



ARCUS

**PLANNING, DESIGN AND ACCESS STATEMENT
SWANSEA NORTH ENERGY MANAGEMENT FACILITY**

FOR STATKRAFT UK LTD

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Prepared By:

Arcus Consultancy Services

Suite 1C
Swinegate Court East
York
North Yorkshire
YO1 8AJ

T +44 (0)1904 715 470 | **E** info@arcusconsulting.co.uk
w www.arcusconsulting.co.uk

Registered in England & Wales No. 5644976

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1 INTRODUCTION

1.1 Background

This Planning, Design and Access Statement ('the Statement') has been prepared to accompany the planning application submitted to Swansea Council ('the Council') by Statkraft UK Ltd ('the Applicant') for the construction and operation of an energy management facility to support the National Grid ('the Development') on land east of the Swansea North National Grid Substation, Morriston, Swansea ('the Site').

This Statement has been prepared in line with the requirements for Design and Access Statements for Major Development set out in The Town and Country Planning (Development Management Procedure (Wales) (Amendment) Order 2016.

The following environmental and technical reports are appended to this Statement:

- Appendix 1 - Landscape and Visual Appraisal;
- Appendix 2 - Preliminary Ecological Appraisal including Extended Phase 1 Habitat Survey;
- Appendix 3 - Green Infrastructure Statement and Biodiversity Metric Assessment;
- Appendix 4 - Noise Assessment;
- Appendix 5 - Transport Statement;
- Appendix 6 - Drainage and Flood Consequence Assessment; and
- Appendix 7 – Arboricultural Report and Impact Assessment.

The following plans and drawings are submitted alongside the planning application:

- Planning Drawing 1 – Location Plan
- Planning Drawing 2 – Constraints Plan
- Planning Drawing 3a – Site Layout Plan – Main Compound
- Planning Drawing 3b – Block Plan – Full Extent
- Planning Drawing 4 – Indicative Battery Container
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1.2 The Applicant

Statkraft is Europe's largest generator of renewable energy; producing hydropower, wind power, solar power, battery storage, gas-fired power, and supplying district heating. Statkraft owns and operates 11 wind farms in the British Isles and the Nordic countries with a combined installed capacity of almost 1,000 MW (1 GW).

1.3 The Need for the Development

Renewable technologies are intermittent as the amount of energy generated is dependent on weather conditions. It is therefore necessary to balance demand and supply in order to prevent shortages and blackouts, as experienced in Wales and England in August 2019.

As such, there is a growing demand by network operators for a broad range of services such as energy storage and management. The Development is designed to support the flexible operation of the National Grid and the decarbonisation of the electricity supply. The proposed energy management facility would provide rapid-response electrical back-up and energy management to the National Grid and would also represent an early deployment within the UK of a high-tech grid balancing facility, addressing intermittency and fluctuations in inertia.

This is required for a number of reasons:

- Electricity Market Reform;
- The Capacity Market; and
- Balancing the Network.

1.3.1 Electricity Market Reform

Given the reduction in centralised coal-fired power, increasingly cheap but intermittent renewable energy supply and the transition to electric vehicles, it is increasingly likely there will be peaks and troughs in the UK energy supply and demand.

It is estimated that over the next decade, the UK will require approximately £100 billion investment in electricity infrastructure to accommodate projected future increases in electricity demand, replace ageing power stations and prevent electricity blackouts. The Development is proposed in response to the requirement for continuity of supply and storage of electricity, particularly during periods of peak demand and over-supply.

Electricity Market Reform ('EMR')¹ is a UK government policy designed to:

- Incentivise investment in secure, low-carbon electricity;
- Improve the security of the UK's electricity supply; and
- Improve affordability for consumers.

The UK's electricity grid has historically relied on large centralised power plants. However, old coal power plants are in the process of reducing capacity and closing as they no longer meet the required environmental and performance standards and existing nuclear power plants are reaching the end of their design lives, while the delivery of new nuclear plants has been beset by delays. In parallel, there is the requirement to deliver a greater amount of renewable energy but these technologies (e.g. wind and solar generation) are intermittent, only generating when the wind blows or sun shines. These different factors mean that demand and supply are more challenging to match.

1.3.2 The Capacity Market

Through the Energy Act 2013², the Capacity Market mechanism was introduced to ensure security of electricity supply at the lowest cost to the consumer.

To deliver a supply of secure, sustainable and affordable electricity, the UK needs not only investment in new generation projects and innovative technologies, but to get the best out of existing assets on the network. The Capacity Market aims to deal with both these issues by bringing forward new investment while maximising current generation capabilities.

¹ UK Government (2012) Electricity Market Reform: Policy Overview [online] Available at: <https://www.gov.uk/government/publications/electricity-market-reform-policy-overview--2> (Accessed 19/08/2019)

² UK Government (2013) Energy Act 2013 [Online] Available at: <http://www.legislation.gov.uk/ukpga/2013/32/contents/enacted> (Accessed 05/04/2019)

The Capacity Market aims to balance the difference between demand and supply and to bring forward investment in new generation projects and innovative technologies, in parallel with maximising the utilisation of the existing generation capacity. The Capacity Market operates alongside the electricity market, which is where most participants will continue to earn the majority of their revenues. The Development is anticipated to participate in the Capacity Market in addition to providing other balancing services to the National Grid.

1.3.3 *Balancing the Network*

Balancing the system to ensure demand is met by supply is a key requirement of the National Grid, and it is becoming more challenging as intermittent generation – such as wind and solar power – becomes a bigger proportion of the overall energy mix.

The National Grid has a constant supply of 'extra power' available for use when the power required by customers is not equal to the power generated and a reserve supply. The Balancing Mechanism is used to ensure that the network is in balance and reserve power is then used when the network comes under 'stress'.

When unforeseen demand is put on the network, such as when a large power station suddenly goes offline, then the National Grid control room needs an alternative source of power. This is achieved with rapid responding facilities such as the proposed Development which can release or absorb energy from the grid as instructed.

As an innovative technology, the Development will provide a flexible and rapid release of electricity to allow the National Grid to regulate electricity supply and demand without any greenhouse gas emissions. Conversely, the Development will also have the capacity to absorb electricity quickly which will allow for the oversupply of the grid to be managed.

1.4 Local Grid Requirements

Statkraft's Rheidol hydro power station near Aberystwyth is connected to the transmission network at Swansea North National Grid Substation ('the Substation') by 132kV networks (belonging to WPD and SPMANweb). Statkraft plans to coordinate the operation of the new equipment within the Development with the hydro power station at Rheidol. This combination of assets will complement the renewable energy generated at Rheidol in mid-Wales and enable enhanced services to be delivered to the National Grid, increasing the value of Welsh renewable energy. The Development will also provide the grid with the stability needed to accommodate more renewable energy from other sources including solar farms, many of which have recently been constructed in the Swansea area.

On Easter Monday 2020, National Grid needed to run 17 gas-fired power stations, not for their energy, but in order to keep the grid stable. Statkraft plans to develop projects and technologies to reduce the need for such polluting fossil fuel generation, and the biggest benefit of this development will be felt in South Wales.

The Swansea North National Grid Substation ('the Substation') is a key strategic transmission substation in South Wales and therefore is a strong point to develop and deliver grid flexibility services and grid stability for the National Grid. The Substation is interconnected by 6 x 400 kV circuits and 2 x 275 kV circuits and has the option to turn in the Pembroke Walham 400 kV Circuit to create another 2 x 400kV connections.

The South Wales transmission grid forms a spur from England and is not interconnected within Wales to the transmission grid in North Wales. The grid in South Wales is subject to voltage variations which led to a National Grid tender and voltage control contracts let specific to the region. This Substation has been selected by Statkraft after assessing the needs of the transmission grid in South Wales and considering all of the substations in South Wales.

1.5 Site Selection

The Development has been strategically sited adjacent to the Substation, which lies to the west of the Site. The Substation is capable of accommodating the transfer of electricity to and from the Development at an acceptable cost which will provide valuable support to National Grid, protecting customers at times when high demand places stress on the local and national electricity network. As a result of the close proximity to the Substation, underground cables will avoid any major infrastructure, minimising connection and transmission costs. The small scale of the underground grid connection required will also significantly minimise construction-related disruption.

The other key criteria which have led to the Site being selected for energy management development include:

- Adequate separation from residential properties in terms of visual and other residential amenity impacts (e.g. noise), see Appendix 1 and 4 for further details; and
- Lack of environmental constraints (e.g. absence of ecological/landscape designations, heritage designations, flood risk, etc.)

Alternative sites within 1 km of the grid connection point were considered but were found to be subject to a variety of environmental/planning constraints as shown on the Constraints Plan below in Figure 1 (also submitted separately as Drawing 2).

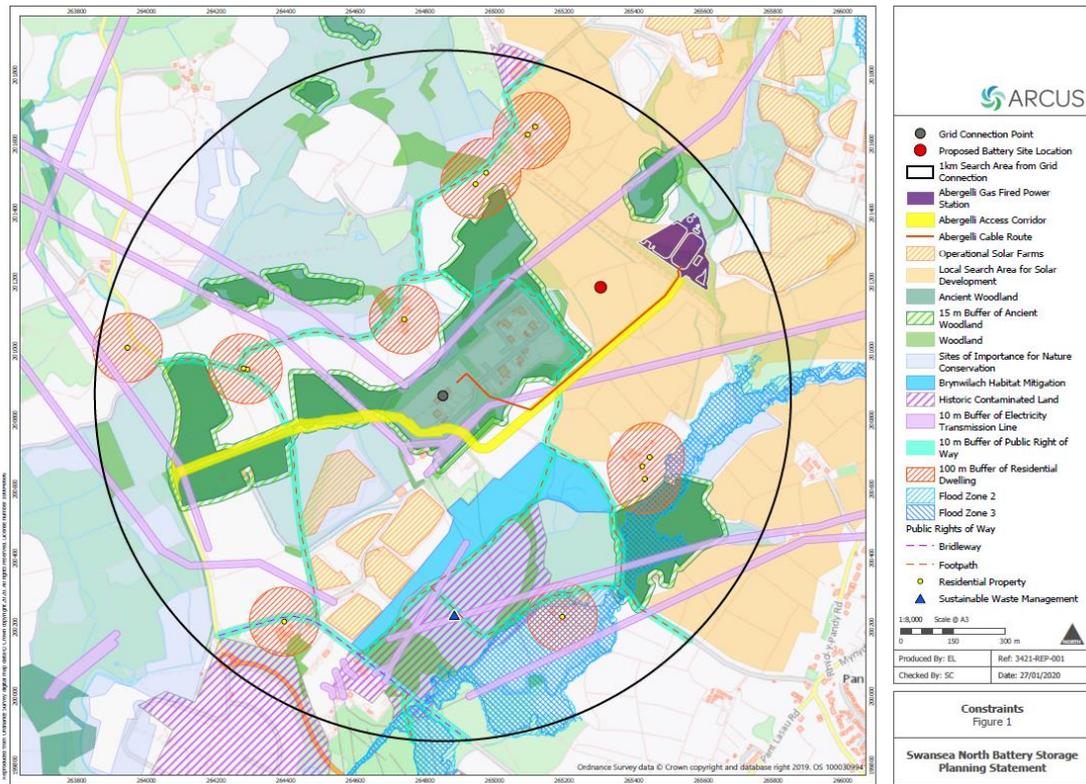


Figure 1: Environmental & Planning constraints within 1 km of grid connection

The constraints applicable to the alternative locations are summarised in Table 1 below.

Table 1: Summary of Constraints

Location	Constraints
North of Swansea North NG Substation	<ul style="list-style-type: none"> Residential property Ancient Woodland Woodland Sites of Importance for Nature Conservation Overhead electricity transmission lines
West of Swansea North NG Substation	<ul style="list-style-type: none"> Ancient Woodland Site of Importance for Nature Conservation Brynwilach Solar Farm
South of Swansea North NG Substation	<ul style="list-style-type: none"> Brynwilach habitat mitigation area Public rights of way Abergelli Power Station access track Woodland Residential Properties Solar PV Local Search Area Areas of medium or high flood risk
East of Swansea North NG Substation	<ul style="list-style-type: none"> Solar PV Local Search Area Abergelli Power Station Public Right of Way Ancient Woodland
Development Site	<ul style="list-style-type: none"> Solar PV Local Search Area

Following consideration of the above factors and the existing infrastructure within the wider area, the Site was identified as having excellent potential for development with minimal environmental and planning constraints. The only planning or environmental designation identified on Site was the Solar PV Local Search Area, which is addressed in Section 5.1 of this Statement.

1.6 Consultations

1.6.1 Council Pre-application Enquiry

The Applicant has sought to front-load the planning process by engaging with the Council through a pre-application enquiry ('the Enquiry'). The purpose of the Enquiry was to determine the scope of the Application and the supporting technical reports, agree on the approach to addressing the main issues and seek the Council's views on the principle of the development.

A meeting between the Case Officer, the Applicant and Arcus was held at the Site on 13th November 2019 and a written response was issued on 14th November 2019.

The written response sets out the planning policies and environmental considerations which are relevant to the proposal as well as preliminary responses from technical and statutory consultees.

The advice received from the Council prior to submission of this application has informed the design development and the scope of the technical documents submitted with this application as summarised at Section 3.5 of this Statement.

1.6.2 Consultation with Abergelli Power Limited

A Development Consent Order for the 299 MW gas powered Abergelli Power Station to the east of the Site was granted in September 2019. Construction of the consented power station has not commenced and delivery timescales are unknown.

The Applicant has held meetings with Abergelli Power Limited on the synergies between their respective developments, with particular reference to shared access and utility infrastructure. The Applicant is supportive of both parties sharing a single access and the access for the proposed Development has been designed to reflect a shared access track between their Development and Abergelli Power Limited.

1.6.3 *Pre-application Consultation for Major Development*

A full pre-application consultation with local residents, Community Councils and statutory consultees will be carried out in accordance with the Development Management Procedure Order (Wales) 2012 prior to submission of the application. The details of this consultation will be presented in a Pre-application Consultation Report to be submitted with the application.

1.7 The Development and the EIA Regulations (2017)

The Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017 define EIA development as either:

- Schedule 1 development; or
- Schedule 2 development likely to have significant effects on the environment by virtue of factors such as its nature, size or location.

In October 2019 Arcus submitted a request for an EIA screening opinion to the Council based on a preliminary design of the scheme. The Council issued an EIA screening opinion on 11th November 2019 which concludes that an Environmental Impact Assessment is not required.

2 SITE AND SURROUNDINGS

2.1 Site Location and Description

The main compound excluding the access track comprises c. 1 ha of agricultural land located to the east of Swansea North National Grid Substation and Felindre Gas Compressor Station. The total red line area of the site including the proposed access track is 2.5 ha. The Site lies c. 400 m north of Maes Eglwys Farm and c. 400 m south of Abergelli Farm, while Cefn Betingau Solar Farm lies c. 300 m to the east. The site of the approved Abergelli Power Station (still to be constructed) is located c. 200 m to the east.

The topography of the Site slopes gently from the northeast to the southwest. The Site is bounded by hedges to the north; post and wire fencing, ditch, stone bank and individual trees to the south; post and wire fencing with scattered trees and gorse along the eastern boundary, and post and wire fencing and a vegetated ditch along the western boundary.

A thin strip of ancient woodland lies to the west of the site, beyond which lies the Swansea North National Grid Substation and Felindre Gas Compressor Station. There are substantial overhead electricity transmission lines to the north and south of the site. The surrounding landscape is mainly agricultural, with well-defined field boundaries and a high level of tree and woodland cover. There are also several existing and proposed energy developments in the surrounding area, including Brynwilach and Cefn Betingau Solar Farms (operational), Afon Llan Solar Farm (proposed) and Abergelli Power Station (approved). The Site is surrounded by arable fields, connecting hedgerows and associated farm buildings, and patches of woodland.

In terms of planning history, there are no records of previous planning applications in relation to the main compound area. The location of the proposed access route to the south of the Substation is included in the Development Consent Order for the Abergelli Power Station, with which the access route would in part be shared.

3 THE DEVELOPMENT

3.1 Overview

The Applicant is seeking planning permission for the construction and operation of an energy management facility.

The Development is designed to support the flexible operation of the National Grid and decarbonisation of electricity supply. The Development will store, import and export electricity but will not generate any additional electricity. The energy storage capacity of the Development will be below 49.9 MW.

3.2 Development Infrastructure

The Development will consist of the following components, as shown on the Site Layout Plans (Drawings 3A and 3B):

- Energy management system building containing grid balancing equipment and e-houses (20.7m x 38.6m x 10.0m to roof pitch);
- 12 battery storage containers (12.9m x 2.44m x 2.59m);
- 6 inverters containers (6.1m x 2.44m x 2.59m);
- 2 transformers;
- 1 LV switch-house (12.9m x 2.44m x 3.0m)
- 4 coolers (9.6m x 2.4m x 2.5m);
- 1 control room (6.1m x 2.44m x 3.0m);
- 1 switchgear container (12.2m x 2.44m x 3.0m);
- 1 bunded emergency diesel generator (for back-up use only) (6.0m x 6.0m);
- Weld-mesh security fencing (2.4 m high);
- 4 security columns with CCTV cameras and lighting (6m high);
- Fire wall (36.2m X 0.4m x 10.0m); and
- Extension of the existing access road from the National Grid Substation (intended to be part shared with Abergelli Power Station).

Plans and elevations of each component of the scheme are shown on Drawings 4 to 16.

Most components of the Development will be housed in grey steel container-style units, while the main building will be constructed with grey pre-galvanised powder coated steel.

A Green Infrastructure Statement and Biodiversity Metrics Assessment has been provided with the planning application (Appendix 3) which confirms a biodiversity net gain of 35.8-37.3%.

3.3 Access

The Development will be accessed via a new track which will run from the south of the main compound through the agricultural fields to the south of the substation to join the existing private road which connects the substation to the B4489. Much of the route will be shared with that of the approved Abergelli Power Station, with a new spur to provide access north into the main compound of the Development, as shown on the Block Plan (Drawing 3b).

There are two options for the route from the agricultural fields to the south of the substation to the existing private road connecting to the B4489, as shown on the Block Plan (Drawing 3b). In Option 1, the access track runs to the south of the National Grid substation, skirting the southwest boundary to join the existing private road. Option 2 leaves the agricultural fields to cross the National Grid Substation before joining the private road. This route follows the cable corridor of the Development Consent Order for the Abergelli Power Station.

Only one of the two access options would be constructed, to be selected based on construction requirements. The route which is ultimately used would be confirmed and agreed with the local planning authority prior to construction.

The Development requires both grid and access connections via the Swansea North National Grid Substation. The Applicant is, through the grid connection agreement with National Grid, acquiring both grid and access rights through their landownership area.

Further details of the access arrangements are provided in the Transport Statement at Appendix 5 and in Section 5.5 of this Statement.

3.4 Landscape

The Development has been designed to minimise the loss of trees and hedges and as such, only small portions of young to semi-mature scrubby tree groups could be affected if access option 2 is used, as shown on the tree survey plan at Appendix 7. There would be no tree losses associated with access option 1.

Additional landscape planting is proposed both within the Site and in the area immediately surrounding the Site but on land within the Applicant's control, as shown on the Landscape and Biodiversity Mitigation Plan (Drawing 17). An area of 0.81 ha of native woodland and shrubs will be created to the north and east of the Site, in order to enhance biodiversity and provide visual screening to integrate the Development into the wider landscape.

A fescue/bent grass mix will be planted adjacent to areas of hardstanding and the area of grassland to the west of the Site will be managed to enhance species richness. A new hedgerow with native trees interspersed will be planted along the southwestern boundary and a drainage attenuation pond will be created in the south-eastern portion of the Site.

Bird and bat boxes will be installed in existing mature trees to the south of the Site and log and brash piles will be created to the north of the Site.

3.5 Design Considerations

3.5.1 *Design Rationale*

The scheme has been designed to be as visually unobtrusive as possible and to avoid incursions into areas with environmental sensitivities such as the ancient woodland and the small stream to the west of the Site.

Within the main compound, the taller components such as the energy management building and fire stop wall are located in the western portion of the Site close to the adjacent substation so that the height of the Development decreases towards the east of the site where the batteries are located. The main components of the facility will be light grey in colour in order to blend in the Development with the adjacent substation which is also grey. This will result in the Development being read as an extension to the substation rather than as a separate built form within the rural landscape.

The proposed tree planting and landscape improvements have been designed to provide visual screening and general landscape improvements using native species which will integrate the Development in the wider landscape and at the same time provide a biodiversity net gain of 61.4%.

3.5.2 *Specific Design Evolution*

A pre-application enquiry was undertaken with the Council based on a preliminary design in November 2019. The key changes which were made in response to feedback from the case officer are as follows:

- Weld mesh fencing rather than palisade fencing will be used in order to minimise visual

- impact, particularly given the rural countryside setting;
- The access route will be the same as that of the approved Abergelli Power Station in order to avoid unnecessary built development;
The layout and access route has been amended to avoid the need to culvert the stream to the west of the Site.
 - The scale of the energy management building fire stop wall has been reduced through various design iterations from a maximum height of 14m to 10m.

3.6 Construction

The construction and installation of the Development will take 12-18 months. The sequence of construction activities is anticipated as follows:

- Site surveys & welfare
- Construction of the access route to site
- Earthwork for foundations/cable runs
- Balance of plant and temporary site equipment
- Major equipment delivery
- Assembly of major equipment
- Construction of main building over installed equipment
- Installation of supporting equipment
- Testing and commissioning

During the construction period, it is anticipated that approximately 20 vehicles per day will visit the Site. The Development is anticipated to result in c. 77 full time equivalent ('FTE') jobs during peak months of construction and 11 FTE jobs during operation.

4 PLANNING POLICY CONTEXT

4.1 Introduction

This section of the Statement reviews the key national and local planning policies which relate specifically to the Development. The aim of this section is to establish the land use implications of the Development, consider its compliance with the Development Plan, and identify other material considerations to be taken into account during the determination process.

4.2 Legislative Background

The Town and Country Planning Act 1990 Section 70(2) states that:

"In dealing with such an application the authority shall have regard to the provisions of the Development Plan, so far as material to the application, and to any other material considerations."

The Planning and Compulsory Purchase Act 2004 forms an amendment to the Town and Country Planning Act 1990. Section 38(6) of the Planning and Compulsory Purchase Act 2004 states that:

"If regard is to be had to the Development Plan for the purpose of any determination to be made under the Planning Acts the determination must be made in accordance with the plan unless material considerations indicate otherwise."

The process for determining a planning application can be defined as:

- Identification and consideration of the key provisions within the Development Plan;
- Clarification of whether the Development is in accordance with the Development Plan;
- Identification and consideration of relevant material considerations; and
- Conclusions on whether planning permission is justified.

4.3 Planning Policy Wales, Edition 10

The context for planning policy in Wales is contained in two main documents comprising Planning Policy Wales Edition 10 ('PPW10') and Minerals Planning Policy Wales. The Welsh Government have submitted a draft of the first National Development Framework ('NDF') for consultation which is due to be published in autumn 2020, covering the period 2020-2040. Until the adoption of the NDF, PPW10 will remain the adopted guidance informing consideration of all development proposals.

4.3.1 Design and Placemaking

General principles for development in terms of design and placemaking are set out in Chapters 2 and 3. Development management decisions should aim to deliver sustainable places and improved well-being (2.2), and social, economic, environmental and cultural benefits should be considered in decision-making (2.24). The PPW sets out five key aspects of good design, namely Movement, Access, Character, Community Safety and Environmental Sustainability. These objectives should be applied to all development proposals (3.4).

4.3.2 Renewable Energy and Low Carbon Development

In relation to low carbon development and the decarbonisation of energy, Paragraph 5.7.1 states:

The planning system plays a key role in delivering clean growth and the decarbonisation of energy, as well as being crucial in building resilience to the impacts of climate change.

Paragraph 5.7.4 indicates that the Welsh Government ('WG') is committed to delivering the outcomes set out in Energy Wales: A Low Carbon Transition. WG priorities comprise:

- *Reducing the amount of energy we use in Wales;*
- *Reducing our reliance on energy generated from fossil fuels; and*
- *Actively managing the transition to a low carbon economy.*

Of further relevance to the Development are paragraphs 5.7.8 and 5.7.9 which, broadly speaking, refer to how the planning system can serve as an enabler for supporting the development of additional electricity grid network infrastructure and energy storage.

Planning authorities should plan positively for grid infrastructure and to support appropriate grid developments (5.7.11).

PPW10 recognises the role of energy storage in the transition to a low carbon economy and encourages this type of development, stating at Paragraph 5.7.13 that:

The growth in energy generation from renewable sources requires the management of the resultant intermittency in supply, and energy storage can help balance supply and demand. Proposals for new storage facilities should be supported wherever possible.

With regard to the location of low carbon energy development, Paragraph 5.9.9 states that applications for this type of development in locations outside of identified areas should be determined based on their individual merits. It also clarifies that the local need for a particular scheme is not a material consideration, as energy generation is of national significance and there is a recognised need to optimise renewable and low carbon energy generation.

Furthermore Paragraph 5.9.16 stipulate that in determining applications for renewable and low carbon energy infrastructure it is incumbent upon local authorities to take into account:

- *The contribution a proposal will make to meeting identified Welsh, UK and European targets;*
- *The contribution to cutting greenhouse gas emissions; and*
- *The wider environmental, social and economic benefits and opportunities from renewable and low carbon energy development.*

Additionally, Paragraph 5.9.17 indicates that significant weight should be given to WG renewable and low carbon energy generation targets. In terms of protected landscape, biodiversity and heritage designations, *'only the direct irreversible impacts on statutorily protected sites and buildings and their settings (where appropriate) should be considered.'*

4.3.3 Environmental Considerations

The approach to the natural and built environment is set out in Chapter 6 of PPW.

Development proposals should consider the protection, conservation and enhancement of historic assets (6.1.8). Planning decisions should take into account the impacts of proposals on the historic environment (6.1.9).

Paragraph 6.2.5 encourages development proposals to incorporate green infrastructure in order to deliver biodiversity benefits and ecosystem services. In terms of ecology and biodiversity, proposals should support biodiversity conservation, protect designated sites and safeguard priority species (6.4.3). All development is required to provide a net benefit for biodiversity (6.4.5). Development proposals should sustain and enhance the special qualities of the landscape (6.3.3) and avoid adverse effects on landscape character (6.3.4).

With regard to flood risk and drainage, development proposals should incorporate surface water management measures and should not cause additional run-off (6.6.9 and 6.6.27). Development proposals should consider air and soundscape quality impacts and not give rise to poor air quality or inappropriate soundscape (6.7.5 and 6.7.6).

4.4 Swansea Local Development Plan (LDP) 2010-2025

The Swansea Local Development Plan ('LDP') 2010-2025 was adopted on the 28th February 2019. Under the provisions of the Planning (Wales) Act, the LDP forms the statutory development plan for Swansea Council and is the primary material consideration to inform decisions on planning applications and development proposals.

The LDP seeks to address key strategic opportunities and issues which were identified during the course of plan preparation. The summary of environmental opportunities and issues (Paragraph 11.28) states that:

Greater resilience needs to be built into the supply of energy, and energy efficiency promoted as a means of supporting the de-carbonisation of the energy supply chain.

4.4.1 Relevant Allocations and Policies

The LDF Proposals Map indicates that the Site lies outside the Urban Boundary within Local Search Area ('LSA') 3 for solar PV development, as identified in the *2018 LDP Baseline: Renewable Energy Assessment*. The following policies from the LDP (2010-2025) are considered to be relevant to the development:

Policy CV2 – Development in the Countryside

Policy CV2 sets out detailed criterion new development is required to adhere to so as to ensure that the integrity of the countryside is conserved and enhanced. There is a presumption against development in the countryside, except where it is for one of the purposes listed within the policy, including '*necessary infrastructure provision and enhancement of infrastructure networks.*'

Policy EU1 – Renewable and Low Carbon Energy Proposals

Applications for renewable and low carbon energy development will be approved subject to criteria listed within the policy, including compliance with other relevant policies in the LDF and the provision of mitigation to reduce other impacts. Within Local Search Areas, proposals for renewable/low carbon energy development other than solar PV are permissible only where they would not prejudice the purpose of the LSA.

Policy PS1 – Sustainable Places

Policy PS1 requires that inappropriate countryside development is resisted.

Policy PS2 – Placemaking and Place Management

Policy PS2 contains general criteria requiring new development to be sensitively sited, designed and serviced appropriate to the amenity of the surrounding area.

HC1 – Historic and Cultural Environment

Policy HC1 seeks to preserve and enhance the County's historic and cultural environment. Heritage assets, sites and their settings are to be identified and safeguarded.

Policy ER1 – Climate Change

Policy ER1 seeks to protect and mitigate against the effects of climate change, adapt to its impacts and ensure resilience. Proposals should take into account several aims, including reducing carbon emissions and '*promoting energy and resource efficiency and increasing the supply of renewable and low carbon energy.*'

Policy ER2 – Strategic Green Infrastructure Network

This policy requires development to take opportunities to maintain and enhance the extent, quality and connectivity of the green infrastructure network.

Policy ER5 – Landscape Protection

Policy ER5 stipulates that new development will not be permitted where it would have a significant adverse and material effect on the character and quality of the landscape of the County. To this end, where appropriate, a Landscape Impact Assessment will be sought in order to ascertain and consider the impact of the development on the area especially in areas with designation such as a Special Landscape Area (SLA).

Policy ER6 – Designated Sites of Ecological Importance

Policy ER6 seeks to ensure that new development does not have a significant adverse effect on the integrity of sites of international or national nature conservation importance.

Policy ER8 – Habitats and Species

Policy ER8 states that new development which would have a significant adverse effect on the resilience of protected habitats and species will only be permitted where several criteria listed in the policy are met.

Policy ER9 – Ecological Networks and Features of Importance for Biodiversity

Development proposals will be expected to maintain, protect and enhance ecological networks and features of importance for biodiversity. Where development proposals are likely to result in an adverse effect on the connectivity of ecological networks and features of importance for biodiversity, they will only be permitted when compliant with detailed criteria set out in the policy.

Policy ER11 – Trees, Hedgerows and Development

This policy aims to protect trees, hedgerows and woodlands of public amenity or natural/cultural heritage value. The policy affords additional protection to ancient woodland, ancient woodland sites and ancient/veteran trees.

Policy T1 – Transport Measures and Infrastructure

Policy T1 requires that new development proposals must be supported by appropriate transport measures and infrastructure.

Policy T6 – Parking

This policy stipulates that a suitable level of parking and adequate turning space is provided within the site over the lifetime of the development.

Policy T7 – Public Rights of Way and Recreational Routes

This policy aims to protect the character, safety, enjoyment and convenient use of Public Rights of Way ('PROW'). New developments must have regard for the existing character of the PROW.

RP5 – Avoidance of Flood Risk

This policy stipulates that new development should not take place if it would be at significant risk of flooding from any source or would materially increase the possibility of flooding elsewhere.

Policy	Addressed within Statement Section
Policy CV2 – Development in the Countryside	5.1, 5.2
Policy EU1 – Renewable and Low Carbon Energy	5.1
Policy PS1 – Sustainable Places	5.1
Policy PS2 – Placemaking and Place Management	5.5, 5.6
Policy ER1 – Climate Change	5.1
Policy ER2 – Strategic Green Infrastructure Network	5.2, 5.4
Policy ER5 – Landscape Protection	5.2
Policy ER6 – Designated Sites of Ecological Importance	5.4
Policy ER8 – Habitats and Species	5.4
Policy ER9 – Ecological Networks and Features of Importance for Biodiversity	5.3
Policy ER11 – Trees, Hedgerows and Development	5.3, 5.4
Policy T1 – Transport Measures and Infrastructure	5.6
Policy T6 – Parking	5.6
Policy T7 – Public Rights of Way and Recreational Routes	5.6
Policy RP5 – Avoidance of Flood Risk	5.7

5 ASSESSMENT OF THE DEVELOPMENT

5.1 The Principle of Development

The Development comprises essential infrastructure to support the existing National Grid Substation by stabilising the grid. The energy management facility will reduce the reliance of the national grid on coal and gas to provide inertia. It will also enable the grid to support a greater proportion of renewable and zero carbon energy by providing storage so that the energy is available to the grid when it is most needed.

At a national level this type of development is supported by PPW10 paragraph 5.7.13, which recognises the need for the storage of energy generated by intermittent renewable sources and states that '*Proposals for new storage facilities should be facilitated wherever possible*'.

In terms of local planning policy, the proposal is supported by LDP **Policy EU1**, which indicates general support for renewable and low carbon energy development where this is in compliance with other LDP policies, and **Policy ER1**, which encourages energy and resource efficiency and aims to increase the supply of renewable and low carbon energy.

The proposal will help to reduce the carbon emissions footprint in Swansea in light of the climate emergency and contribute to meeting the 'Net Zero' carbon emissions targets for Wales and the UK.

The location of the Development has been selected due to its proximity to the existing Substation where there is an identified need for energy storage and management. The Development comprises '*necessary infrastructure provision and enhancement of infrastructure networks*' in relation to LDP Policy CV2 on Development in the Countryside. There are no alternative sites for this Development in a more industrial or urban environment as outlined in Section 1.6 of this Statement and the scheme has been designed to integrate into the wider landscape and minimise visual impact as set out in the Landscape and Visual Appraisal at Appendix 1. The Development is therefore considered to comply with LDP **Policies CV2, PS1 and PS2**.

The Site is located within Swansea Solar PV Local Search Area ('LSA') 3, which has a total area of 96 ha. There are currently several operational and proposed solar farms within and near the LSA, including Afon Llan Solar Park, Cefn Betingau Solar Farm and Brynwhilach Solar Farm.

The Development would support the efficient use of renewable energy, such as solar in the LSA, by enabling flexible operation of the National Grid as detailed in Section 1.3.

Policy EU1 states that proposals for non-solar renewable and low carbon energy development within LSAs must demonstrate that '*they would not prejudice the purpose of the LSA*'. The Site would occupy c. 1 ha of land near the western boundary of the LSA. This amounts to approximately 1.04% of the total area of the LSA, which would not significantly reduce the total amount of land available for solar development. The Site is within a small irregular shaped field with sloping topography and wooded boundaries, which make it less suitable for solar development than other land within the LSA. The Development is in accordance with the aims of the LSA and is therefore in compliance with LDP **Policy EU1**.

5.2 Landscape and Visual Impact

A Landscape and Visual Appraisal ('LVA') has been undertaken and is submitted with this application at Appendix 1. The LVA comprises a description of existing baseline conditions, an assessment of potential landscape and visual effects and recommendations for mitigation measures. The Appraisal incorporates the results of a desk study, a field

study and further evaluations including a viewpoint appraisal, zone of theoretical visibility and photomontages.

5.2.1 *Landscape*

The LVA indicates that the Site is of medium landscape sensitivity due to the absence of designations, degraded boundary features together with the presence of landscape detractors in the form of the distant noise of the M4, the existing substation and gas compressor site and power lines immediately adjacent to the Site. The overgrown hedgerows and tall hedgerow trees and woodland cover provide a well wooded appearance in the wider landscape. Footpath LC117 runs adjacent to the existing substation. The footpath does not seem well used and is impassable and indistinct in places due to bramble undergrowth. The footpath entrance near Maes-egwyls is also blocked by a fallen tree and woodpile.

The existing large-scale infrastructure present is well absorbed due to the level of woodland cover and the wider countryside maintains many of its rural qualities.

The Site does not lie within any landscape designations. The Mawr Uplands Special Landscape Area is located 1.7 km east of the Site and the ZTV illustrates that views are potentially available from the edge of the SLA to the Development. However, these views are distant and limited by intervening vegetation.

There are other designations within the 2 km study area including seven Listed Buildings/Structures and two Scheduled Monuments. However, there is no inter-visibility between the Development and these designations. There are areas of Ancient Woodland to the west of the Development, none of which would be affected.

Given the similar scale and height of the Development in relation to existing adjacent infrastructure, and the mitigation measures that have been proposed, it is assessed that the receiving landscape has the capacity to accommodate the Development without adverse effects on character and quality of the landscape.

5.2.2 *Visual Effects*

In terms of visual effects, the Development will be visible from nearby residential properties and will be seen as a potential visual extension to the existing substation/gas compressor for receptors to the south and east. However, the mature trees surrounding the substation and gas compressor assimilate the large infrastructure into the landscape. Residential receptors to the north will have views partially limited by the existing vegetation along the northern boundary. The Development appears in all views against a backdrop of existing agricultural fields and/or mature hedgerows or woodland. All views are/or would be seen in the context of the existing substation/gas compressor, Abergelli Power Station and access road and associated power infrastructure consisting of metal pylons and overhead cables.

The Development considered cumulatively with the substation and Abergelli Power Station would serve to increase the power infrastructure over a localised area. The receiving landscape has the capacity to absorb the Development alongside the existing substation/gas compressor and Abergelli Power Station due to existing mature woodland and tall hedgerows in the immediate area.

Furthermore, landscape mitigation and enhancement is proposed which seeks to reduce the visual impact of the Development and increase biodiversity and extend the green infrastructure network, as set out in Sections 3.3 and 5.4 of this Statement.

The Development does not have any adverse effects on the character and quality of the rural landscape and therefore complies with LDP **Policies CV2, ER2, and ER5**.

5.3 Trees

There are no trees or hedges within the site of the proposed energy management compound or along the 'option 1' access track. A tree survey of a small area to the south of the National Grid substation has been undertaken to assess the impacts if the 'option 2' access track is used. The survey results are included in the arboricultural Report and Impact Assessment at Appendix 7.

10 tree groups and 7 individual trees were identified within the survey area and the trees which were surveyed were all found to be in retention categories B (retention desirable) or C (could be removed). If access option 2 is used, this would necessitate the removal of a small portion tree groups G2, G3 and G7 as identified in the Report. These groups comprise low value young to semi-mature natural regeneration or recently planted trees and their partial removal would have little negative impact.

It should be noted that regardless of this application, portions of these tree groups will be removed to enable the installation of an electrical connection for the approved Abergelli Power Station as explained in Section 8.7 of the Abergelli Environmental Statement. Any tree removals would be fully compensated through the additional woodland planning which is proposed around the energy management compound.

No trees or hedges will be impacted by the Development if access option 1 is used. Given the limited potential impact on trees and hedgerows, none of which are of high value, the Development is in compliance with LDP **Policy ER11**.

5.4 Ecology and Biodiversity

A Preliminary Ecological Appraisal including a Phase 1 Habitat Survey had been prepared and submitted with this application at Appendix 2. The Appraisal incorporates a desk study and the results of a walkover survey conducted within and around the Site in September 2019.

5.4.1 Designated Sites

In terms of statutory designations, Nant-y-crimp SSSI is 2km from the Site while the Camarthen Bay SPA is 7 km to the southwest. There are 18 non-designated sites within 2km of the Site, the nearest of which is the Llety-Morfil Site of Importance for Nature Conservation (SINC), to the west of the Site. The Development footprint is set back from this woodland and given the limited scale of the Development, it is unlikely to impact the features for which this non-statutory site is designated.

Camarthen Bay SPA is approximately 7 km from the Site and given the nature and the scale of the Development, it is considered unlikely to have an impact upon the important ecological features of the designated site.

To manage surface water interactions with the connected watercourse at the operational stage of the Development, an appropriate SUDs system has been selected, the details of which are proposed in a separate drainage strategy report at Appendix 6. The Development design avoids the need for a new access crossing the adjacent stream or any new culverting. The closest infrastructure is c. 20 m from the nearest watercourse. It is assumed that prior to construction the contractor will produce a Construction Environmental Management Plan in order to reduce the risk of impact on ditches and streams during construction. The requirement for the CEMP could be secured via an appropriately worded planning condition.

Through the Development there will be a cessation of agricultural management practices within the developed areas of the Site, which will include an end to the application of nitrate fertiliser and pesticides within this area. Where habitats are no longer subjected to the stresses of these inputs, recovery and changes in both the composition and

abundance of plants and animals is possible, which can benefit biodiversity in the longer term. It is therefore unlikely that the Development would have a negative impact in terms of pollution linkages with designated sites, particularly given the significant separation.

5.4.2 *Protected Species and Habitats*

The walkover survey included an assessment of habitats and protected species such as bats, badgers, otters, water voles, hazel dormice, nesting birds, reptiles and amphibians.

A badger sett entrance was identified approximately 290 m to the south of the Site. As the sett was found over 30 m from the Development and the Development does not obstruct identified mammal tracks or fragment habitat used by badgers, it is considered unlikely that construction works or the Development will have an impact upon foraging and commuting badgers.

No signs of the presence of otter or water vole were observed. The woodland and treelines on the site boundaries provide suitable habitat for dormouse, although habitats within the Site do not offer suitable sheltering, foraging or commuting habitat opportunities for this species.

In terms of bats, there are no buildings within the Site, and trees onsite offer negligible potential for roosting bats, therefore no dusk emergence/dawn return to roost surveys are required. The PEA also considers the likely impact of the Development on foraging bats and concludes that no further transect or activity surveys are required.

Reptile surveys are being carried out in 2020 and the results will be reported prior to determination of this application.

5.4.3 *Mitigation*

Several mitigation measures are recommended in the Preliminary Ecological Appraisal. More detail on these measures will be set out in an Ecological Mitigation and Enhancement Plan which will be submitted prior to construction. The construction and operation of the Development will be carried out in accordance with ecological legislation and best practice in order to protect protected species, habitats and designations.

Linear habitat features near the Site will be maintained and the planting of native species along linear habitats will enhance opportunities for badgers, reptiles and bats. Brash and log piles will be created to provide sheltering and hibernating opportunities for reptiles. Bat and bird boxes will be installed on trees near the Site to provide enhanced roosting and nesting opportunities.

5.4.4 *Green Infrastructure and Biodiversity*

A Green Infrastructure Statement and Biodiversity Metric Assessment has been undertaken and is submitted with this application at Appendix 3. The assessment makes use of the DEFRA Biodiversity Metric 2.0 Calculation Tool Beta Test (2019) to quantify the biodiversity units before and after construction to determine if the Development will result in a net gain or net loss in biodiversity.

Currently the main habitats at the Site are semi-improved neutral grassland, improved grassland and broadleaved scattered trees. Following construction, the existing Broadleaved Scattered Trees will be retained and left in-situ. After construction, some of the neutral grassland will be enhanced and managed to increase species richness. Tussocky Grassland will be created as habitat for Marsh Fritillary butterfly. Further habitats to be created following construction include native species woodland and scrub mix and fescue/bent grass and wildflower mix as shown on the Landscape and Biodiversity Mitigation Plan.

Additional offsite native woodland, scrub and hedge planting has been proposed adjacent to the proposed Development. This will not only further improve the biodiversity and ecological connectivity between onsite and offsite habitat, but also help to screen any views of the Development.

The biodiversity metric has shown there to be an 8.5-10% net gain in biodiversity onsite post construction, depending on which access option is used. An overall net gain of 35.8-37.3% would be achieved for habitats (this includes onsite and offsite measures). The addition of a new hedgerow to the offsite area, increases the number of hedgerow units to 0.14 offsite post construction.

The Development will not result in harm to protected species, designated sites or habitats and will result in a significant net gain for biodiversity. It therefore complies with LDF **Policies ER2, ER6, ER8, ER9 and ER11.**

5.5 Residential Amenity

The Site is in a rural location approximately 400 m from the nearest residential properties, namely Abergelli Farm to the north and Maes-eglwys to the south. Visual effects have been described in section 5.2 and a Noise Impact Assessment in relation to nearby residential properties has been prepared and submitted with this application at Appendix 4.

Consultation was undertaken with the Environmental Health Department of Swansea Council to agree the noise assessment methodology and criteria prior to undertaking the assessment. The EMM building which houses the noise-generating electrical equipment has been designed to restrict noise emissions. The predicted noise levels comply with the standards agreed with the Environmental Health Officer, namely that the rating level of the Development will not be more than 5 dB above the prevailing background levels. The background levels were taken from the noise survey undertaken for the Abergelli Power Station application, with agreement from the Environmental Health Department.

It is anticipated that noise levels due to the Development would be controlled through a suitably worded planning condition to ensure that the Development will not result in an increase of noise levels at any dwelling by more than 5 dB above background levels.

As the Development will not result in harm to the residential amenity of nearby properties, it is in compliance with **Policy PS2.**

5.6 Transport and Highways

A Transport Statement has been prepared and is included at Appendix 5. The Statement considers the likely impact of the Development on the local transport network, sets out the type and quantity of vehicles associated with construction, indicates the construction route and proposes traffic management measures.

The Statement indicates that the simple priority junction between the existing National Grid access and the B4489 offers visibility splays of 70 m in either direction along the B4489. There are no known records of road traffic collisions in the vicinity of the junction.

The construction of the energy management facility is anticipated to take 12-18 months. Construction deliveries will approach the site from the M4 via the B4489. This route does not pass through any settlements. During the peak of construction, the anticipated increase in vehicles movements is approximately 40 per day, which is negligible in terms of the likely existing traffic levels on the M4 and B4489.

The approach road from the B4489 is suitable for HGV access, and has been used previously for the construction of the substation and adjacent gas compressor station, and will be used for the consented Abergelli Power Station.

The access route is crossed by an existing Public Right of Way ('PRoW'), access along which will be maintained throughout the construction and operation of the Development. A permanent crossing point for the PRoW will be created at the end of the construction period.

Traffic management measures to be employed during construction include making drivers aware of the correct route and contingency measures and installing temporary advisory signs on the approach to the site access junction. In order to prevent the deposition of mud on the public highway, wheel washing facilities will be installed at the site entrance junction. There will be a sufficient area of hard-standing within the Site to allow construction vehicles to park safely and turn.

During the operational period of the Development, traffic will be limited to approximately 1 car or van visit per day on average, which would have a negligible effect on the local road network.

The Development will not result in an adverse impact on the public highway network and will comply with LDP **Policies T1, T6 and T7**.

5.7 Flood Risk and Drainage

A Flood Consequence and Drainage Impact Assessment has been prepared and is included with this application at Appendix 6. A separate application to the Sustainable Drainage Approval Body ('SAB') will be made alongside this planning application.

The Assessment confirms that all of the proposed infrastructure is located in areas classed as Flood Zone A in Tan 15 and the risk of on-site flooding is therefore negligible. In terms of surface water drainage, the Development will include an area of hardstanding of 0.29 ha and as such 80 m³ of cellular storage will be installed underneath the Development proposed in order to restrict surface water discharge rates and attenuate a 1:100 year event plus a 20% allowance for climate change.

The residual effect of the Development on surface water run-off and off-site flood risk is considered to be negligible in light of the proposed underground storage. During lower return periods, the storage will act to reduce any effects of run-off from the Site in the wider catchment and will therefore provide a beneficial effect.

6 RELEVANT MATERIAL CONSIDERATIONS

6.1 The Climate Emergency

On Monday 29th April 2019, the Minister for Environment, Energy and Rural Affairs declared a climate emergency in Wales, committing the Welsh Government to achieving a carbon neutral public sector by 2030 and coordinating the transition away from fossil fuels in other areas of the economy³.

Shortly after the national climate emergency declaration, Swansea Council followed with its own declaration on 27th June 2019⁴, wherein the Council committed to '*do its outmost to reduce carbon emissions, enhance biodiversity, and secure a prosperous, low carbon economy for our region*'.

6.2 Prosperity for All: A Low Carbon Wales

In June 2019, the Welsh Government published *Prosperity for All: A Low Carbon Wales*⁵, which sets out 100 policies and proposals to help meet the 2016 to 2020 carbon budget and 2020 emission reduction targets, with a view a further plan being prepared to cover the period from 2021 to 2026.

The document notes that electricity generation emissions in Wales increased by 44% in Wales in the period between 1990 and 2016. As such, one of the key objectives is for low carbon electricity to become the main source of energy in Wales. However, in light of the intermittent nature of renewables, the document states that '*the system will need to integrate renewable generation with storage and other flexibility services, in order to minimise the need for new generation and system reinforcement to serve large peak demands*'.

6.3 The Environment (Wales) Act 2016

*The Environment (Wales) Act 2016*⁶ places new duties on the Welsh Government to reduce emissions and set a carbon budget for the maximum amount of net Welsh emissions for each five-year period. The first two targets were set by the Assembly in December 2018. *The Climate Change (Carbon Budgets) (Wales) Regulations 2018*⁷ set the first carbon budgets as an average of 23% lower than baseline for 2016-2020 and 33% lower than baseline for 2021-2025. Furthermore, the *Climate Change (Interim Emissions Targets) (Wales) Regulations 2018*⁸ require that the net Welsh emissions for

³ Welsh Government (2019) *Welsh Government makes climate emergency declaration* [online] Available from: <https://gov.wales/welsh-government-makes-climate-emergency-declaration> (Accessed 13 May 2020).

⁴ Swansea Council (2019) *Notice of Motion on Climate Emergency* [online] Available from: <https://democracy.swansea.gov.uk/documents/s57602/NOM%20on%20Climate%20Emergency.pdf?LLL=0> (Accessed 13 May 2020).

⁵ Welsh Government (2019) *Prosperity for All: A Low Carbon Wales* [online] Available from: <https://gov.wales/prosperity-all-low-carbon-wales> (Accessed 13 May 2020).

⁶ The National Assembly for Wales (2016) *Environment (Wales) Act 2016* [online] Available from: <http://www.legislation.gov.uk/anaw/2016/3/contents/enacted> (Accessed 13 May 2020).

⁷ Welsh Ministers (2018) *The Climate Change (Carbon Budgets) (Wales) Regulations 2018* [online] Available from: <http://www.legislation.gov.uk/wsi/2018/1303/made> (Accessed 13 May 2020).

⁸ Welsh Ministers (2018) *Climate Change (Interim Emissions Targets) (Wales) Regulations 2018* [online] Available from: <http://www.legislation.gov.uk/wsi/2018/1304/made> (Accessed 13 May 2020).

2030 will be 45% lower than the baseline, while the corresponding figure for 2040 will be 67% lower than baseline.

6.4 Annual report on the Welsh Government's progress on climate change, 2019-20

The Climate Change, Environment and Rural Affairs Committee of the National Assembly for Wales published its second annual report on the Welsh Government's progress on climate change in December 2019⁹. This focus of the Committee's work has been on the Welsh Government's decarbonisation plan, *Prosperity for All: A Low Carbon Wales*.

The report confirms that emissions from the power sector in Wales are currently falling. However, the decrease in emissions in Wales has been lower than in other nations in the UK due to increases in power demand. The report indicates that further decarbonisation of the power sector is required to enable further progress on climate change.

6.5 Energy Wales: A Low Carbon Transition (2012)

This document sets out how the Welsh Government will 'create a sustainable, low carbon economy for Wales', working in partnership with private, public and social sectors to secure investment in infrastructure and simplifying the regulatory framework¹⁰. One of the key commitments within the document is to 'focus on low carbon sources of energy generation and approaches which will help to deliver lower overall emissions.'

6.6 UK Renewable Energy Roadmap

The UK Renewable Energy Roadmap (2011)¹¹ ('the Roadmap') sets out the UK Government's commitment to increasing the use of renewable energy. The Roadmap identifies the National Policy Statements as a potential means of improving the delivery of renewable energy development through their advice on need, mitigation and delivery in a sustainable manner.

The UK Renewable Energy Roadmap Update (2013)¹² ('the Roadmap Update') reports on the progress that has been made in the renewable energy sector since the publication of the Roadmap. The Roadmap Update re-iterates Central Government's commitment to renewable energy (Paragraph 1):

"The Government strongly supports renewable energy as part of a diverse, low carbon and secure energy mix. Alongside gas, low-carbon transport fuels, nuclear power and carbon capture and storage, renewable energy offers the UK a wide range of benefits from economic growth, energy security and climate change perspective."

⁹ National Assembly for Wales (2019) *Annual report on the Welsh Government's progress on climate change, 2019-20* [Online] Available at: <https://senedd.wales/laid%20documents/cr-ld12934/cr-ld12934%20-e.pdf> (Accessed 13/05/2020).

¹⁰ Welsh Government (2012) *Energy Wales: A Low Carbon Transition* [Online] Available at: <https://gov.wales/sites/default/files/publications/2019-07/energy-wales-a-low-carbon-transition.pdf> (Accessed 13/05/2020).

¹¹ Department of Energy and Climate Change (2011) *The UK Renewable Energy Roadmap* [Online] Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/48128/2167-uk-renewable-energy-roadmap.pdf (Accessed 13/05/2020)

¹² Department for Energy and Climate Change (2013) *UK Renewable Energy Roadmap Update 2013* [Online] Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/255182/UK_Renewable_Energy_Roadmap_-_5_November_-_FINAL_DOCUMENT_FOR_PUBLICATION_.pdf (Accessed 13/05/2020)

The Roadmap Update indicates that tools to help balance the supply and demand of electricity, including energy storage and management, are required to remove constraints on the level of renewable energy which the grid can support.

The Roadmap Update also recognises that a number of barriers continue to present challenges to delivery, including pre-consent delays.

6.7 Net Zero – The UK’s Contribution to Stopping Global Warming

In May 2019 the Committee on Climate Change published *Net Zero – The UK’s Contribution to Stopping Global Warming*. The report recommends a new emissions target for the UK: net zero greenhouse gas emissions by 2050.

The Report highlights the falling cost of key renewable technologies including battery storage and advises that flexibility in the energy supply (e.g. demand response, storage and interconnection) should be encouraged by policy and regulatory frameworks.

On 27 June 2019, the Climate Change Act 2008 was amended to introduce a target for at least a 100% reduction in greenhouse gas emissions (compared to 1990 levels) in the UK¹³ by 2050. This ‘net zero’ target is likely to affect and increase future Government renewable and low carbon energy targets and create a more positive policy environment for energy storage and management development.

6.8 Reducing UK Emissions – 2019 Committee on Climate Change Report to Parliament

The 2019 Committee on Climate Change Report to Parliament¹⁴ was published in July 2019 and provides a review of Government efforts over the previous 12 months with regards to Climate Change. This Report highlights that the UK is not on course to meet the 2050 Net Zero commitment or the legally binding fourth and fifth carbon budgets and the policy gap has widened further this year as an increase in the projection of future emissions has outweighed the impact of new policies.

6.9 UK Clean Growth Strategy: Leading the Way to a Low Carbon Future

The UK Clean Growth Strategy (2017)¹⁵ (‘The Strategy’) builds on the UK’s carbon emissions reduction progress. The report conveys the Government’s objective of achieving clean growth, whilst ensuring an affordable energy supply for businesses and consumers. The strategy is in-line with the 2015 Paris Agreement where 195 countries agreed to stretch national targets to keep the global temperature rise below 2C degrees. Therefore, further actions and investment will be needed to ensure the shift to clean growth in the coming years, where the clean growth plays a central role in the UK’s Industrial Strategy.

To meet the fourth and fifth carbon budgets (2023-2027, and 2028-2032), there will be a need for a significant acceleration in the pace of decarbonisation, while ensuring energy security supply at minimum cost to both industry and domestic consumers. One of the ‘Clean Growth Innovation Challenges’ identified within the Strategy is to develop smart

¹³ UK Government (2019) *The Climate Change Act 2008 (2050 Target Amendment) Order 2019* (2019 No. 1056) [Online] Available at: <http://www.legislation.gov.uk/ukxi/2019/1056/made> (Accessed 13/05/2020)

¹⁴ Committee on Climate Change (2019) *Reducing UK Emissions – 2018 Progress Report to Parliament* [Online] Available at: <https://www.theccc.org.uk/wp-content/uploads/2019/07/CCC-2019-Progress-in-reducing-UK-emissions.pdf> (Accessed 13/05/2020)

¹⁵ UK Government (2017) *Government reaffirms commitment to lead the world in cost-effective clean growth* [Online] Available at: <https://www.gov.uk/government/news/government-reaffirms-commitment-to-lead-the-world-in-cost-effective-clean-growth> (Accessed 13/05/2020)

energy systems so that clean technologies can integrate smoothly in the energy supply network.

6.10 The UK's Draft Integrated National Energy and Climate Plan ('NECP')

The UK NECP¹⁶ was produced in January 2019 and sets out the UK Government's climate and energy objectives, targets, policies and measures covering the five dimensions of the Energy Union. The NECP makes clear that in order to meet the UK's 2050 climate change target, improvements in energy efficiency and energy management are required. This includes smart technologies such as energy storage and system balancing.

6.11 Upgrading Our Energy System – Smart Systems and Flexibility Plan ('SSFP')

In July 2017, BEIS and Ofgem published Upgrading our Energy System: Smart Systems and Flexibility Plan¹⁷, which sets out 29 actions that the UK Government, Ofgem, and industry will undertake to remove barriers to smart technologies, including storage; enable smart homes and businesses; and make electricity markets work towards flexibility. The SSFP states that:

By harnessing the potential of energy storage, demand-side response and smarter business models, we have an opportunity to upgrade to one of the most efficient, productive energy systems in the world. This is central to how we deliver secure, affordable and clean energy now and in the future.

The Government aims to implement the actions in the Plan by 2022, enabling the electricity system to work more flexibly and efficiently, potentially unlocking £17-40 billion in savings across the electricity system by 2050. Other benefits of improving energy systems include a reduction in the amount of additional energy generation required and improvements to the functioning of the grid.

6.12 Energy Storage and Management Drivers

There is a focus at International, European and national level on how the UK can deliver secure, clean and affordable electricity to consumers. Energy management facilities will play an important role in achieving this. A report by the National Infrastructure Commission (2016)¹⁸ estimates that smart power systems in the UK, which include energy storage and management "could save consumers up to £8 billion a year by 2030, help the UK meet its 2050 carbon targets and secure the UK's energy supply for generations."

The Development is designed to support the flexible operation of the National Grid and decarbonisation of electricity supply. The Development will import and export electricity however, will not generate any additional electricity nor have any on-site emissions of CO₂. As such, the Development will contribute to the legal obligations of the Climate Change Act 2008, as amended in 2019 to incorporate the 2050 Net Zero target.

¹⁶ Department for Business, Energy and Industrial Strategy (2019) *The UK's Draft Integrated National Energy and Climate Plan* [Online] Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/774235/national_energy_and_climate_plan.pdf (Accessed 13/05/2020)

¹⁷ Department for Business, Energy and Industrial Strategy and Office of Gas and Electricity Markets (2017) *Upgrading Our Energy System – Smart Systems and Flexibility Plan* [online] Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/633442/upgrading-our-energy-system-july-2017.pdf (Accessed 13/05/2020)

¹⁸ UK Government (2016) *Smart Power: A National Infrastructure Commission Report* [Online] Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/505218/IC_Energy_Report_web.pdf (Accessed 13/05/2020)

7 CONCLUSION

The Development comprises essential electrical infrastructure to support the functioning and stability of the National Grid in South Wales. The Development will support a higher proportion of renewables within the energy supply and increase the efficiency and stability of existing renewable energy developments by addressing intermittency and fluctuations in inertia.

The Development will support the aims of the relevant material considerations set out in Section 6 of this Statement, including addressing the Climate Emergency and meeting the Net Zero carbon emissions commitment.

The location of the Development has been selected to avoid negative impacts on the surrounding environment or on residential amenity. The Development has been designed to mitigate any potential effects in terms of landscape, ecology and residential amenity. Significant landscape enhancements are proposed, which will result in a significant increase in biodiversity in and around the Site and ensure that the Development is well integrated into the wider landscape.

The Development is supported by national planning policy and complies with the relevant policies in the Local Development Plan. It is therefore respectfully requested that the Council approves this planning application.