Unit of Electricity
NATS	National Air Traffic Services
NETS	National Grid Electricity Transmission System
NNR	National Nature Reserve
NO ₂	Nitrogen Dioxide
NO _x	Nitrogen Oxides (assuming as nitrogen dioxide)
NPS	National Policy Statement
NRW	National Resources Wales
NSIP	Nationally Significant Infrastructure Project
NSR	Nearest Sensitive Receptor
NTS	Non-Technical Summary
NVC	National Vegetation Classification
OCGT	Open Cycle Gas Turbine
OS	Ordinance Survey
PA 2008	Planning Act 2008
PEA	Preliminary Ecological Appraisal

Abbreviation	Description
PEIR	Preliminary Environmental Information Report
PHE	Public Health England
PIG	Pipeline Inspection Gauge
PINS	Planning Inspectorate
PM ₁₀	Particulate Matter
PM _{2.5}	Particulate Matter
PPW	Planning Policy Wales
PRoW	Public Right of Way
PTF	Pig Trap Facility
PV	Photovoltaic
RGE	Reciprocating Gas Engines
SAC	Special Area of Conservation
SINC/SNCI	Site of Nature Conservation Interests
SLA	Special Landscape Areas
SoCC	Statement of Community Consultation
SoS	Secretary of State
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
SuDS	Sustainable Drainage Systems
TA	Transport Assessment
TAN	Technical Advice Note
TCPA	Town and Country Planning Authority
UDP	Unitary Development Plan
VP	Viewpoint
WFD	Water Framework Directive
WHO	World Health Organisation
WSI	Written Scheme of Investigation
ZoI	Zone of Influence
ZTV	Zone of Theoretical Visibility

Project Definitions

- **2014 PEIR:** The 2014 PEIR summarising the preliminary findings of the EIA prepared at the time of the Phase 1 consultation.
- **2014 PEIR NTS:** The 2014 PEIR Non-Technical Summary, a report presenting a non-technical summary of the information in the 2014 PEIR.
- **Access Road** to the Generating Equipment Site - from the B4489 which lies to the west, formed by upgrading an existing access road between the B4489 junction and the Swansea North Substation and constructing a new section of access road from the Swansea North Substation to the Generating Equipment Site.
- **Above Ground Installation:** The Above Ground Installation incorporates the minimum offtake connection (MOC) facility, which would be owned by National Grid Gas, and a Pipeline Inspection Gauge (PIG) Trap Facility (PTF), owned by Abergelli Power Limited. It forms part of the Gas Connection.
- **Additional Mitigation:** Includes actions that will require further activity in order to achieve the anticipated outcome. This may be imposed as part of DCO requirements or through inclusion in the PEIR topic chapters.
- **APFP Regulations:** Infrastructure Planning (Applications: Prescribed Forms and Procedures) Regulations 2014 (as amended)
- **Balance of Plant:** Infrastructure required to support the Gas Turbine Generator within the Generating Equipment Site and includes: Raw/Fire Water Tank; Demineralised Water Tank; Control Room/Office/Workshop Building; Gatehouse; Transformer Compound; Natural Gas Receiving Station; Fin-Fan Cooler(s); Telemetry apparatus; and Emergency Generator.
- **Ecological Mitigation Area:** An area has been set aside within the Project Site boundary if ecological mitigation is required. Location and area to be confirmed post-consultation once discussions with NRW and CCS have been undertaken. Area likely to be commensurate with the extent of mitigation required and within the Order Limits of the Project.
- **EIA Regulations:** For the Project the relevant EIA regulations are the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 as amended, and this term is used to mean the 2009 (as amended) regulations.
- **Embedded Mitigation:** This includes modifications to the location or design of the Project made during the pre-application phase that are an inherent part of the Project, become a fundamental part of the design for which consent is sought, and do not require any additional action to be taken.
- **Felindre Gas Compressor Station:** Gas compressor facility located in close proximity to the Project Site and adjacent to the Substation.
- **Felindre Park and Share:** Free car parking facility, located just off Junction 46 of the M4.
- **Felindre Water Treatment Works:** Water treatment facility currently located to the northwest of the Project Site.

- **Gas Connection:** A new Above Ground Installation (AGI) and underground Gas Pipeline.
- **The Gas Pipeline:** The underground gas pipeline connection from the National Gas Transmission System, to the Generating Equipment Site.
- **Generating Equipment:** Gas Turbine Generator and Balance of Plant which are located on the Generating Equipment Site.
- **Generating Equipment Site:** The area within which the Generating Equipment will be located on farmland north of Swansea, approximately 1 km southeast of Felindre, and 1.4 km north of Llangelyfach. This is primarily within fields currently used for grazing, bounded by a mixture of drainage ditches, fencing and poor quality hedgerows with substantial gaps in them.
- **Gallops:** Soft surface horse training track which runs diagonally northwest-southeast through the Project Site, directly south of the Generating Equipment Site.
- **Gas Turbine Generator:** One OCGT generator (as proposed in the Power Generation Plant) which utilises the combustion of gas and air to generate hot gases that are routed across turbine blades, which generate rotational forces that turn an electrical generator. The exhaust gases are discharged directly to a single stack without providing heat for a secondary steam cycle. The Gas Turbine Generator forms part of the Generating Equipment and is located within the Generating Equipment Site
- **LANDMAP:** LANDMAP is an all-Wales landscape resource where landscape characteristics, qualities and influences on the landscape are recorded and evaluated.
- **Laydown Area:** A temporary construction compound for the storage of materials, plant and equipment as well as containing site accommodation and welfare facilities, temporary car parking and temporary fencing.
- **Local Transmission System:** A pipeline of natural gas that is transmitted to local receptors.
- **Maintenance Compound:** A small area within the Laydown Area that will be retained permanently.
- **The National Gas Transmission System:** Underground high pressure gas pipelines that cross the Project Site, transporting natural gas to gas distribution networks. It is owned by the Natural Grid Gas plc.
- **Oil Pipeline:** An underground oil pipeline that crosses the Project Site, directly south of the Generating Equipment Site.
- **Peaking Plant:** Power plants that normally only run when there is a high demand, known as peak demand, for electricity.
- **Power Generation Plant:** Generating Equipment, Access Road, Laydown Area/Maintenance Compound, Ecological Mitigation Area, permanent parking and drainage.
- **Project:** The Power Generation Plant, Gas Connection and Electrical Connection.

- **Project Site:** The land upon which the Project would be developed, or which is required for construction of the Project.
- **Substation:** The Swansea North Substation.
- **Water Main:** An underground water pipeline that crosses the Project Site, directly south of the Generating Equipment Site.

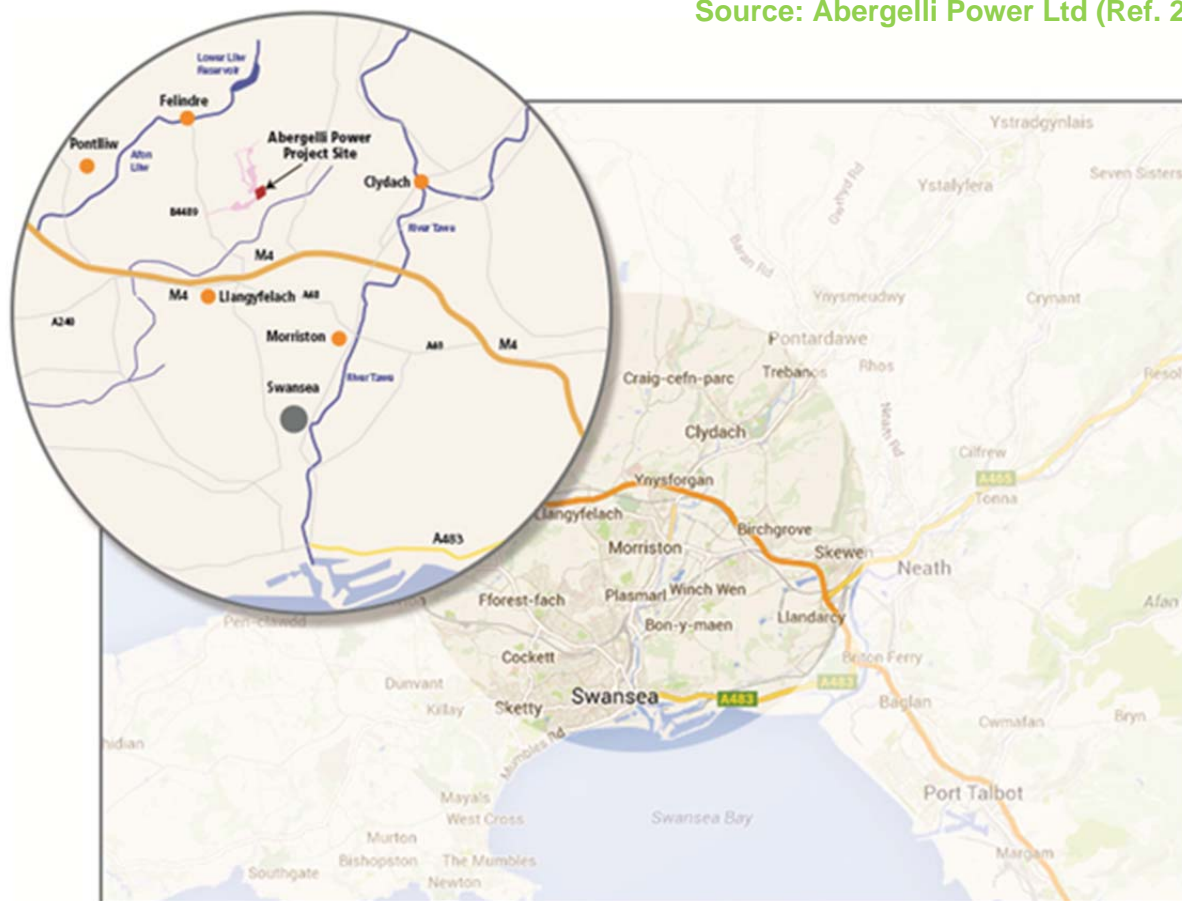
1. Introduction

Abergelli Power Ltd (APL) is proposing to build a 299 MegaWatt (MW) power station near Swansea, in South Wales, that will aid electricity production when there is a surge in demand for electricity, also known as “peak demand.” The proposed Abergelli Power Project (hereafter referred to as the ‘the Project’) will be made up of an Open Cycle Gas Turbine (OCGT), and be built on a site, 2 km away from the M4, which is currently used as farmland (shown on Figure 1).

This document is the Non-Technical Summary (NTS) of the 2018 Preliminary Environmental Information Report (PEIR), which is the second PEIR prepared for the Project. The PEIR presents a summary of the findings of an initial Environmental Impact Assessment (EIA). An EIA provides an assessment of the Project’s likely significant environmental effects. The purpose of this document is to provide a summary

of the 2018 PEIR in non-technical language. The main volumes comprising the 2018 PEIR are available separately (see page 6). The 2018 PEIR is being submitted as Preliminary Environmental Information under the requirements of The Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 (the “EIA Regulations”) (Ref. 1).

Figure 1: Location Map
Source: Abergelli Power Ltd (Ref. 2)



The 2018 PEIR and this PEIR NTS have been prepared in accordance with Regulation 2 and 10 of the EIA Regulations. They present information specifically aimed at describing the nature, scale and location of the Project and a preliminary assessment of any likely significant environmental impacts resulting from the Project.

In accordance with the Statement of Community Consultation, hard copies of the 2018 PEIR, this PEIR NTS and the Figures may be examined at the following local libraries from 16 January 2018 until 19 February 2018 (opening times vary):

Table 1: PEIR Viewing Locations and Opening Times

Day	Swansea Central Library	Clydach Library	Gorseinon Library	Morrison Library	Pontarddulais Library
Monday	Closed	9.30-17.30	9.00-18.00	9.00-18.00	9.00- 13.00 and 14.00 - 17.00
Tuesday	8.30-20.00	9.30-17.30	9.00-18.00	9.00-18.00	9.00- 13.00 and 14.00 - 17.00
Wednesday	8.30-20.00	9.30-17.30	9.00-18.00	9.00-18.00	9.00- 13.00 and 14.00 - 17.00
Thursday	8.30-20.00	9.30-17.30	9.00-18.00	9.00-18.00	9.00- 13.00 and 14.00 - 17.00
Friday	8.30-20.00	9.30-18.30	9.00-19.00	9.00-18.00	9.00- 13.00 and 14.00 - 18.00
Saturday	10.00- 16.00	9.30-16.30	9.00-17.00	9.00-17.00	9.00- 13.00
Sunday	10.00-16.00	CLOSED	CLOSED	CLOSED	CLOSED

Please note that the technical appendices to the PEIR will only be available electronically at the above locations.

Copies of the PEIR and this PEIR NTS can also be found on the Project website: <http://www.abergellipower.co.uk>.

The Documents can be obtained by writing to Abergelli Power Limited, 49 York Place, Edinburgh, EH1 3JD. A reasonable copying charge may apply up to a maximum of £250 for the full suite of documents and £10 for an electronic copy on CD. Copies of individual documents are also available on request.

2. The Project

The Project, a power station located approximately 3 km north of Swansea, constitutes a Nationally Significant Infrastructure Project (NSIP) under the Planning Act 2008 as it has an electrical output of over 50 MW. This means that development consent granted by the Secretary of State is required for the Project.

2.1 What is the Project?

The Project is a gas-fired 'peaking' plant which is designed to operate when there is a surge in demand for electricity (e.g. where there is a sudden demand in power required by consumers or a sudden drop in power being generated by plants that suffer a breakdown). Peaking plants also help to 'balance out' the grid at times of peak electricity demand and at times when other technologies, such as wind and solar farms, cannot generate electricity due to their reliance on weather conditions and intermittent operation.

The Project Site is approximately 30 ha in area, and is situated on open agricultural land (**Figure 2**) located approximately 2 km north of Junction 46 of the M4 within the administrative boundary of the City and County of Swansea Council (CCS).

2.2 What will it involve?

The Project will involve the combustion of gas to generate electricity. There are three key components to the Project:

- 1.) A new **Power Generation Plant**, in the form of an Open Cycle Gas Turbine (**Figure 3**). It will have an electrical output of up to 299 MW.

Figure 2: Photo of the Project Site



The Power Generation Plant will include:

- **Generating Equipment** including one Gas Turbine Generator with one exhaust gas flue stack; and
- Balance of Plant (BOP), which is all infrastructure required to support the Gas Turbine Generator (together referred to as the 'Generating Equipment') which are located within the 'Generating Equipment Site';
- An **Access Road** to the Project Site from the B4489 which lies to the west, formed by upgrading an existing access road between the B4489 junction and the Swansea North Substation (the Substation) and constructing a new section of access road from the Substation to the Generating Equipment Site; and

- A temporary construction compound for the storage of materials, plant and equipment as well as containing site accommodation and welfare facilities, temporary car parking and temporary fencing (the **Laydown Area**. A small area within the Laydown Area will be retained permanently (the **Maintenance Compound**).
- **Ecological Mitigation Area** - area for potential reptile translocation and ecological enhancement. Location and area to be confirmed post-consultation once discussions with Natural Resources Wales (NRW) and CCS have been undertaken. Area likely to be commensurate with the extent of mitigation required and within the Project Site Boundary.
- Permanent parking and drainage to include: a site foul, oily water

and surface water drainage system.

- 2.) The **Gas Connection** will be in the form of a new above ground installation (AGI) and underground gas connection (the Gas Pipeline). This is to bring natural gas to the Generating Equipment from the National Gas Transmission System.
- 3.) The **Electrical Connection** will be an underground electrical cable to export power from the Generating Equipment to the National Grid Electricity Transmission System (NETS).

2.3 What changes have been made to the design since the 2014 PEIR?

Several changes have been made to the initial design since the 2014 PEIR, including those listed in **Table 2**.

Table 2: Change Made to the Design of the Project since the 2014 PEIR

Component	Design Changes Made
Power Generation Plant	<ul style="list-style-type: none"> • The Power Generation Plant is now made up of only one Gas Turbine Generator with one exhaust gas flue stack, rather than up to five as originally proposed. • Change in the maximum stack height from 40 m to 45 m • The Generating Equipment Site has now been moved north of the Water Main.
Electrical Connection	The Electrical Connection now runs alongside the Access Road rather than under, for ease of maintenance.
Gas Connection	Route 2b was chosen as the preferred route for the Gas Connection. This crosses the National Gas Transmission System at two locations over a shorter distance. It has the fewest ecological risks and avoids recently developed solar farms.
Access Route	Access Option 2 was chosen over Access Option 1. This option is from the west via the B4489, along the access road to the Substation and Felindre Gas Compressor Station, which will be widened to accommodate the abnormal loads required during construction.

2.4 How does an OCGT power station work?

This is an 'industrial' type of turbine, fuelled by natural gas.

In the gas turbine, air is compressed and natural gas is injected. The fuel burns in the compression chamber, producing hot, high pressure gases. This gas passes across the blades of the gas turbine, causing the gas turbine to rotate which in turn drives the electrical generators to produce electricity. An exhaust silencer is used to reduce noise arising from this process.

This type of turbine was selected because it has an efficient output using only one unit, thereby reducing potential noise, air quality and visual effects. Additionally, they are suitable for frequent and fast start-ups.

The excess gases produced from this process will be released to the atmosphere via a 'stack' (chimney). The stacks will be equipped with an emissions monitoring system that will ensure that emissions of oxides of

nitrogen (NO_x) to the atmosphere are within acceptable limits.

Alternative scenarios for the stack height have been tested rigorously during the design process in order to determine the stack height that is required to achieve adequate dispersion of exhaust gases in line with environmental legislation. The assessment concluded that a stack height of between 35 m and 45 m would be suitable.

Information within the 2018 PEIR has been presented under the assumption that the Project will have an operational lifetime of 25 years. Therefore, for the purposes of the PEIR, it is assumed that the Generating Equipment would be removed and the Generating Equipment Site re-instated to a similar condition as before any construction. However, it should be noted that it is common for power stations to run for a much longer period than 25 years. Any decommissioning phase would be likely to be of a similar duration to construction i.e. 22 months.

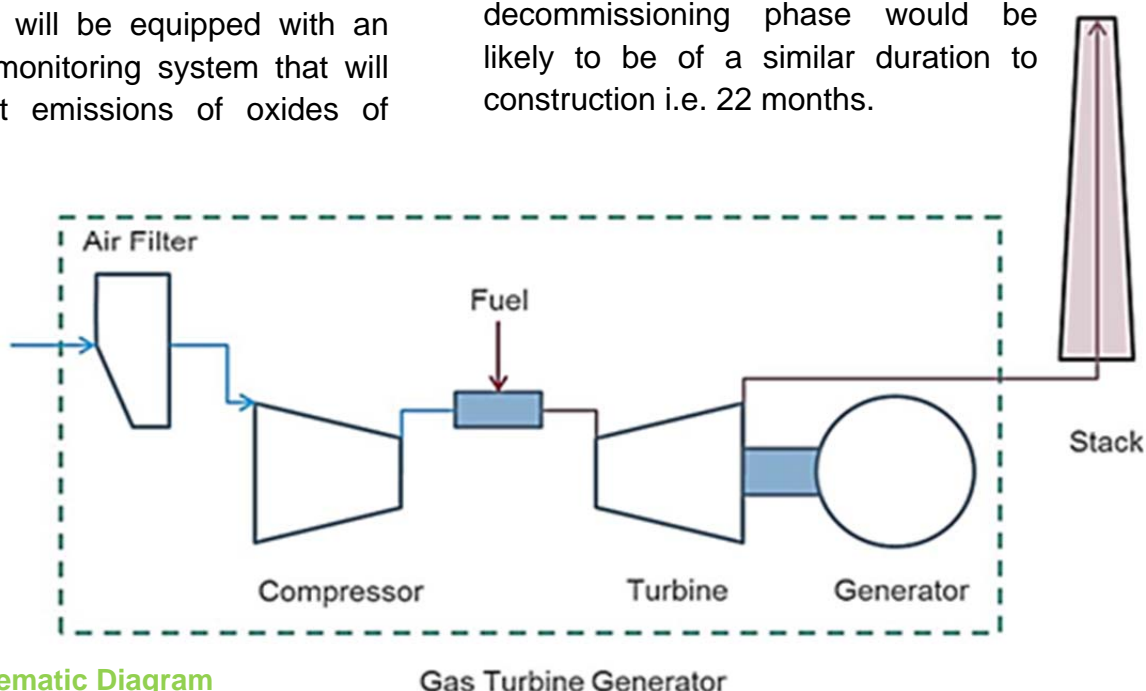


Figure 3: Schematic Diagram of an Open Cycle Gas Turbine

2.5 Where is it located?

The Project Site is located on open agricultural land approximately 2 km north of Junction 46 on the M4, approximately 3 km to the north of the city of Swansea, approximately 1 km southeast of Felindre and 1.4 km north of Llangyfelach. The western extent of the Project Site encompasses parts of the Substation (a 400 kV GIS substation) and the existing access road leading to the Substation and Felindre Gas Compressor Station from the B4489.

The area surrounding the Project Site is, at present, predominantly rural in character. The Power Generation Plant is located primarily within fields used for grazing, bounded by a mixture of drainage ditches, fencing and poor quality hedgerows with substantial gaps in them. There are no residential dwellings located within the boundary of the Project Site. Most of the Project Site is improved grassland but there are areas of marshy grassland in the south eastern part of the Generating Equipment Site.

2.6 The Need for the Project

There is a considerable national need for this type of project, acknowledged at all levels of Government policy. National planning policy supports the need for new power stations to replace the current ageing coal fired power plants, many of which are scheduled to close, and also meet expected increasing demand for electricity over the coming decades.



Figure 4: Indicative Aerial View of the Project
Source: Abergelli Power Ltd (Ref. 2)

The supply of electricity in the UK relies on the generation of electricity from several sources, more traditionally through baseload thermal generation plants such as coal, gas and nuclear. These generators all provide power to keep the national grid at a steady frequency of 50 Hertz (Hz), essential to the smooth operation of electrical equipment throughout the UK.

At present, the total capacity of peaking power plants in the UK is relatively small due to the nature of the historic approach to power production

in the UK. There is a clear and significant requirement for further capacity to meet the projected need for reactive/flexible generation in the future, as the methods of power generation diversify.

Gas is acknowledged by the Government as having an important role to play in our transition to a low-carbon economy, whilst at the same time supporting the country's energy security. In addition, gas peaking plants such as the Project would provide back-up to power generation from renewable sources, particularly wind power, which supply an increasingly important share of the country's electricity demand. Modern gas fired power plants are among the most efficient forms of electricity power generation.

2.7 Alternatives to the Project

A review of alternative technology has been undertaken to determine the optimal technology choice for the Project. This review considered OCGT, Combined Cycle Gas Turbine (CCGT), Combined Heat and Power (CHP) and Heat Recovery Steam Generator (HRSG) as comparative technologies and considered visual impact, water resources, noise, layout and operational requirements. It was concluded that OCGT provided the best technology choice taking these criteria into account.

Site selection was also an important consideration with alternative sites and layouts being explored as part of the early site development. Important factors for site selection were:

- Proximity to a suitable electrical and gas connection
- Proximity to sensitive ecological, environmental and social designations or features
- Has suitable land available for the Power Generation Plant, Gas Connection and Electrical Connection
- Proximity to a well-developed road network to the Project Site.

Given the points above, the close proximity to other industrial developments, namely the Felindre Gas Compressor Station and Substation, that the Project Site is largely situated on poor grade agricultural land and that design development has evolved to allow the Generating Equipment Site to be located to the north of the Water Main, this is considered to be a suitable site.

2.8 Who is the Applicant?

The Applicant is Abergelli Power Limited (APL), a subsidiary of Drax Group plc, a large British energy company. Further information about Drax can be found at www.drax.com.

2.9 What planning framework applies to the Project?

Planning Act 2008: The Power Generation Plant constitutes a Nationally Significant Infrastructure Project (NSIP) pursuant to the Planning Act 2008 (PA 2008) (**Ref. 3**) and therefore requires development consent. This is because it is a thermal generating station with an electrical output in excess of 50 MW.

The proposed application for a Development Consent Order (DCO) will seek consent for all works required for construction, use, operation and maintenance of the Power Generation Plant (including the Access Road and the Laydown Area/Maintenance Compound, which are integral to the NSIP).

The Gas Connection and Electrical Connection are considered to be Associated Development within the meaning of the Planning Act 2008. As the Project is a generating station in Wales below 350 MW, development consent cannot be granted for Associated Development in the DCO. However, the Gas Connection and the Electrical Connection are considered and assessed in this PEIR to provide full information on the effects of the Project as a whole.

NPS EN-1 and EN-2: National Policy Statements EN-1 and EN-2 provide the overarching national level policy framework for consideration of DCO applications for gas fired power stations and set out the Government's policies for the assessment of DCO applications. NPS EN-1 and EN-2 have been considered by APL in the design and in the assessment of effects reported in this 2018 PEIR.

Planning Policy in Wales: Planning Policy Wales (**Ref. 4**) sets out the land use planning policies of the Welsh Government, by prescribing the government's policies on various planning issues that shape the preparation of development plans. This

has been considered and addressed in the design.

The Wales Spatial Plan (2008): The Wales Spatial Plan (**Ref. 5**) was adopted by the Welsh Government in 2004 and updated in 2008. The Plan notes that natural gas developments are providing a major economic boost for Wales, and the development of gas-fired power stations has the potential to add to this.

2.10 What steps are being taken to mitigate any effects from the Project?

The following mitigation is embedded into the revised design of the Project:

- An Outline Construction Environmental Management Plan (CEMP) has been prepared which provides details of mitigation measures to be implemented to avoid adverse effects on sensitive receptors such as habitats and residential dwellings during the construction phase. This includes details regarding the management of waste, dust, noise, and traffic, nuisance and complaints, working hours, limits for emissions, monitoring to be undertaken, roles and responsibilities of construction staff, and the likely contents of any topic specific management plans.
- The Outline Drainage Strategy for surface and foul water for the Project has been designed in order to mitigate any likely significant effects to surface water quality and flood risk;
- Air quality monitoring to monitor for any likely significant effects to the

- Lletty Morfil SINC from dust deposition from construction activities;
- Ecological Management Plan for the protection of sensitive habitats;
 - Dispersion modelling and noise modelling has determined the minimum and maximum stack height to avoid likely significant effects from operational emissions (deposition) and sound power outputs;
 - Avoidance of Ancient Woodland and other sensitive habitats by design, and the creation of an Ecological Mitigation Area;
 - An Outline Landscaping & Reinstatement Plan will provide details on how areas will be reinstated post-construction. An indicative Outline Landscape Strategy is included in the PEIR.
 - An Outline Lighting Strategy will also be prepared for DCO Application;
 - Ground investigation to be undertaken post-consent but prior to commencement of construction. This will inform a mining risk assessment and the requirement for a mineral resources survey;
 - Construction Traffic Management Plan outlining the management of construction traffic, highway improvements and condition surveys (where required), and commitment to provide a Construction Staff Travel Plan; and
 - Archaeological Written Scheme of Investigation will be prepared in advance of construction commencing.

The 2018 PEIR has assessed the likely significant effects of the Project including the embedded mitigation described above.

3. Methodology: Significance of Effects

The Environmental Impact Assessment (EIA) Regulations require an EIA to be carried out for the Project. EIA is the process of identifying, evaluating, and, where possible, mitigating the likely significant environmental effects of a proposed development. It promotes the early identification and evaluation of the potentially significant environmental effects of a proposed development and enables appropriate mitigation measures to avoid, reduce or offset significant adverse effects. The assessment of effects is presented in a series of chapters focussed on by specialist topic areas, such as ecology, geology, and historic environment.

3.1 What are receptors and how are they identified within the PEIR?

For each specialist topic area, sensitive ‘receptors’ are identified which may be affected by the Project. This includes living organisms, habitats, natural resources, receptors in the historic environment in or around the Site, which could be adversely affected during construction of the Project, during the operation of the Project, or during decommissioning of the Project.

The assessment methodology used for the PEIR was broadly the same for all topic areas. For each topic, the assessment of significance is informed by the sensitivity of the existing or baseline environmental conditions or

character, and the magnitude of the change to the existing conditions or baseline character which is expected to occur as a result of the Project.

The value or sensitivity of the receptors is assessed according to the relative importance of existing environmental features on or near to the site, or by the sensitivity of receptors, i.e. whether they are likely to be robust enough to be unaffected by the Project or alternatively are highly susceptible to the type of effects likely to occur.

Table 3 provides general definitions of the sensitivity criteria used within the assessment.

Table 3: Generic Guidelines for the Assessment of Value/Sensitivity

Value / Sensitivity	Guidelines
Very High	The receptor has little or no ability to absorb change without fundamentally altering its present character, is of very high environmental value, or of international importance.
High	The receptor has low ability to absorb change without fundamentally altering its present character, is of high environmental value, or of national importance.
Medium	The receptor has moderate capacity to absorb change without significantly altering its present character, has some environmental value, or is of regional importance.
Low	The receptor is tolerant of change without detriment to its character, is low environmental value, or local importance.
Negligible	The receptor is resistant to change and is of little environmental value.

3.2 How are environmental impacts measured within the PEIR?

The magnitude of potential effects on environmental baseline conditions is identified through consideration of the Project. Where the design is not yet fixed, we have considered the parameters and assessed the "worst case" scenario to ensure that the assessment is robust and describes the fullest extent of likely effects. The setting of parameters for assessment in this way is sometimes referred to as the "Rochdale Envelope" approach. The assessment of magnitude of changes takes into account the scale or degree of change from the existing situation as a result of the effect being considered; and the duration and reversibility of the effect, as well as consideration of relevant legislative or policy standards or guidelines.

To this end, where flexibility in parameters for the Project (such as the height of the stack) has been provided, APL has assessed the realistic worst case and it is made clear in each 'topic' assessment what this constitutes.

Taking the above into consideration, it has been determined that for all topic areas to be addressed in the EIA except air quality, the highest stack height (45 m) represents the 'worst case'. For air quality the minimum stack height of 35 m represents the 'worst case' due to lower dispersion.

Table 4 provides general definitions of effect magnitude criteria. In each specialist chapter of this PEIR, effect magnitude criteria will be explained with reference to that particular discipline.

Table 4: Generic Guidelines for the Assessment of Magnitude

Magnitude	Guidelines
High	Total loss or major alteration to key elements/features of the baseline conditions such that post development character/composition of baseline conditions will be fundamentally changed.
Medium	Loss or alteration to one or more key elements/features of the baseline conditions such that post development character/composition of the baseline conditions will be materially changed.
Low	Minor shift away from baseline conditions. Changes arising from the alteration will be detectable but not material; the underlying character/composition of the baseline conditions will be similar to the pre-development situation.
Negligible	Very little change from baseline conditions. Change is barely distinguishable, approximating to a “no change” situation.

3.3 How are the environmental effects measured within the PEIR?

A combination of the magnitude of the effect and the sensitivity of the receptor determines the significance of effect (**Table 5**). For instance, when a receptor that is deemed very sensitive to change is exposed to an environmental impact of high magnitude, the resultant effect on the receptor will be classed as Major.

The issue may have a positive or negative impact on the receptor. Therefore, the significance of effects is reported using a seven-point scale,

from: Major Adverse; Moderate Adverse; Minor Adverse; Negligible; Minor Beneficial; Moderate Beneficial; to Major Beneficial. For some assessments, professional judgement has been applied. Where this is the case, it is indicated in the topic chapter.

Generally, effects which are Major or Moderate are considered to be **significant**. Minor and Negligible effects are considered to be **not significant**.

Table 5: Classification of Effects

Magnitude	Value and Sensitivity of Receptor				
	Very High	High	Medium	Low	Negligible
High	Major	Major	Moderate	Moderate	Minor
Medium	Major	Moderate	Moderate	Minor	Negligible
Low	Moderate	Moderate	Minor	Negligible	Negligible
Negligible	Minor	Minor	Negligible	Negligible	Negligible

4. Environmental Impact Assessment

The 2018 PEIR identifies the key environmental topics that have been assessed. For each assessment topic, the PEIR describes the methodological approach to assessment, provides existing information on the local environment (the environmental 'baseline'), and describes the potential effects on that environment during construction, operation and decommissioning. For each assessment topic decommissioning effects are considered to be comparable to those during construction and are not discussed further within this NTS with the exception of Air Quality. The environmental topic areas reported on in the PEIR are summarised below.

4.1 Air Quality

This chapter has identified the receptors which may be impacted by the Project and assessed the likelihood of significant effects in relation to air quality, namely dust during construction, and operational emissions.

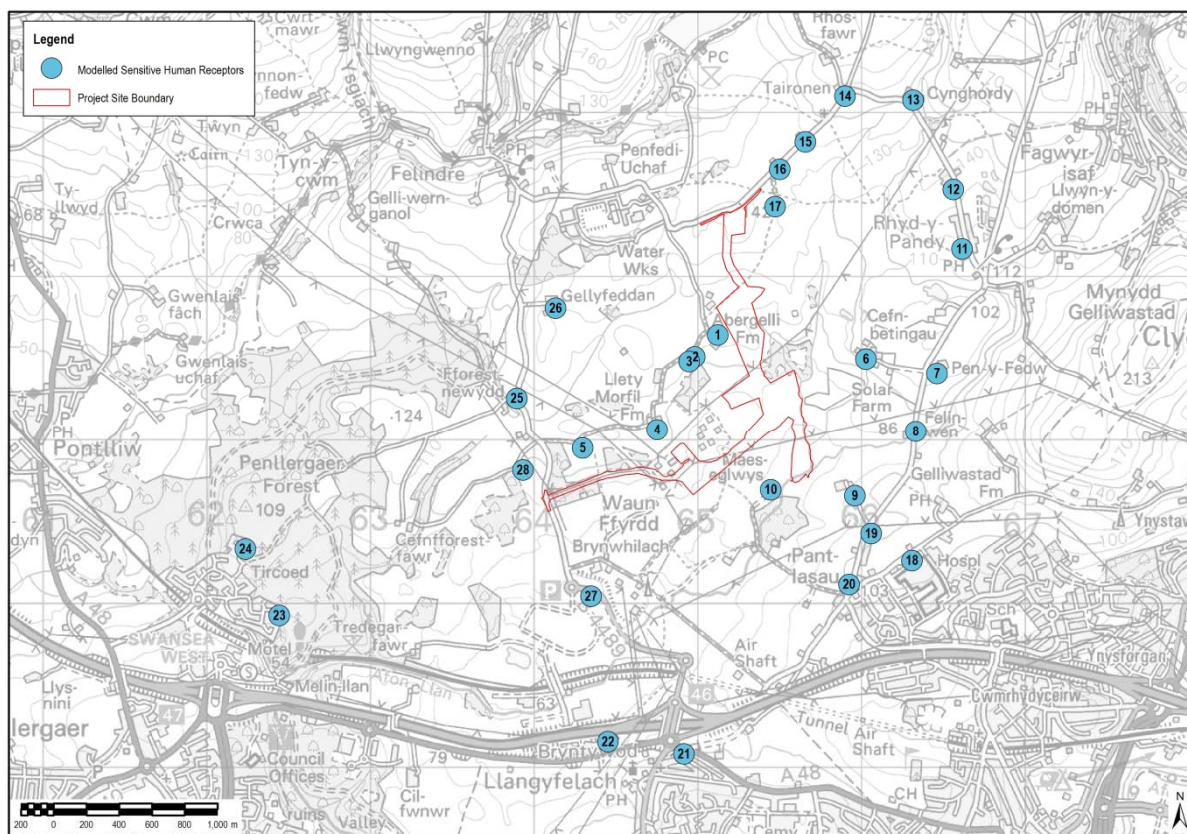
A desk based study and information obtained from various sources including CCS and DEFRA was updated from the 2014 PEIR due to the changes in the Project, principally the reduction in the number of Gas Turbine Generators.

Air quality monitoring data was collated from the Cwm Level Park monitoring site, and this was utilised for the air quality modelling undertaken for the impact assessment.

Table 6: Air Quality Sources and Receptors

Phase	Source	Receptor
Construction and decommissioning	Dust and traffic emissions	Residential dwellings and construction workers within 350 m of potential dust sources and 50 m of construction routes
		Ecological receptors within 100 m and 50m of construction routes
Operation	Aerial deposition and Concentration	Residential dwellings within 10 km
		Ecological receptors (such as designated sites) within 2 km

Figure 5: Modelled Air Quality Receptors



4.1.1 Residual Effects

The assessment of residual effects below assumes that the embedded mitigation (described in Section 2.10) is implemented.

Construction of the Project

Air quality effects during construction of the Power Generation Plant, Gas Connection and the Electrical Connection are likely to give rise to emissions of dust/particulate matter.

Given the Low sensitivity of the receptors identified on Figure 5, combined with a Low / Negligible magnitude of effect due to the embedded mitigation, the air quality effects during construction are predicted to be **Negligible, and therefore not significant.**

Operation of the Power Generation Plant

Effects during the operational phase are limited to the Power Generation Plant only. Sensitivity testing for the stack height (between 20-50 m) was performed; a dispersion model showed significant benefits as the stack height increased to 32 m, in terms of maximum ground level concentrations of NO₂ and CO.

The worst case minimum stack height of 35 m within the parameters of the Generating Equipment was therefore modelled. The magnitude of the effects on pollutant concentrations for the Generating Equipment are considered to be **Negligible** for all pollutant and averaging periods considered within the dispersion modelling.

As such, impacts on air quality as a result of the Project are **Negligible and therefore not significant**.

Decommissioning of the Power Generation Plant

Chapter 6: Air Quality has assessed the effects of decommissioning as they differ from construction effects. The decommissioning effects from air

quality arise from the demolition of the Power Generation Plant. However, based on the remoteness to the nearest ecological and residential receptors, the effects are predicted to the **Low to Negligible, and therefore is not significant**.

4.1.2 Conclusion

No residual significant effects have been identified for each component of the Project, or the Project as a whole due to the embedded mitigation inherent within the design. Therefore no additional mitigation is required.

4.2 Noise and Vibration

The potential effects from noise and vibration on local residential receptors from the Project have been assessed (potential effects on ecological receptors are covered in section 4.3).

A desk based study and baseline noise monitoring were undertaken to establish baseline sound levels at these receptors. The study area has been determined to incorporate the nearest representative Noise Sensitive Receptors (NSRs) in all directions as shown on Figure 6. These are all residential dwellings.

The sound levels measured during the baseline noise survey complied with environmental noise limit guidelines from the World Health Organisation (WHO) at all but one receptor. At that receptor, the baseline noise levels are already exceeded without the Project being present.

The noise environment is characterised by animals, farming activities and distance road traffic during the day, and the wind in trees and distant road traffic at night, and noise from the existing Substation.

4.2.1 Residual Effects

The assessment of residual effects below assumes that the embedded mitigation (described in Section 2.10) is implemented.

Construction of the Project

Construction activities are likely to occur during weekdays (during

daytime hours), Saturday mornings and mornings during Bank Holidays. Noise and vibration from construction activities has the potential to result in adverse effects at NSRs which are all classed as highly sensitive receptors.

Due to the application of embedded mitigation resulting in a Low magnitude of effect, the assessment has predicted that there is the potential for no more than **Minor adverse** noise and vibration effects at all NSRs during construction phase, which are **not significant**. Therefore, no further additional mitigation or monitoring measures are required.

Operation of the Power Generation Plant

The effects during the operational phase are limited to the Generating Equipment. Operational noise and vibration effects from the Access Road and the AGI are Negligible, and therefore have been scoped out of the assessment.

No causes of significant vibration associated with the Project are known; the primary rotating equipment within the generator set will be balanced to a high degree and constantly monitored for any changes in the vibration levels it produces. Therefore further assessment of operational vibration is scoped out of this assessment.

At NSRs 1, 2, 3, 5 and 6, the ambient sound levels predicted to be produced by the Generating Equipment were

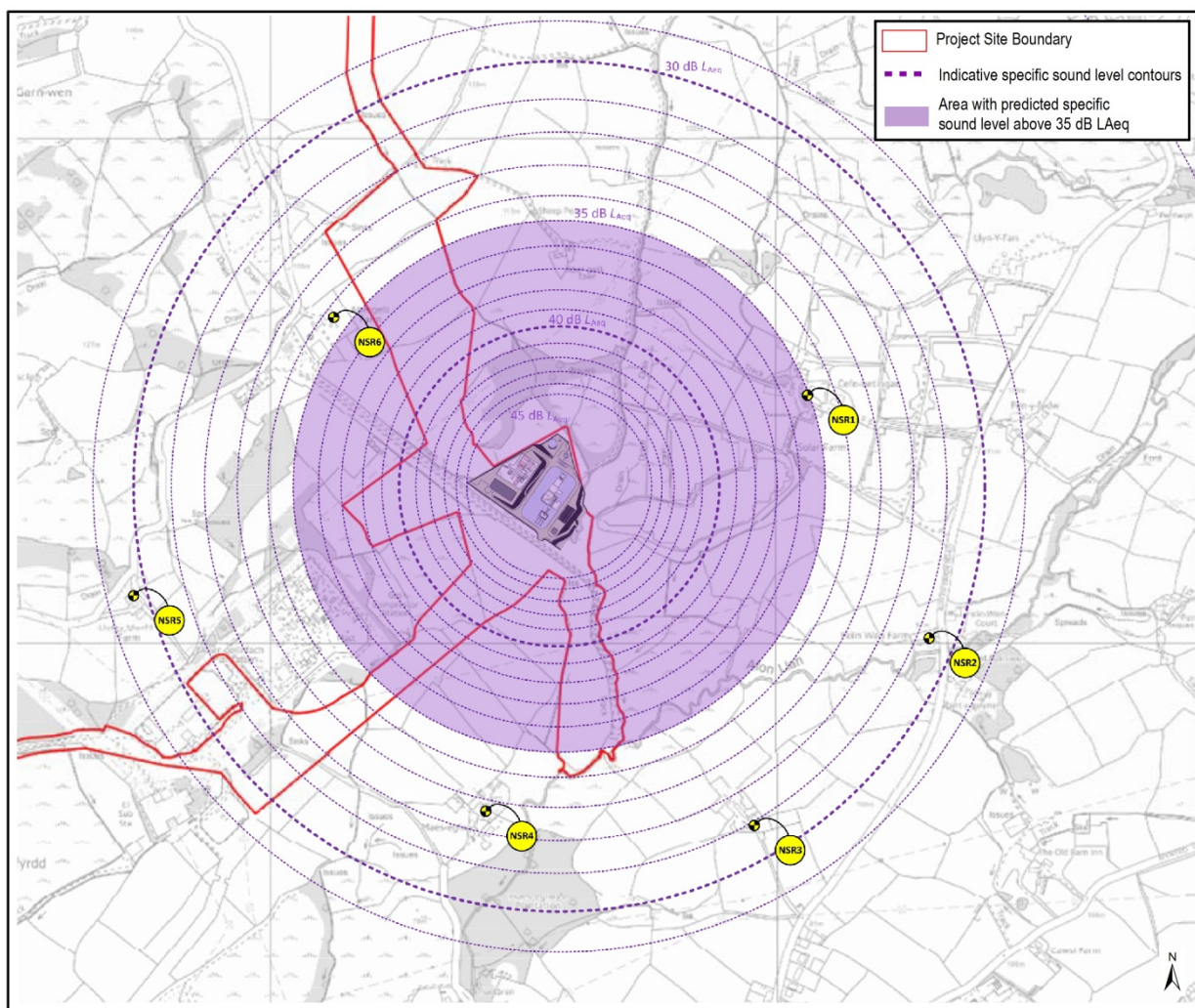
recorded to have **Minor adverse effects, and therefore not significant.**

The pre-existing baseline noise limit at NSR 4 is already above WHO environmental noise limit guidelines. The ambient baseline noise limits for that receptor are unchanged after the addition of the sound from the Generating Equipment. Therefore the

impact of the Generating Equipment on the sound environment is **Negligible, which is not significant.**

4.2.2 Conclusion

No residual significant effects have been identified for each component of the Project, or the Project as whole due to the embedded mitigation inherent within the design. Therefore no additional mitigation is required.



Filename: P:\UKCDF1-IE\Projects\Environmental\Jobs - Potential\2017 Q1\Abergelli Power Station\010 GIS\02_Maps\Report Images\MXD\Figure 4 - Noise.mxd

Figure 6: Noise Sensitive Receptors

4.3 Ecology

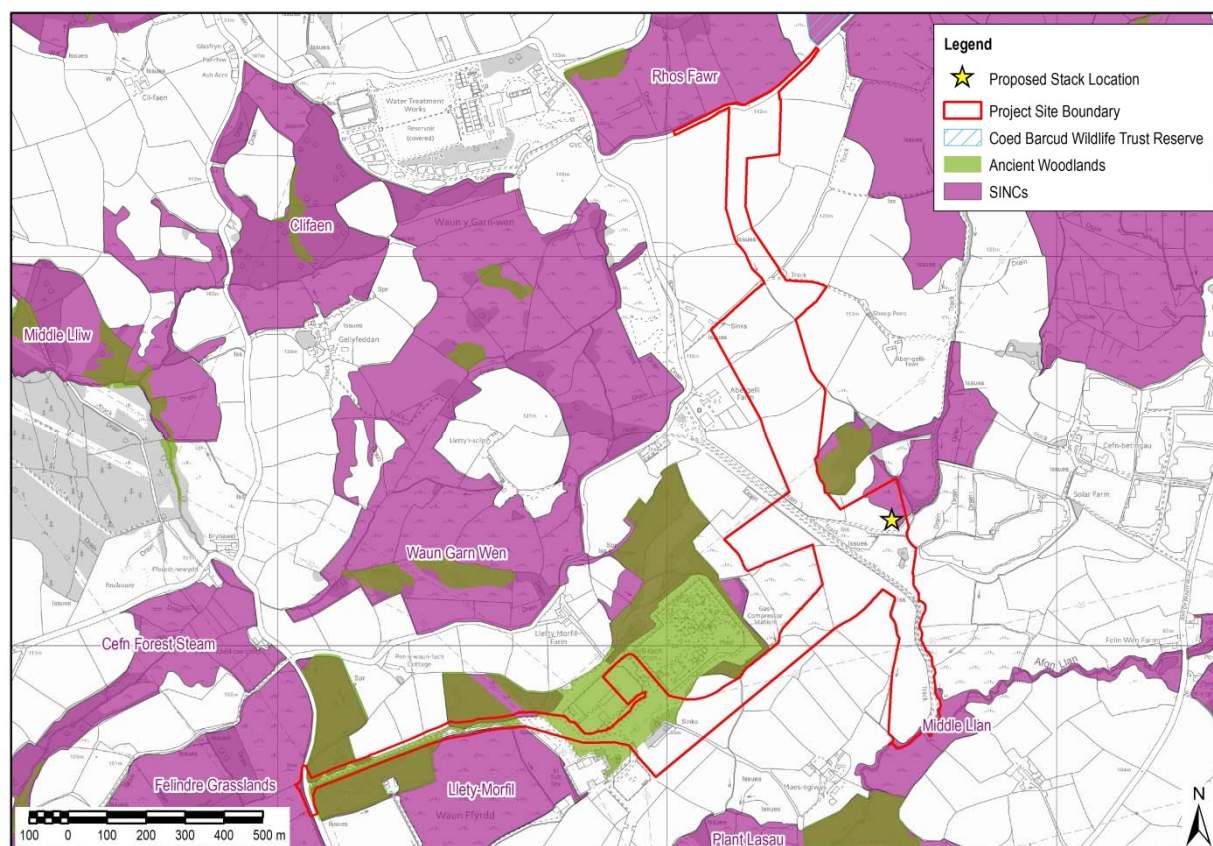


Figure 7: The Closest Designated Sites to the Project Boundary

This assessment has identified ecological designated sites, habitats, species or ecosystems which may be affected by the Project and assessed the likelihood of significant effects. This chapter also considers potential effects from noise on ecological receptors.

A desk based study has been updated for a 2 km radius for nationally designated sites (SSSI, SINC) and 10 km for internationally designated sites (Ramsar, SAC, SPA).

The following ecological surveys have been undertaken to re-establish the ecological baseline since the 2014 PEIR:

- Habitat survey;
- Great crested newt survey;
- Reptile survey;
- Otter and water vole survey;
- Dormouse survey;
- Badger survey; and,
- Bat roost assessment and activity survey.

4.3.1 Residual Effects

Further to the embedded mitigation described in Section 2.10, the following additional mitigation will also be implemented: ecological enhancement measures such as replacement habitats where possible via the Landscape and Reinstatement Plan, pre-construction surveys and production of a Reptile Method Statement. Therefore the assessment concludes the following residual effects:

Construction of the Power Generation Plant

- There will be permanent **Minor adverse** habitat loss to Broadleaved Woodland, trees, and Semi-Improved Natural Grassland.
- There will be a permanent **Minor adverse** effect on Invertebrates, Amphibians, Breeding Birds, due to potential loss of habitats, including breeding, foraging, and sheltering habitats.
- There will be permanent **Minor adverse** habitat loss to Lletty-Morfil SNCI, Marshy Grassland, removal of two ponds, and approximately 140 m of hedgerows.
- There will be a permanent **Minor adverse** effect on Reptiles and Badgers caused by the removal of habitats.
- There will be a temporary **Minor adverse** effect on Water Vole from noise and disturbance from construction activities
- There will be a temporary **Minor adverse** effect on Otter from disturbance from construction activities
- There will be potential for **Minor adverse** effects to Bats due to removal of habitat and disturbance to hibernation roosts, potential severance and disturbance from localised night time illumination in winter months.
- There will be potential for **Minor adverse** effects to Breeding Birds due to localised night time illumination in winter months

Construction of the Gas Connection

- There will be temporary **Minor adverse** habitat loss to Dense/Continuous Scrub, Semi-Improved Neutral Grassland
- There will be permanent **Minor adverse** habitat loss to trees
- There will be temporary **Minor adverse** effects Reptiles, Invertebrates, and Amphibians through the temporary loss of habitats.
- There will be temporary **Minor adverse** effects to Breeding Birds from noise, loss of habitat and localised night time illumination in winter months
- There will be a **Minor adverse** temporary habitat loss to broadleaved woodland, one pond, and up to 180 m of Hedgerows.
- There will be a **Minor adverse** effect to Badgers and Otters from potential to harm via construction activities.
- There will be potential **Minor adverse** effects to Bats due to temporary removal of foraging habitat and disturbance from construction activities.
- There is a **Minor adverse** effect from the potential for construction activities to spread invasive species.

Construction of the Electrical Connection

- There will be temporary **Minor adverse** effects to Breeding Birds from noise and localised night time illumination in winter months.
- There is the potential for Otters to be effected due to construction of the Electrical Connection which is within 10 m of several watercourses. This is classified as a **Minor adverse** effect.

Operational Phase of the Power Generation Plant

- Bats and Invertebrates will experience **Minor adverse** effects from the operation lighting.

4.3.2 Conclusion & Next Steps

No residual significant effects have been identified for each component of the Project, or the Project as a whole due to the embedded mitigation inherent within the design but also the application of additional mitigation where required.

The following surveys are ongoing and will be undertaken in 2018:

- Hedgerow survey in April 2018;
- Ongoing bat activity surveys in April and May 2018; and
- Breeding bird survey in March / April 2018.

Where possible the survey results will be provided in the DCO Application, or follow soon after submission. Any delayed results will not materially change the impact assessment results. It is also intended to continue liaison with CCS and NRW regarding the ecological mitigation required for reptiles and other species present onsite.

4.4 Water Quality and Resources

An assessment of the likely significant effects on water quality, water resources and flood risk has been undertaken.

The study area adopted with respect to the water quality and water resources extends beyond the Project Site boundary as provided in Figure 8. The study area therefore includes the area within the Project Site boundary and a potential zone of influence (ZoI) which is defined as a distance over which significant effects on important water receptors/features can reasonably have the potential to occur.

In this case, from the perspective of water receptors/features, this is defined as a 1 km buffer zone of influence (ZoI) around the Project Site boundary.

A desk study and Project Site walkover has identified a number of receptors (waterbodies) within 1 km of the Project Site, including the Afon Llan and its tributaries, ponds within the Project Site Boundary and several SINCs. The Loughor Estuary / Bury Inlet SAC is located 7 km from the Project Site Boundary.

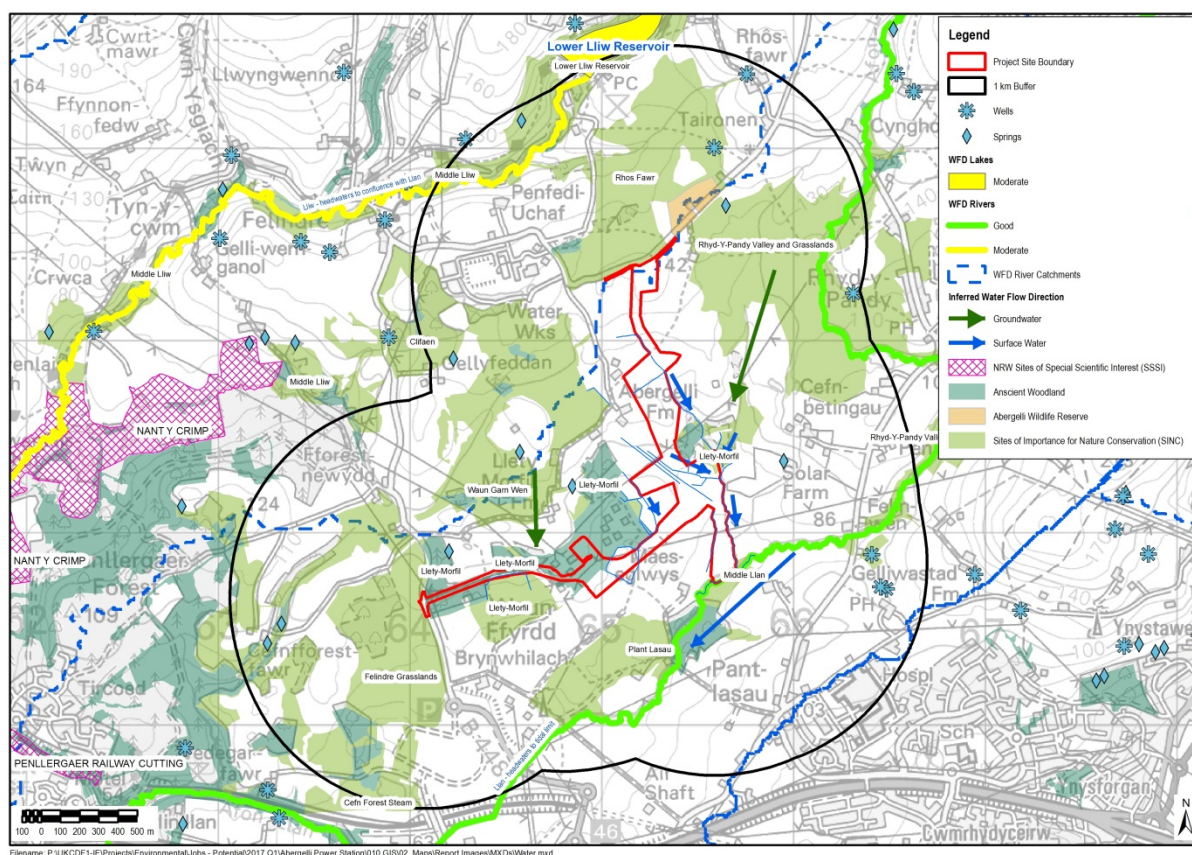


Figure 8: Water Quality and Resources Receptors

No part of the Generating Equipment Site is located within in a flood risk zone, as designated by NRW. However a small area on the periphery of the Generating Equipment Site's eastern boundary is within Zone B (previous evidence of historical flooding) of the TAN15 Development Advice Maps.

4.4.1 Residual Effects

The assessment of residual effects below assumes that the embedded mitigation (described in Section 2.10) is implemented, specifically the Outline Drainage Strategy.

For the purposes of this assessment of residual effects, all identified receptors are classified as either high or medium sensitivity. The assessment found that the magnitude of impact on these receptors was either Minor or Negligible.

Construction of the Project

There is a potential **Negligible** effect from discharging water from construction excavations containing increased pollutants and sediment loads from movement of materials to all identified receptors with the exception of the Loughor Estuary, which was considered to have a **Minor adverse** effect. All effects are considered to be **not significant**.

Operation of the Power Generation Plant

Effects from surface water runoff from impermeable areas and disruption of water storage and flow from the presence of the Generating Equipment Site on the Afon Llan and its tributaries are predicted to be **Minor adverse**. This is therefore **not significant**.

4.4.2 Conclusions

No residual significant effects have been identified for each component of the Project, or the Project as whole due to the embedded mitigation inherent within the design. Therefore no additional mitigation is required.

4.5 Geology, Ground Conditions and Hydrogeology

An assessment has been undertaken to assess the effects of the Project on geology, ground conditions and hydrogeology within and in the immediate vicinity of the Project Site. The chapter also provides details of the geological conditions and the presence of potentially contaminated land.

Further to a desk based study (based on a 1 km study area), and Project Site walkover, the assessment identified no landfill sites, groundwater abstraction or pollution incidents within the Project Site.

The land-use is predominantly agricultural, used for sheep and horse grazing bounded by drainage ditches, fencing and hedgerows. There are four types of superficial deposits identified across the Project Site comprising of glacial till, deposits of sand and gravel, alluvium deposits of clay, silt, sand and gravel, and peat. The superficial deposits and underlying geology are both classified as Secondary A Aquifers, which are highly sensitive controlled waters.

The desk based study does not indicate the presence of any known historical ground workings on the Project Site, however within the 1 km search buffer there are ten records of historical ground working features which have all ceased production.

These comprise nine opencast mines producing sandstones and sands and gravel and one underground mine producing coal. There are no known potential sources of contamination within the Project Site Boundary however offsite sources may comprise historic landfill and landfill extension and localised contamination from agricultural land use.

The CCS UDP Proposals Map indicates that sand and gravel reserves are present underlying the Project Site.

4.5.1 Residual Effects

The assessment of residual effects below assumes that the embedded mitigation (described in Section 2.10) is implemented, specifically the ground investigation to be undertaken post-consent but prior to construction commencing. The following table outlines the sensitivity of the receptors identified.

Table 7: Sensitive Receptors identified within Geology, Ground Conditions and Hydrogeology

Receptor	Sensitivity
Mineral Resources	Low
Peat Deposits	Low
Agricultural Land	Negligible
Structures (stability)	High
Controlled Waters	High
Quality of Land	High
Human Health (const. workers)	High

Construction of the Power Generation Plant

The construction of the Power Generation Plant is predicted to have **Minor adverse** effects to mineral resources, structures from stability or ground conditions, land quality, human health and controlled waters, with **Negligible** effects on agricultural land and peat deposits. Therefore these effects are **not significant**.

Construction of the Gas Connection and Electrical Connection

The construction of the Electrical Connection and Gas Connection are both predicted to have a **Minor adverse** effect on mineral resources for both coal and sand and gravel reserves, and a **Negligible** effect on

agricultural land. This is considered to be **not significant**.

Operation of the Project

The operational phase is anticipated to have a **Minor adverse** effect on all receptors from the Power Generation Plant, Gas Connection and Electrical Connection, with the exception of Power Generation Plant structures which have a minor beneficial effect from the stabilisation of ground conditions.

4.5.2 Conclusion

No residual significant effects have been identified for each component of the Project, or the Project as a whole due to the embedded mitigation inherent within the design. Therefore no additional mitigation is required.

4.6 Landscape and Visual Effects

The potential landscape and visual effects on local representative viewpoints and residential receptors from the Project have been assessed.

A desk based study, Project Site walkover and updated summer photography have been undertaken to re-establish the baseline landscape setting at these viewpoints. The maximum stack height has changed from 40 m to 45 m in this PEIR therefore the areas where the Project can be seen (Zone of Theoretical Visibility (ZTV)) has also been updated but the 15 km study area remains valid.

This has validated the previous viewpoints, however Viewpoint 10 has been replaced with Viewpoint 17 as the Project Site visit in November 2017 revealed that foreground views now contain solar farms and associated security fencing.

The assessment has been updated in response to changes in landscape guidelines, namely new Guidelines for Landscape & Visual Impact Assessment (GLVIA3) which has been published since the 2014 PEIR.

The Project Site 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. 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.

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.

Several designated landscapes are present within the 15 km study area.

- The Brecon Beacons National Park lies 11.8 km to the northern edge of the Project Site at its closest point.
- The Gower Area of Outstanding Natural Beauty (AONB) lies 9.1 km to the south-west of the Project Site.
- The Mawr Uplands Special Landscape Area is located within the 15 km study area.

Five LANDMAP areas are within the 15 km study:

- LANDMAP Aspect Area - Visual and Sensory;
- LANDMAP Aspect Area – Habitat;
- LANDMAP Aspect Area – Geological;
- LANDMAP Aspect Area – Historic; and
- LANDMAP Aspect Area – Cultural.

This includes the production of an Outline Landscape Strategy and Landscape & Reinstatement Plan.

Construction of the Power Generation Plant

A preliminary Landscape Assessment concluded that the Project would visually impact the Project Site and the following LANDMAP Aspect Areas (sensitivity within the Project Site Boundary is annotated overleaf:

4.6.1 Residual Effects

The assessment of residual effects below assumes that the embedded mitigation (described in Section 2.10) is implemented.

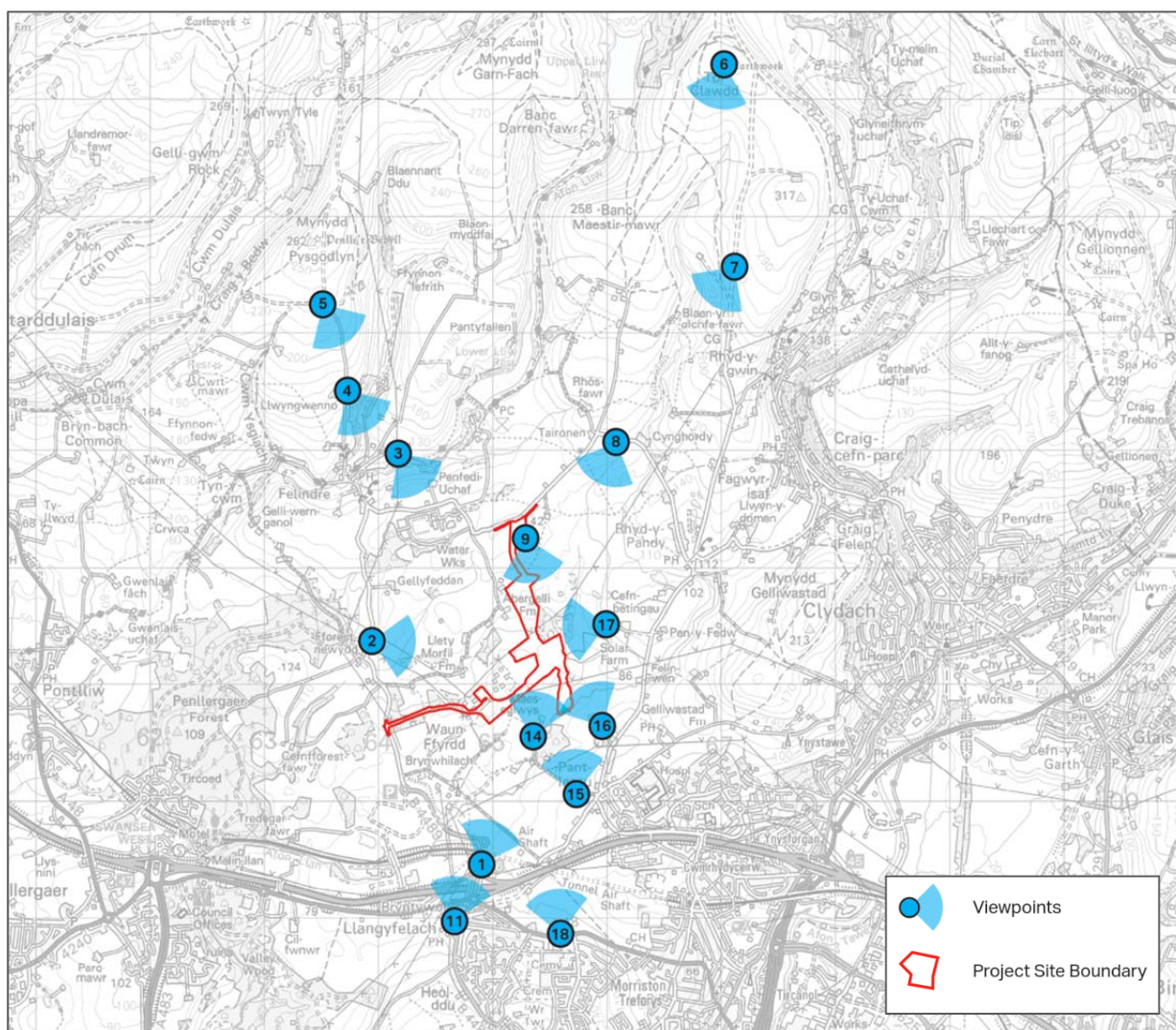


Figure 9: Viewpoint Location Map (Note – only 15 viewpoints are shown at this scale)

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

During the construction 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 (as illustrated by viewpoints 9, 14, 15, 16 and 17), 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.

Effects on visual amenity from viewpoints 9, 14, 15, 16 and 17 are **Moderate or Major adverse**, which is **significant**. All other remaining viewpoints conclude **Minor adverse** effects or **Negligible**, which is **not significant**.

Construction of the Gas Connection

Construction of the Gas Connection would affect the Public Right of Way, north of Abergelli fach (viewpoint 9), resulting in a **Moderate** effect. This is considered to be **significant**, however this effect is temporary as the trench would be reinstated post-construction.

Construction of the Electrical Connection

Construction of the Electrical Connection would not have any significant effects on the landscape and visual receptors due to its location beside the Access Road and the temporary trench being reinstated after construction.

Operation of the Power Generation Plant

The Project would impact the same five representative viewpoints (viewpoints 9, 14, 15, 16 and 17) as during construction, with **Moderate to Major effect, which are therefore considered significant**.

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.

4.6.2 Conclusions & Next Steps

Significant effects have been identified on the LANDMAP Aspect Areas, Viewpoints 9 and 14-17 during construction and operation of the Power Generation Plant.

During the consultation period, APL will continue to liaise with CCS and NRW regarding additional viewpoints. In addition, winter photography used for photomontages will be updated and included within the DCO Application. Therefore the DCO Application will include additional information and an updated landscape and visual assessment.



Figure 10: Visualisations of the Project (in red) from Public Right of Way, north of Aber-gelli fach (View Point 9)



Figure 11: Visualisation of the Project (in red) from the M4 (View Point 1)

4.7 Traffic, Transport, and Access

This chapter provides a preliminary assessment of the likely transport effects. A Transport Assessment has been undertaken and a Construction Traffic Management Plan (CTMP) and a Construction Staff Travel Plan (CSTP) will also be prepared for and submitted with the DCO Application.

The study area includes the Access Road between the Project Site and the B4489 and continues south to incorporate the M4 Junction 46 and the A48/Pant Lasau Road junction. This baseline study area was selected to include the necessary junctions, key links, pedestrian routes (PRoWs, cycleways and footways), and Project access routes and these have been agreed with CCS. The following key links have been identified:

The key links are as follows:

- Link 1 – B4489, between the Access Road and the Felindre Park and Share facility;
- Link 2 – B4489, between the Felindre Park and Share facility and the M4 Junction 46;
- Link 3 – M4 eastbound on-slip;
- Link 4 – A48, between the northern and southern dumbbell roundabouts of the M4 Junction 46;
- Link 5 – M4 westbound off-slip;
- Link 6 – A48, between the M4 Junction 46 and the A48/Pant Lasau Road mini-roundabout;
- Link 7 – Pant Lasau Road;

- Link 8 – A48, southeast of the A48/Pant Lasau mini-roundabout;
- Link 9 – B4489, south of the M4 Junction 46; and
- Link 10 – A48, southwest of the M4 Junction 46.

Footpaths LC34 and LC117 cross the Access Road (and the new Access Road) at points approximately 350 m and 1.3 km from the B4489. Footpath LC35B passes through the northern part of the Project Site.

A baseline study and a traffic count survey were undertaken to identify the baseline conditions in the vicinity of the Project Site; including the local highway network and operational conditions, road safety and accessibility by sustainable modes such as cycle routes and footpaths.

The transport assessment has only assessed construction traffic as operational traffic is considered to be negligible and is therefore scoped out of this assessment.

4.7.1 Residual Effects

The assessment of residual effects below assumes that the embedded mitigation (described in Section 2.10) is implemented.

Receptors relating to severance, pedestrian delay, pedestrian amenity, and fear and intimidation are associated primarily with the pedestrian experience based on

changes in the volume and composition of traffic. An increase in traffic volumes and HGV composition can result in difficulties for pedestrians when crossing roads and affect the pleasantness of journeys.

Construction of the Power Generation Plant

The majority of the transport links within the assessment will experience a **Minor adverse** effect during the peak hour for Severance, Pedestrian Delay, Amenity, Fear and Intimidation, which is therefore considered **not significant**.

Effects to Link 1 and the footpaths which cross within the Project Site Boundary, are considered to be **Moderate** due to pedestrian and user experience, and therefore **significant**.

There was also found to be an increased delay on B4489 due to the Power Generation Plant which is considered **Minor adverse**, and a reduced delay on M4 East Bound and West Bound Off-Slip which is considered **Minor beneficial**. This is as a result of changes in the balance of traffic flows at the junction, which will result in more gaps for traffic exiting from these arms as priorities are changed. This will result in a reduction in the level of delay of the arms benefitting from traffic flow balancing and an increase in arms which are forced to concede priority more than before flows were balanced.

Construction of the Gas Connection

The Gas Connection is predicted to cause **Minor adverse** effects from increased HGV weekday movements at Link 1, and **Moderate** effects on footpaths due to temporary closures and pedestrian experience during construction. Effects to driver delay, Accidents and Safety and weekday total traffic for the morning and afternoon are to be confirmed in the DCO Application.

Construction of the Electrical Connection

There is expected to be a **Moderate effect** on footpaths during construction of the Electrical Connection due to temporary closures and pedestrian experience. This is considered a **significant effect**.

Effects to driver delay, Accidents and Safety and weekday total traffic for the morning and afternoon are to be confirmed in the DCO Application.

Conclusion and Next Steps

This chapter has identified effects to the highway network, road safety and accessibility. **Significant** effects have been predicted during the construction phase from the Project, although these would be temporary. No effects during the operation of any components of the Project have been identified.

Consultation with CCS Highways will continue through the consultation period and the impact assessment updated for DCO Application.

4.8 Historic Environment

The potential effects from the Project on the historic environmental resource of the Project Site and surrounding area have been assessed.

A 1 km study area for the desk based assessment of historic assets and further consultation with CCS, Cadw and Glamorgan-Gwent Archaeological Trust (GGAT) has been undertaken to inform the updated assessment.

The revised ZTV prepared for the landscape and visual chapter has also been reviewed due to the change in stack height to 45 m, and therefore the 5 km study area for the assessment of designated historical assets has been updated.

The Project Site contains no historic assets although one scheduled monument, one listed building and 28 non-scheduled monuments are present within the 1 km study area, and 16 Scheduled Monuments, 52 Listed Buildings (all grades), two Conservation Areas and three Registered Historic Parks and Gardens are present within the 5 km study area.

4.8.1 Residual Effects

The assessment of residual effects below assumes that the embedded mitigation (described in Section 2.10) is implemented.

Construction of the Power Generation Plant

Construction of the Power Generation Plant will not have a physical impact on any known historic asset. No known historic assets exist within its footprint. Therefore this is a **Negligible** effect.

The potential for significant unknown archaeology existing within the Project Site is considered to be low, with the possibility of its discovery being adequately addressed through a watching brief post-consent, pre-construction.

Construction of the Gas Connection

Construction of the Gas Connection will not have a significant physical impact on any known historic asset, with the exception of where the Gas Pipeline crosses a small percentage of a historic boundary (feature reference AB03), therefore requiring its removal. As this feature was already substantially altered when the preceding Oil Pipeline was installed, it is considered that little of the original historic fabric remains, and therefore the effect is considered to be **Negligible**.

The Gas Connection will also run parallel to a second historic boundary (feature reference AB04), which coincides with the western limit of the Project Site boundary. However, a **Negligible** effect is anticipated due to the proximity of the Gas Pipeline to the historic boundary of approximately 25 m.

Therefore the effects during construction of the Power Generation Plant are **not significant**.

Construction of the Electrical Connection

Construction of the Electrical Connection will not have a physical impact on any known historic asset. Therefore this is a **Negligible** effect.

Operation of the Power Generation Plant

No below ground disturbance is envisaged during the operational phase for any operational or maintenance activity, therefore there will be no further impact upon below ground archaeological remains once the Project is operational.

The Llansemlet Conservation Area (feature reference CA027), Penllergaer Park and Garden (feature reference GM054) and several listed buildings lie within the 5 km study area, and from these locations the stack may be visible. However, given the intervening landscape has been significantly developed, it is not anticipated that the Conservation Area, Park and Garden

and Listed Buildings will be adversely affected by the Project.

It is anticipated that Project may be slightly visible from the Scheduled Ancient Monument (Mynydd Pysodlyn Round Barrow) and therefore is considered to have a **Minor adverse** effect on the basis of its High value sensitivity. However this is **not significant**.

Conclusion & Next Steps

The assessment of the Project's effects on the setting of historic assets is at an interim stage. The DCO Application will include winter photography from the Landscape and Visual Impact Assessment, as well as additional viewpoints to inform an updated assessment.

At this PEIR stage, it is concluded that while widely visible within the 5 km Study Area adopted for this assessment, the Project will have only a very limited effect on the setting of historic assets. A single **Minor adverse** effect is predicted, with no other assets affected by the presence of the Project. Therefore no additional mitigation is required.

4.9 Socio-Economics

This chapter provides an assessment of the likely socio-economic effects on the labour market, tourism economy, and community infrastructure arising from the Project.

The socio-economic study area is based on drive time catchment areas from the Project. The 'local area' is defined within a 30-minute drive time; 'wider area' within a 45-minute drive time; and 'wider region' within a 60-minute drive time. This study area has identified a readily available labour force, with a high number of manual labourers.

The tourism/business survey study area is limited to a 10 km radius of the Projects this is where the majority of impacts are anticipated. A desk based study was undertaken which identified a limited number of tourist attractions within the Project Site Boundary, which are the Cwm Clydach Nature Reserve, National Cycle Route 43 and the Teamforce Paintball and Laser Tag Activity Centre.

4.9.1 Residual Effects

The assessment of residual effects below assumes that the embedded mitigation (described in Section 2.10) is implemented.

Construction of the Project

The construction of the Power Generation Plant, Gas Connection and Electrical Connection is predicted to have **Negligible** effects on tourism, business, and communities during

construction. The National Route 43 is likely to experience **Minor adverse** effects during construction. The Project as a whole is expected to have **Minor adverse** effect on community Infrastructure receptors but **Negligible beneficial** effects on Labour Markets.

Overall these effects are **not significant**.

Operation of the Project

The operation of the Power Generation Plant, Gas Connection and Electrical Connection is predicted to have **Negligible** effects on tourism, business, and communities during operation. The National Route 43 is likely to experience **Minor adverse** effects during operation. The Project as a whole is expected to have **Minor adverse** effect on community Infrastructure receptors but **Negligible beneficial** effects on Labour Markets.

Overall these effects are **not significant**.

4.9.2 Conclusions

The Project will not have any significant adverse effects on tourism and recreation receptors in the area during construction or operation. Beneficial employment effects can however be enhanced through linkages with job centres, colleges, employability programmes and engagement with local construction firms and other supply chain companies.

4.10 Other Effects

This chapter addresses topics that are not specifically addressed in the context of the main topic chapters elsewhere in this PEIR, or effects which are not considered to merit a chapter in their own right, but have been considered in line with requests from consultees, including through the Scoping Opinion.

Effects during Construction & Decommissioning Phase

Waste: Waste material may arise during the construction and decommissioning of the Project. The Regional Waste Plan (**Ref. 6**) confirms that there is a good provision of waste management capacity in South West Wales to cover all types of waste arisings including industrial, construction and decommissioning, and hazardous waste.

The Project will operate in full accordance with the Waste Framework Directive (**Ref. 7**), together with the Environmental Permitting (England and Wales) Regulations 2016 (**Ref. 8**) and the Waste (England and Wales) Regulations 2011 (**Ref. 9**).

Public Health: Public Health England (PHE) identified the local population as a sensitive receptor. Effects on human health from noise, air quality, nuisance, dust, ground contamination and pollution have been addressed in the relevant topic chapters and are the subject of embedded and additional mitigation where required. No likely

significant effects during construction and operation have been identified.

Health and Safety: The site manager will have the day to day responsibility for maintaining Health and Safety, and will produce a risk assessment and method statement detailing how they will minimise the risk. An approved procedure will:

- Identify the significant Health & Safety impacts that can be anticipated;
- Assess the risks from these impacts;
- Identify the control measures to be taken and re-calculate the risk;
- Report where an inappropriate level of residual risk is identified so that action can be taken.

The employer will ensure that a qualified first-aider can be provided at all times. Appropriately equipped first-aid stations will be easily accessible throughout the place of work.

There will be no access to construction areas by the general public. The Project Site will be secured to avoid unauthorised access.

Effects during Operational Phase

Waste: During operation of the Power Generation Plant, a small amount of waste will arise. This generated waste will include waste that is both hazardous and non-hazardous in nature. Appropriate treatment facilities exist locally, and waste produced by

the Project will have a **Negligible** effect.

Public Health: There are three main likely significant effects on human health as follows:

- An “Electromagnetic Field” (EMF) is a physical phenomenon that is produced by electrically charged objects. Underground cables, such as the one proposed for the Electrical Connection of the Project, do not give rise to electric fields above ground due to the shielding effect of the cable sheath. The general public will thus not be exposed to any increase in EMFs from the Electrical Connection and there will be **Negligible** effects arising from EMFs.
- There is the potential for effects from air quality arising from operation of the Project which are associated with the stack emissions from the combustion of natural gas in the Generating Equipment releasing emissions of NO_x. However, the Project has been designed to meet air quality standards at sensitive receptors. Modern gas-fired power plants are also inherently clean and produce far fewer emissions than other fossil fuel power plants (e.g. coal) when compared on an energy output basis.
- There is potential for effects from noise arising from the operation of the Power Generation Plant to impact human health. However with the applicable of Best Practical Means, Best Available Techniques, DCO Requirement for operational

noise levels and compliance with the Environmental Permit, it is unlikely that there will be any significant effects.

Therefore, no significant health effects are anticipated as a result of the operation of the Project on public health.

Climate Change: Climate resilience has been built into the Project. The Project will contribute to UK emissions, but impacts on climate change from CO₂ emissions are considered **Negligible**.

Aviation: Abertawe Bro Morgannwg University Health Board confirmed that the stack will be just over 1.5 km away. As such they will not affect the (Bond Air Services) operations in and out of Swansea Morriston Hospital.

Health and Safety: Routine maintenance of the Generating Equipment would take place on average once every six months. Bi-annual inspections will also take place to assess general condition. Inspections to replace or refurbish combustion and turbine ‘hot parts’ equipment are typically carried out approximately every six years.

In the event of an issue with the Generating Equipment, alarms would signal any instance of abnormal operation. These alarms would not be audible externally. The plant would be shut down immediately in such instances and, if required, additional engineering staff would attend the Project Site. The Generating

Equipment would not start up again until the issue had been resolved.

The effect on health and safety is considered **Negligible**.

Major Accidents: The Project's vulnerability to risk of major accidents and disasters has been considered:

- a) In an **air quality event** where metrological conditions such as prevailing winds or inversion result in reduced air quality, the Project, as an emitter to air, has the potential to exacerbate the effect of the event. Operational emissions will be controlled through the Environment Permit.
- b) Given the nature of natural gas there is an inherent risk of both **fire and gas leak** associated with the Project from its supply and use. This will be managed through

established industry safety procedures and standards.

- c) Workers are the most at risk from **engineering and industrial accidents**, due to the distance from residential areas. There is legislation in force to ensure the protection of workers in the workplace.
- d) Proximity to third party infrastructure such as the Felindre Gas Compressor Station, the Substation, the Water Main and the National Gas Transmission System. Mitigation has been embedded via the design of the Project by implementing appropriate minimum distances and having due regard to the required standoff distances between the Project and these infrastructure features.

5. Cumulative Effects

In accordance with the EIA Regulations, the EIA has given consideration to 'cumulative effects'. Two types of effect have been considered:

Intra-project effects – These occur where a single receptor is affected by more than one source of effect arising from different aspects of the Project. This is also known as “in-combination effects”. An example of an intra-project effect would be where a local resident is affected by dust, noise and traffic disruption during the construction of a scheme, with the result being a greater nuisance than each individual effect alone; and

Inter-project effects – These effects occur as a result of a number of past (projects which have been granted planning permission), present (projects currently in the planning process but not yet granted permission) or reasonably foreseeable proposed developments, which individually might not be significant, but when considered together could create a significant cumulative effect on a shared receptor, and could include developments separate from or related to the Project.

Generally, it is not anticipated that any future development in the area would change the significance of the predicted residual effects associated with the Project.

Intra-Project effects on Shared Receptors

Shared receptors from individual elements of the Project (e.g. construction of Power Generation Plant, Gas Connection and Electrical Connection) are likely to be limited to nearby residential dwellings and local communities:

Due to the application of embedded and additional mitigation measures (such as the avoidance of habitats, the CEMP and topic specific management plans) which ensure that potential significant effects on shared receptors are unlikely, or the absence of any in-combination effects on shared receptors, the following topics are scoped out from the intra-project cumulative assessment:

- Ecology - due to the embedded and additional mitigation, there is unlikely to be any cumulative effects from multiple components of the Project working simultaneously affecting several species. In addition, the total permanent habitat loss will be mitigated by the creation of the Ecological Mitigation Area and / or enhancements via the Landscaping and Reinstatement Plan;
- Socio-economic;
- Historic Environment; and

- Geology, Ground Conditions and Hydrogeology.

Potential intra-project cumulative effects at the shared receptors may comprise of the following during the construction phase:

- Noise effects;
- Views from residential dwellings and PRowS;
- Potential effects on waterbodies and water based receptors from increased risk of sediment runoff and polluted discharges during the construction phase;
- Traffic effects from increased vehicle numbers during the construction phase; and
- Production of dust during the construction phase.

Construction of the Project as a whole will result in construction activity not previously present and additional vehicles along access routes. This creates an increase in traffic flows for all Project components, disruption of views and potential production of noise, dust and air pollutants from the Project as a whole during the construction period. This may have an effect on local communities and nearby residential dwellings. As embedded and additional mitigation is proposed within the individual topic chapters (such as a CTMP and CEMP), this will result in a **Minor adverse** in-combination effect, which is **not significant**.

Inter-Project Cumulative Effects

A review of the planning applications and proposed developments within a 5

km study area around the Project was undertaken to scope any other developments that were considered to constitute 'major development' schemes. A further review was undertaken to determine which of these developments had the potential to result in likely significant cumulative effects when considered alongside the Project within each individual technical chapter.

Further to liaison with CCS, a "long list" of projects already consented and in construction, or consented but not yet implemented, in addition to those allocated within the Local Development Plan (LDP) or applications made but not yet decided, was agreed. The "long list" was then reviewed and refined, resulting in a short list of developments being identified as having the potential for cumulative effects with the Project, and which are considered below. There are no other major developments present within the 5 km study area.

Inter-project effects fall into two types: Inter-cumulative effects on shared receptors and intensification of effects on shared receptors.

Inter-cumulative effects are when multiple types of effects act on a shared receptor. For an inter-cumulative effect to be present, cumulative effects must be identified across two or more topic chapters for a shared receptor(s) when assessing the Project cumulatively with another development. The assessment of these effects is presented in Table 8.

The PEIR also identifies cumulative effects of intensification of effects in individual topic areas. This type of cumulative effect arises when effects of a specific nature (for example, noise, landscape and visual) are

intensified at a shared receptor when a Project is assessed cumulatively with another development. The assessment of these effects is presented in Table 9.

Table 8: Inter-Cumulative Effects on Shared Receptors

Development	Status	Potential for Cumulative Effects	Cumulative Assessment on Shared Receptors
Mynydd Y Gwair windfarm	Under construction and will be operational prior to the commencement of the Project	Construction Traffic Landscape & Visual	Construction traffic will not have any likely significant effects due to the different timing of construction phases. It is not considered that any landscape and visual cumulative effects will be possible during operation due to the ensuing topography and landscape disrupting views of the Project in shared distant views from the Mawr LANDMAP Aspects Area and Brecon Beacons National Park. Therefore no significant cumulative effects are predicted.
Proposed sustainable urban village at Felindre and other allocated sites	Proposed in the LDP	N/A	This has been scoped out of the cumulative assessment as there are very limited details about the scale and nature of the proposed developments in which to form a robust basis for assessment
Felindre Business Park	Partially constructed with Plot 8 permitted, but not yet in construction	Landscape & Visual Construction Traffic	The Landscape Character around the Project Site and visual amenity viewpoints 9 and 15 are expected to experience cumulative effects with the Felindre Business Park during the construction phase of the

Development	Status	Potential for Cumulative Effects	Cumulative Assessment on Shared Receptors
			<p>Project due to views containing construction equipment, lighting and construction activities. This is expected to result in Minor adverse effects, which is not significant. During operation, both developments would experience cumulative effects due to changes in landscape character, landform and presence. However these are also considered to be Minor adverse, and therefore not significant.</p> <p>As the construction traffic cumulative assessment assumes all developments, the residual cumulative effect for pedestrian experience will be Minor to Moderate adverse. There will also be a moderate adverse effect on driver delay on the B4489 (North) and a major adverse effect on the B4489 (South). Whilst these effects are significant, no mitigation is considered to be required due to the temporary effect during construction.</p>

There are no other major developments present within the 5 km study area. In addition to the inter-cumulative, the PEIR also identifies cumulative effects. Cumulative effects arise when effects of a specific nature (for example, noise, landscape and visual) are intensified when a Project is assessed cumulatively with another development.

Table 9 presents the assessment of these cumulative effects for the Project.

Table 9: Cumulative Assessment within Individual Topics

Topic	Cumulative Intensification Effects within Individual Topics
Air Quality	<p>There are no other permitted or proposed developments within the study area which may result in air quality impacts during construction, or any other large combustion sources currently or proposed to be in operation.</p> <p>The maximum effects of the Project occur away from major roads and urban areas. It is therefore unlikely that there will be cumulative effects at the main roads during the construction phase.</p>
Noise & Vibration	The Project does not share any residential receptors which may be cumulatively affected by the Project in addition to other developments in the area. This is due to an absence of effect, no overlap in construction or operational durations or due to remoteness of other developments
Ecology	The Project does not share any ecological receptors which may be cumulatively affected by the Project and other developments in the area. This is due to an absence of effect, no overlap in construction or operational durations, or due to remoteness from other developments.
Water Resources	The Project does not share any receptors which may be cumulatively affected by the Project and other developments in the area.
Ground Conditions	No cumulative effects are anticipated with other developments in the area due the distance and proximity, and no shared receptors from components of the Project interacting with each other simultaneously during the construction phase which cannot be mitigated by the embedded mitigation.
Landscape Visual	<p>& The Landscape Character around the Project Site and visual amenity viewpoints 9 and 15 are expected to experience cumulative effects with other developments outlined below during the construction phase of the Project due to views contained construction equipment, lighting and construction activities:</p> <ul style="list-style-type: none"> • Brynwhilach solar park (under construction, and will be installed and operational prior to the commencement of the Project); • Former J R Steelworks, Bryntywood (under construction); • Llettyr Morfill farm (permitted, not implemented); and • Griffiths Waste Management Site (permitted, not implemented). <p>Cumulative magnitude of change would be Low, due to topography distance and duration of simultaneous construction phases, which combined with the Medium sensitivity would result in a Minor adverse cumulative effect which is not significant.</p>

Topic	Cumulative Intensification Effects within Individual Topics
	<p>The same receptors would also experience cumulative effects during the operation of the Project and other developments due to changes in landscape character, landform and presence. However these are also considered to be Minor adverse, and therefore not significant.</p>
Traffic, Transport & Access	<p>Four developments are considered to have a potential cumulative effect on traffic, transport and access during construction. These are:</p> <ul style="list-style-type: none"> • Tyle Coch Mawr Wind Farm (permitted, not implemented); • Llettyr Morfill farm (permitted, not implemented); • Land North of Garden Village, Swansea (submitted but not determined); and • Land West of Llangyfelach Road, Tirdeunaw (submitted but not determined). <p>The cumulative assessment has identified that there will be no change in the significance of effects relating to the pedestrian experience (severance, pedestrian amenity, pedestrian delay, fear and intimidation). The residual cumulative effect will be Minor to Moderate adverse. No mitigation is considered to be required due to the temporary effect during construction.</p> <p>In respect of driver delay, it has been identified that there will be a change in the significance of effect, primarily during the AM peak hour. There will be a minor adverse effect on the A48 (Southwest), and the M4 eastbound and westbound off-slips. There will be a moderate adverse on the B4489 (North) and a major adverse effect on the B4489 (South). During the PM peak hour, there will be a minor adverse effect on the A48 (Southwest) and a moderate adverse effect on Pant Lasau Road. Whilst these effects are significant, the contribution of the Project will be temporary in nature and does not require the delivery of mitigation measures such as capacity improvements. In addition, observations in 2017 suggest that the junctions assessed are currently operating with a greater level of capacity than what has been reported and assessed using the 2014 traffic survey data.</p>
Historic Environment	<p>There is no potential for any likely significant effects from the Project and other developments within the area because:</p> <ul style="list-style-type: none"> • The direct physical effects of the Project on known archaeological or historical assets is negligible and therefore cannot contribute in any meaningful way to any wider significant, comparable, losses to the cultural heritage resource.

Topic	Cumulative Intensification Effects within Individual Topics
	<ul style="list-style-type: none"> - There are no significant effects upon the setting of historic assets predicted. - Scheduled Monument GM202 is not affected by other identified development.
Socio-economics	<p>No cumulative effects are anticipated with socio-economics as there is enough labour capacity to accommodate cumulative projects as other planned projects could be developed concurrently without creating labour market distortions or placing pressure on accommodation providers. Therefore no significant cumulative effects are anticipated.</p>

6. Conclusions and Next Steps

This Non-Technical Summary outlines the findings of the 2018 Preliminary Environmental Information Report (PEIR) for the Abergelli Power Project. The construction and operation of the Project has the potential to have effects on the natural environment and nearby human receptors.

The PEIR concludes that the Project is likely to have mainly **Minor adverse to Negligible** effects on the environment. **Moderate** effects are likely to occur to traffic and Ecology during construction. **Moderate to Major effects** are limited to visual effects during both construction and operation.

Beneficial impacts are predicted to improve local employment during construction and operation, and are classed as **Minor**. Additionally, **Minor** beneficial impacts to traffic on the M4 during weekday AM throughout the construction period have been identified.

6.1.1 Next Steps

Next steps, as identified in the PEIR, are to:

- Continue ongoing ecology surveys before May 2018; and
- Undertake updated winter photography and update the landscape and visual impact assessment for additional viewpoints (to be confirmed through discussions with CCS and NRW); and
- Update historic environment assessment with the winter photography, wireline graphics and an additional viewpoint to confirm predicted effects.

A final Environmental Statement (ES) will be submitted in Q2 2018 with the Development Consent Order Application. The final ES will include an updated assessment, following consideration of the consultation responses, and provide any modifications to the Project.

7. References

- Ref. 1 The Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 (as amended) (the EIA Regulations).
- Ref. 2 Abergelli Power Ltd. 2014. *The Project*. (Online) Available at: <http://www.abergellipower.co.uk/the-project/> [Accessed 28/11/2017]
- Ref. 3 The Planning Act 2008 (as amended).
- Ref. 4 Welsh Government. 2016. Planning Policy Wales (PPW).
- Ref. 5 Welsh Government. People, Places, Futures - The Wales Spatial Plan 2008 Update (July 2008).
- Ref. 6 South West Wales Regional Waste Group. (2008). South West Wales Regional Waste Plan. 1st Review. [Online]. Available: <https://www.bridgend.gov.uk/media/164585/SD112.pdf> [Accessed: 26/10/17].
- Ref. 7 Directive 2008/98/EC, Waste Framework Directive (2008), L 312/3.
- Ref. 8 Environmental Permitting (England and Wales) Regulations 2016.
- Ref. 9 Waste (England and Wales) Regulations 2011.