



**Proposed Development of a Battery Storage Facility on Land to
the North of National Grid's 275/400kV Legacy Substation,
Talwrn, Wrexham, LL14 4HY**

PLANNING STATEMENT

May 2021

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1.0 INTRODUCTION AND BACKGROUND

1.1 Introduction

1.1.1 This Planning Statement has been prepared in support of a planning application made by HD639LEG Limited (hereafter referred to as 'the Applicant' or 'Pelagic Energy') to install and operate a battery storage facility ('BSF') and ancillary equipment on land to the north of National Grid's 275/400kV Legacy Substation, Talwrn, Wrexham (hereafter referred to as 'the Site'). The location of the Site is illustrated on Planning Drawing 2658-02-001 and the planning application boundary is shown on Planning Drawing 2658-02-002.

1.1.2 This application is being made to Wrexham County Borough Council ('WCBC') as the local planning authority.

1.2 Background

1.2.1 This application follows a recent scheme proposed for the same site by the Applicant for the installation of a 49.5MW gas peaking plant facility (under pre-application planning ref: P/2020/0299). This scheme (henceforth referred to as the 'Gas Plant Scheme') underwent pre-application consultation in 2020 due to it being captured by the Development of National Significance ('DNS') definitions in Wales. At the time, the threshold for a generating station to be classed as a DNS was delivery of over 10MW of power.

1.2.2 The Proposed Development does not fall within the remit of the DNS process in Wales due to recent legislation which has made standalone electricity storage projects exempt, through removal of their definition as 'generating stations'.

1.2.3 However, the pre-application consultation exercise for the Gas Plant Scheme is a material consideration in the determination of the Proposed Development as the consultee responses are still largely relevant due to the following reasons:

- a) The 'main' section of the development footprint is the same;
- b) The Proposed Development is a similar type of development to the Gas Plant Scheme and would deliver a similar function (i.e. providing balancing services to the grid / supporting renewable energy deployment) although essentially through a different technology; and
- c) The responses are relatively recent (< 1 year) and therefore environmental conditions are unlikely to have changed significantly.

1.3 Scheme Overview

1.3.1 The Proposed Development would comprise the following elements:

- 52 no. (double-stacked) containers housing Battery Energy Storage Systems ('BESS'). These would have the appearance of a standard metal shipping container with ventilation units for cooling and would be arranged in several parallel blocks across the site.
- The containers would be supported by ancillary infrastructure including: 26 no. inverter/transformer stations, 2 no. external switchgear units, 1 no. auxiliary transformer compound, 1 no. control room and a 40 cubic metre water tank.
- The containers and ancillary infrastructure would be located within a secure compound surrounded by a 2.4m high weldmesh fence with CCTV security cameras.

1.3.2 The layout of the Proposed Development is shown on Planning Drawing 2658-02-003 and elevations are provided on Planning Drawings 2658-02-005, 2658-02-006, 2658-02-007, 2658-02-008, 2658-02-009, 2658-02-010, 2658-02-011 and 2658-02-012.

1.3.3 The Site would be accessed via the existing National Grid substation which itself is accessed off Bronwylfa Road further south. The internal access tracks through the substation would then be used to reach a new access gate at the south east boundary of the Site.

1.3.4 The point of connection for the Proposed Development to the electricity grid, would be at the adjacent substation to the south of the Site. The connection would be installed below ground by an ICP contractor / statutory undertaker under permitted development rights. Accordingly, planning permission is not being sought for this element of the scheme.

1.3.5 The Proposed Development would store electricity from the national grid at times of excess supply and would feed this electricity back into the grid at times of high demand/reduced generation capacity. The Proposed Development is referred to by National Grid as a 'balancing service'¹. It would assist in balancing grid frequency at times of system stress. The Proposed Development would provide a flexible back-up power source to the grid and can respond rapidly to variations that result from local

¹ <https://www.nationalgrideso.com/balancing-services>

and national energy demand, alongside increasing fluctuations in generation resulting from an ever-greater use of intermittent renewable energy sources². Accordingly, the Proposed Development would contribute towards ensuring that there is a reliable and constant supply of electricity across National Grid's transmission network.

1.4 The Applicant

- 1.4.1 The Applicant for the Proposed Development is Pelagic Energy (formerly Harbour Energy). Pelagic Energy is one of the largest developers of energy storage projects, flexible generation and solar farms in the UK. Pelagic Energy have projects across the UK from the South Coast to Glasgow and have secured a number of development opportunities adjacent to National Grid's Super Grid Transformer Substations across the UK.
- 1.4.2 National Grid's Super Grid Transformer Substations are strategically important infrastructure, required to maintain power supplies across the UK. Co-location of BSFs with Super Grid Transformer Substations ensures that transmission losses are minimised and that appropriate grid capacity is available for the strategic scale of development required to address the current shortfall in required energy storage capacity across the UK. In addition, the BSF compound and adjacent substation compound will contain visually compatible infrastructure, and this will assist in minimising any landscape and visual impacts.
- 1.4.3 Pelagic Energy have carried out a site screening exercise for National Grid's Super Grid Transformer Substations. Of the two hundred and ninety-eight (298) National Grid Super Grid Transformer Substations in the UK, only one hundred and sixty-eight (168) have capacity to accommodate a 57MW BSF. A significant number of these sites are constrained due to the close proximity of housing or other environmental constraints and, as a consequence, there are only a limited number of sites suitable for battery storage projects.
- 1.4.4 The proposed location at National Grid's 275/400kV Legacy Substation is one of Pelagic Energy's leading sites due to the availability of suitable grid connection, its

² <http://www.telegraph.co.uk/business/2017/06/07/uk-sets-new-renewable-energy-record-wind-solar-surge/> a peak in renewables output occurred on 7th June 2017 as wind turbines and solar panels helped to meet more than half of the UK's electricity demand. In addition, <https://www.renewableuk.com/news/431383/New-wind-generation-peak-rounds-off-record-breaking-year-for-renewables.htm> which reports a number of key milestones in 2018.

physical and visual separation from residential property, adjacent to commercial / industrial development and screening vegetation.

1.5 Scope of the Planning Application

1.5.1 The application is contained within this Planning Statement, the Appendices, the planning application forms and certificates, and the planning drawings.

1.5.2 This Planning Statement is divided into twelve main sections. Following on from this introduction, the sections are set out as follows:

- **Section 2.0** provides a description of the application site, its surroundings and its planning history;
- **Section 3.0** provides a detailed description of the Proposed Development;
- **Section 4.0** addresses the need for and benefits of the Proposed Development;
- **Sections 5.0 – 10.0** address the potential issues of noise, ecology, landscape and visual impacts, drainage, arboriculture, ground conditions respectively;
- **Section 11.0** sets out the planning policy context and provides an associated appraisal; and
- **Section 12.0** provides a summary and draws a concise conclusion regarding the acceptability of the Proposed Development in planning terms.

Need for EIA

1.5.3 The Proposed Development area would not exceed 0.5 hectares and as such the Proposed Development would fall outside the scope of Schedule 2 of the Environmental Impact Assessment (EIA) (Wales) Regulations 2017.

Validation and Determination Requirements

1.5.4 The Proposed Development would occupy an area of 4,013m² (0.4ha) and as such it would be below the site area threshold for classification as a 'Major' development in the Development Management Procedure (Wales) Order 2012.

1.5.5 The Proposed Development primarily comprises plant and machinery in the form of BESS containers, inverters, transformers and switchgear. The only 'buildings' on the Site would be the client control room, the floorspace of which would be 30m². As such, the Proposed Development would be significantly below the 1,000m² floor space threshold for classification as a 'Major' development in the Development Management Procedure (Wales) Order 2012.

- 1.5.6 As such, the Proposed Development would not be classified as 'Major' development in respect of national validation requirements and the statutory determination period is 8 weeks.

2.0 THE SITE, ITS CONTEXT AND PLANNING HISTORY

2.1 Introduction

- 2.1.1 This section sets out the details of the existing site of the proposal and its wider context. Relevant planning applications made on the site and in the adjacent area are then discussed.

2.2 The Site and its Surroundings

- 2.2.1 The Site is located to the north of and adjacent to National Grid's (NG) substation off the B5426 (Bronwylfa Road), Talwrn, Wrexham. The location of the Site is shown on Planning Drawing 2658-02-001 and the existing site layout is shown on Drawing 2658-02-004.
- 2.2.2 The Site covers an area of 4,013m² (0.4ha) and comprises unmanaged grass and scrubland with some self-seeded small trees. A substantial woodland embankment surrounds the majority of the substation complex (especially the northern side where the Site itself is situated) and this provides significant screening to the surrounding landscape.
- 2.2.3 The village of Talwrn is located circa 700m to the south of the Site, while the towns of Rhostyllen and Rhosllannerchrugog are located circa 1.5km to the east and south respectively. Wrexham is circa 4.6km to the north-east.
- 2.2.4 To the immediate south of the Site sits the existing NG substation complex. Further south is the village of Talwrn, separated from the substation complex by Bronwylfa Road.
- 2.2.5 North of the Site is a thick woodland sitting on an embankment which provides complete screening of views to the Site from the landscape beyond. Further north of this woodland embankment lies extensive agricultural land. A solar farm development sits circa 140m north-west of the Site while small pockets of residential development and sporadic agricultural buildings are also present further afield to the north.
- 2.2.6 East of the Site is a continuation of the wooded embankment which surrounds the north end of the NG substation complex. Beyond this lies agricultural fields bounded by hedgerows and tree lines. Bersham Cricket Club lies circa 700m south-east of the Site, although a further strip of woodland adds another layer of screening between the Cricket Club and the Site.

- 2.2.7 The Site is immediately bound to the west by the wooded embankment. A public footpath runs along the opposite side of this section of the embankment. Further west lies agricultural land and small pockets of residential properties.
- 2.2.8 There are no residential dwellings within or immediately adjacent to the Site. The nearest residential properties to the Site are those located off Bronwylfa Road to the south-west, at circa 325m away. Isolated residential receptors are also situated south-east off Bronwylfa Road at a distance of 390m to the Site. To the north-west and north-east of the Site, further isolated dwellings sit at distances of circa 430m to 540m respectively.
- 2.2.9 The Site is not within an area subject to flood risk. The Site area is below 1 hectare, and therefore Flood Risk Assessment is not a requirement of this application. However, a Surface Water Drainage Assessment has been undertaken for the Site (see Appendix D).
- 2.2.10 The Site sits within a Local Wildlife Site ('LWS') and the potential impacts of the Proposed Development on this have been fully addressed within the accompanying Ecological Assessment (Appendix C) and this is summarised in subsequent sections of this Statement.
- 2.2.11 The Site is not subject to any heritage or Conservation Area designations and there are no listed buildings on or in the immediate vicinity to the Site. There are several designated heritage assets located inside a 2km radius to the Site, including a Scheduled Ancient Monument ('SAM') located circa 400m east, however, views of the Proposed Development will be blocked by the earthwork embankments of the substation site, as well as the surrounding topography, existing substation buildings and structures, and woodland vegetation.

2.3 Planning History

- 2.3.1 The Proposed Development would lie entirely within the administrative area (and planning jurisdiction) of WCBC. The most relevant planning history for the Site is summarised below.
- 2.3.2 A review of the Site's planning application history has been undertaken using WCBC's online mapping search. The review has identified that there is a limited planning history for the Site itself. Those applications considered relevant to the proposed development are summarised in Table 2.1 below:

Table 2.1: Planning History of the Site

Planning Ref.	Description	Outcome / Date
P/2008/0046	Installation of 40 Kva Generator and Ancillary Equipment at Legacy Substation.	Granted, February 2008
P/2014/0263	Installation of Solar Panels and Associated Equipment to Enable Energy Generation and Connection to National Grid.	Granted, July 2014
P/2016/0089	Application for Non-Material Amendment to Planning Permission P/2014/0263 For Retention of Temporary (Internal) Access Track and Alteration to Solar Array Layout as per Condition No 20.	Granted, March 2016
P/2020/0299	Pre-application for a 49.5MW Gas Peaking Plant Scheme.	n/a

2.3.3 As identified in the table above (and discussed previously), the Site has recently been subject to a pre-application consultation for a gas peaking plant scheme. Whilst the Proposed Development is not considered a Development of National Significance (and as such, does not require pre-application consultation itself) the pre-application responses to Gas Plant Scheme (ref: P/2020/0299) are materially significant as they identify matters concerning development of the Site (the footprint of which is largely unchanged).

2.3.4 In summary, the local area to the Site has a planning history of applications being granted for energy related developments due to the presence of the existing substation.

3.0 THE PROPOSED DEVELOPMENT

3.1 Introduction

3.1.1 This section provides a description of the Proposed Development, together with details regarding its construction and operation.

3.1.2 The key components of the Proposed Development are as follows:

- 52 no. containers (double stacked) housing Battery Energy Storage Systems (BESS) and sitting on an access deck;
- 26 no. battery inverter / transformer stations;
- 1no. client control room;
- 2no. switchgear units;
- 1no. auxiliary transformer;
- 1no. 40 cubic metre water tank;
- 2.4m high steel palisade security fencing surrounding the entire BSF facility;
- CCTV monitoring / lighting column points;
- A single access track with gated entrances to the north and south; and
- Availability for limited parking on the proposed areas of hardstanding.

3.2 Description of Proposed Development

Battery Storage Facility, Ancillary Infrastructure and Compound

3.2.1 The Proposed Development would include 26 no. BESS containers on each level of the double stacked design, as illustrated on Planning Drawings 2658-02-005 and 2658-02-012. Each metal BESS container would be c. 12.2m long, 2.4m wide and 2.9m high with ventilation and cooling units at either end, as illustrated on Planning Drawing 2658-02-005. The containers would be supported by concrete sleeper/skid foundations.

3.2.2 As illustrated on Planning Drawings 2658-02-003, the BESS containers would be arranged in a single row to fit the shape of the Site. Each container would be finished in dark grey or green and would be prefabricated off-site.

3.2.3 Two battery containers would be connected to each inverter/transformer station. Each inverter/transformer station would comprise inverters and a transformer, as illustrated on Planning Drawings 2658-02-006 and 2658-02-012. The inverter would convert the supply between the direct current ('DC') from the battery and alternating

current ('AC') from the national grid and the transformer would step-up or step-down the voltage of the supply as required for transmission/storage.

- 3.2.4 The BESS are able to import and store surplus electricity from the grid via the adjacent substation and export it back to the grid as and when required. The batteries are likely to be lithium-ion based, similar to those used in many modern electronics. To maintain internal operating conditions, each container would include heating, ventilation and air conditioning ('HVAC') end units.

Fire Risk Management

- 3.2.5 Fire risk within the BESS container is managed in a number of ways, (in addition to the base chemistry of the battery cells), including software and hardware fail safes and fire suppression systems. Temperature within each cell of each battery module is monitored by the BESS container monitoring system and any temperature variation within an individual module outside optimum operating conditions would trigger a response from the air conditioning units. If temperature increase continues or there is a failure of the air-conditioning units, the BESS container would automatically partially or fully shutdown to mitigate against the risk of thermal runaway and fire.
- 3.2.6 In the very unlikely event of a battery fire in one of the modules, a fire suppression system would be triggered automatically. The fire suppression system would comprise FM200 gas or similar. This is a waterless fire protection system and as such there is no risk to soils or ground water as a result of operation. FM200 would be discharged into the fire risk area and would suppress any fire immediately. FM200 is a synthetic/chemical fire suppression gas and extinguishes a fire by removing the free radicals or heat elements from the fire triangle. (Oxygen, Heat and Fuel). FM200 systems are widely used for confined spaces and reach extinguishing levels in 10 seconds or less, stopping fires before they cause significant damage. FM200 extinguishes the fire quickly, which means less damage to adjacent battery modules and lower repair costs.
- 3.2.7 FM200 fire suppression is found as an active compound as a propellant in medical inhalers as such it is extremely safe within the correct fire suppression design.

Ancillary Infrastructure

- 3.2.8 The BESS containers and inverter/transformer stations would be supported by the following ancillary infrastructure to enable safe connection to the National Grid substation and management/monitoring of the BSF:

- 2 No. external switchgear units as illustrated on Planning Drawing 2658-02-007;
- 1no. control room as illustrated on Planning Drawing 2658-02-008, and
- 1no. auxiliary transformer compound as illustrated on Planning Drawing 2658-02-009.

Access, Surfacing & Parking

- 3.2.9 Access to the Site would be via the existing substation complex. An access point and short stretch of track would be created connecting the existing internal route within the substation complex to the Proposed Development site, as shown on Planning Drawing 2658-02-003. This route connects with the adopted Bronwylfa Road to the south. Construction traffic would also use this route to access the Site. The Substation is not publicly accessible due to health and safety requirement and as such public access to the Proposed Development has not been considered.
- 3.2.10 The Proposed Development would be surfaced with compacted stone to provide an even surface for vehicle movements and to provide a stable base for installation and maintenance cranes (when required). The BESS, switchgear units, auxiliary transformer compound, transformers, inverters, and control room would be located on concrete foundations. All these areas would have a low permeability and have been treated as impermeable in the drainage strategy provided at Appendix D.
- 3.2.11 The areas of hardstanding on the Site would provide sufficient parking space for the occasional maintenance engineer vehicle to park while carrying out activities within the compound.

Grid Connection

- 3.2.12 The Proposed Development would be connected to the National Grid substation via underground cables.
- 3.2.13 The grid connection works outside the Site boundary would be undertaken by an ICP (Independent Connection Provider), in accordance with the National Grid design requirements, under Permitted Development Rights. As such, these works do not form part of this planning application and are not included within the planning application boundary.

Drainage

Foul Drainage

- 3.2.14 As the Site would not be permanently manned there is no requirement for foul drainage..

Surface Water

- 3.2.15 The Site is not currently surfaced. The Proposed Development would introduce areas of impermeable surfacing that could potentially increase surface water run-off rates from the Site. To mitigate this potential effect, a Sustainable Urban Drainage System ('SuDS') scheme would be used, as discussed in detail within Appendix D. A review of geological, hydrogeological and soils data indicate that discharging to a watercourse with attenuation and a restricted runoff rate is likely to be most suitable for the Site.
- 3.2.16 However, should infiltration testing prove that this would be the most sustainable option, this would be investigated further to ensure the most sustainable solution is used. The various drainage options would be explored further at the detailed design stage and it is suggested that the final drainage design solution could be approved through a suitably worded condition.

Security and Safety

- 3.2.17 Energy storage facilities are best located, as in this case, near to electricity substations or overhead lines and in industrial areas away from residential properties.
- 3.2.18 As the facility will store and supply electricity to the local power grid, safety and security is paramount. There is no public access to the Site and entry to the National Grid substation is security controlled.
- 3.2.19 The Proposed Development would be sited behind a 2.4m high security fence with a controlled vehicle access gate. Appropriate signage to adhere to HSE regulations would be clearly displayed.
- 3.2.20 An Alarm Receiving Company would be appointed to ensure that no one enters the Site when the facility is not occupied, and they will monitor the Site 24/7 and raise any necessary alarms with site management staff or the local police. The security system will include a Closed-Circuit TV (CCTV) system, motion sensors, tannoy system and security lights.

Lighting

- 3.2.21 To reduce light pollution and running costs, lighting at the Site would be kept to a minimum and it would only be used when maintenance staff are present on site to allow them to safely move around the Site. Lighting would be low level directional LED lighting with shrouds to prevent upwards light spillage. Lighting would be fitted to CCTV columns, site office and perimeter fencing as required.

Staff

- 3.2.22 The Proposed Development would not be permanently manned. However, a team of maintenance engineers would visit the Site on routine monthly maintenance visits. The Site would also be constantly monitored by staff remote from the Site throughout the day.
- 3.2.23 The Proposed Development is part of a wider business strategy to develop additional storage facilities elsewhere in the UK and additional staff opportunities would be created for overall management of the business and the trading of energy with the National Grid.

Traffic

- 3.2.24 During site operations, very limited traffic would be generated by the Proposed Development. This would be limited to visits by maintenance engineers using a van. There may be occasions where more major maintenance would be required that might require a crane to be brought to the Site. However, this would be an infrequent event. As such the operational phase of the project would not generate any significant traffic impacts.
- 3.2.25 During construction, the maximum number of vehicles accessing the Site during the peak construction phase would be 4 low loaders and approximately 15 light vehicles per day.

Construction Phase

- 3.2.26 The construction phase is expected to last circa 6-8 months.

Operational Phase

- 3.2.27 During the operational phase, the Proposed Development would be controlled remotely as the facility is fully automated.

4.0 NEED AND BENEFITS

4.1 Introduction

- 4.1.1 This section of the Planning Statement addresses the benefits of BSFs and the need for such facilities in respect of national policy and energy strategies.

4.2 Benefits of Battery Storage Facilities

- 4.2.1 This chapter of the Planning Statement considers the strategic need for the Proposed Development based on a review of UK / Welsh Government Policy and Strategy.
- 4.2.2 BSFs provide a means of allowing electricity from the grid to be imported and stored at times of low demand / high generation, which can then be exported back into the grid at times of higher demand / system stress.
- 4.2.3 There is an ever-increasing reliance on renewable forms of energy generation, such as wind and solar, to supply the UK's energy demands. Renewable energy sources are highly variable due to their weather dependency. As a result of the intermittent nature of renewables and the continuous requirement for NG to balance grid frequency (within $\pm 1\%$ of nominal system frequency, which is 50.00Hz) supporting energy balancing solutions need to be incorporated into the UK's energy strategy.
- 4.2.4 System frequency is a continuously changing variable that is determined and controlled by the second-by-second (real time) balance between system demand and total generation. If demand is greater than generation, the frequency falls while if generation is greater than demand, the frequency rises. If the grid network is not maintained within the required frequency tolerance system stress can result in wide spread power supply issues and damage to network infrastructure.
- 4.2.5 Battery storage is a key part of this energy strategy and provides NG with balancing services to help accommodate the increasing level of renewable energy generation.
- 4.2.6 Enhanced Frequency Response (EFR) is defined by NG as being: *"a dynamic service where the active power changes proportionately in response to changes in system frequency. This service was aimed at improving the management of the system frequency pre-fault to maintain system frequency closer to 50Hz."*³ EFR is borne out of the NG procurement exercise, which allows tenders to be submitted to deliver

³ <https://www.nationalgrideso.com/balancing-services/frequency-response-services/enhanced-frequency-response-efr>

balancing services. On recognising the benefits of BSFs, one procurement round solely awarded services to battery storage technologies as opposed to technologies that deliver power via diesel, gas or hydro-electrical generation.

- 4.2.7 By importing excess renewable energy from the grid and storing it, batteries can capture energy that would otherwise be lost / unutilised. In respect of their storage ability, batteries offer opportunities to support the intermittent nature of renewables by storing the excess energy they produce and importing it back into the grid when demand requires.
- 4.2.8 During situations when primary power sources (e.g. traditional power stations) are interrupted, BSFs can bridge the gap in production, thus avoiding potential blackouts. It should be noted that the UK electricity network is wholly interconnected and issues in one geographic location can have far reaching implications on the network. Accordingly, BSFs offer additional capacity to deal with system stress and any variations in grid frequency at both a local and national level.
- 4.2.9 As recognised by NG's System Operability Framework (SOF)⁴ a: *"Faster response is more effective and so less response is needed if speed can be increased."* BSF are able to respond more rapidly than other types of balancing services, as they have no start-up delays. As such BSF can balance the real-time requirements of the national grid more efficiently.

4.3 National Energy Policy and Strategy Context

- 4.3.1 The UK's energy sector is currently experiencing a rapid change in response to efforts to address commitments and policies on tackling climate change. The explicit need to introduce a step change in how the country deals with climate change has been recognised by the UK Government. On 1 May 2019, an Environmental and Climate Change Emergency was declared following the finding of the Inter-governmental Panel on Climate Change. In order to avoid more than 1.5°C rise in global warming, global emissions would need to fall by around 45 per cent from 2010 levels by 2030, reaching net zero by around 2050.
- 4.3.2 In June 2019, the UK became the first major economy in the world to pass laws to end its contribution to global warming by 2050. The Climate Change Act 2008 (2050 Target Amendment) Order 2019 sets a legally binding target to bring all greenhouse

⁴ <http://www2.nationalgrid.com/UK/Industry-information/Future-of-Energy/System-Operability-Framework/>

gas emissions to net zero by 2050, compared with the previous target of at least 80% reduction from 1990 levels. In April 2021 the UK government announced that it intended to speed up the target to cut carbon emissions with a target of 78% cut by 2035.

- 4.3.3 This will inevitably see an increase in the development in renewable energy generation and this will need to be mirrored by similar increases in balancing services, such as the Proposed Development.
- 4.3.4 Two-thirds of existing traditional power stations in the UK are reaching the end of their operational lifespan and are anticipated to close by 2030. This fast-changing energy landscape coupled with an increasing reliance on renewable energy generation equates to a system of high grid frequency volatility. The UK is therefore facing a requirement to address our future energy demands and ensure that a system that is fit for purpose is developed.
- 4.3.5 In response to this requirement, the Government has set out a clear policy framework for the delivery of facilities to meet the UK's future energy demands. This section briefly describes that framework, and subsequently identifies the clear benefits of BSFs and their ability to contribute towards meeting the aims of Government energy policy.

National Policy Statement for Energy (EN-1) (July 2011)

- 4.3.6 In July 2011, the then Department of Energy and Climate Change (DECC)⁵ published the overarching National Policy Statement (NPS) for Energy EN-1⁶. NPS EN-1 sets out national policy for energy infrastructure and states that: “[it] is likely to be a material consideration in decision making on applications that fall under the Town and Country Planning Act 1990 (as amended).” (paragraph 1.2.1)
- 4.3.7 In terms of energy security, NPS EN-1 states that: “It is critical that the UK continues to have secure and reliable supplies of energy as we make the transition to a low carbon economy...” (paragraph 2.2.20) In addition, the NPS recognises that a flexible approach to energy generation is required in order to provide backup supply for renewable energy sources, by stating: “the more renewable generating capacity we

⁵ Now part of the Department for Business, Energy and Industrial Strategy.

⁶ <https://www.gov.uk/government/publications/national-policy-statements-for-energy-infrastructure>

have the more generation capacity we will require overall, to provide back-up at times when the availability of intermittent renewable sources is low.” (paragraph 3.3.11)

4.3.8 The NPS identifies that the overall capacity of the grid will require additional resources to meet future demands. This is reinforced by paragraph 3.3.12, which states: “...we need more total electricity capacity than we have now, with a larger proportion being built only or mainly to perform back-up functions.”

4.3.9 It is clear from a review of NPS EN-1 that the Government expect new balancing services to come forward through the planning system to ensure energy security and to support low carbon electricity generation. As such the Proposed Development is considered consistent with the aims of NPS EN-1.

Planning Our Electric Future: A White Paper for Secure, Affordable and Low Carbon Energy (July 2011)

4.3.10 In July 2011 DECC published the White Paper ‘Planning our Electrical Future: A White Paper for Secure, Affordable and Low-Carbon Electricity’⁷ under its Electricity Market Reform agenda. The White Paper set out the Government’s commitment to transforming the UK’s electricity system to ensure that future electricity supply is secure, low-carbon and affordable. The reforms seek to ensure that, by 2030, the UK will have a flexible, smart and responsive electricity system, powered by a diverse and secure range of low-carbon sources of electricity. It recognises that, in order to ensure continued international competitiveness, a number of unprecedented challenges need to be addressed, namely:

- Security of supply is threatened as existing generating plants close, noting that over the current decade around a quarter (20GW) of existing generation capacity will be lost as old plants close;
- Decarbonising electricity generation to transform the UK permanently into a low-carbon economy to meet renewable energy targets;
- Accommodating increased demand for electricity, noting that despite improvements in domestic and non-domestic energy efficiency, overall demand for electricity is likely to double by 2050; and
- Managing electricity costs, noting that whilst the UK is likely to experience short-term fluctuations in power prices, it is likely that there will in the long-term be

⁷ <https://www.gov.uk/government/publications/planning-our-electric-future-a-white-paper-for-secure-affordable-and-low-carbon-energy>

overall increases in wholesale costs arising from the carbon price, stricter environmental policies and major investment in new large-scale infrastructure.

- 4.3.11 The Proposed Development would help deliver the flexible energy network envisaged by the white paper.

Energy Wales: A Low Carbon Transition (March 2012)

- 4.3.12 This Welsh Government documents sets out under ‘The Transition to Low Carbon’ on page 10 that “[Wales] *will see the widespread deployment of a diverse range of low carbon technologies which will help to generate low carbon electricity, bringing about a steady decarbonisation of energy supply...*”

Upgrading our Energy System: Smart Systems and Flexibility Plan (July 2017) and Progress Report (October 2018)

- 4.3.13 In July 2017, the Department for Business Energy and Industrial Strategy (BEIS) and Ofgem published a policy paper entitled: ‘Upgrading our Energy System: Smart Systems and Flexibility Plan’⁸. The Executive Summary identifies that the: “...*plan is an important part of the Government’s Industrial Strategy, the forthcoming Clean Growth Plan, and a core component of Ofgem’s future-facing work to enable the energy system transition.*”
- 4.3.14 The plan set out 29no. actions that seek to remove barriers to smart technologies (such as storage which includes batteries as illustrated within the case studies); enable smart homes and businesses; and improve access to energy markets for new technologies and business models. The actions are designed to support clean growth, reduce the cost of the energy system and keep energy bills low for consumers.
- 4.3.15 As set out in the conclusion to the plan, it seeks to enable the development of a smart, flexible energy system that will reduce costs for consumers and industry, and support the growth of innovative new businesses. The aim of which is to upgrade the regulatory and market framework, open up new opportunities for consumers / market participants, and provide conditions in which innovation can flourish. Finally, it recognises: “*As a core part of the Industrial Strategy, it is an opportunity to increase*

⁸ <https://www.gov.uk/government/publications/upgrading-our-energy-system-smart-systems-and-flexibility-plan>

productivity at home, and put the UK in a leading position to export smart energy technologies and services to the rest of the world.”

4.3.16 A progress update⁹ was published in October 2018. This confirmed that at the date of publication, 15 actions had been implemented with the commitment to delivering the remaining 14 actions by 2022. It also set out 9 No. new actions beyond those set out previously that have been committed to since the original publication. These include actions to ensure that the network connections process is appropriate and does not present any undue burdens to storage.

4.3.17 The Proposed Development would help deliver the flexible energy network envisaged by the plan.

Clean Growth Strategy (October 2017)

4.3.18 The Clean Growth Strategy¹⁰ was published in October 2017. The strategy outlines the ambition of delivering a: *“diverse electricity system that supplies our homes and businesses with secure, affordable and clean power.”* It goes on to state that this: *“... means upgrading our electricity system so it is smarter (using data to provide greater control), more flexible (providing energy when it is needed) and takes advantage of rapidly developing technologies such as energy storage...”* (page 95, emphasis added)

4.3.19 Page 96 identifies that one possible clean growth pathway (to 2032): *“could see power emissions fall by 80 per cent compared to today, to around 16 Mt.”* it goes on to identify that: *“This could be achieved by:*

- *Growing low carbon sources such as renewables and nuclear to over 80 per cent of electricity generation, and phasing out unabated coal power.*
- *Enabling a smarter, more flexible system, unlocking significant expansion of interconnection, electricity storage, and demand side response, the first steps of which are set out in the Smart Systems and Flexibility Plan...”*(emphasis added)

4.3.20 A range of policies and proposals are set out within the strategy; those of relevance to the Proposed Development include:

⁹ <https://www.gov.uk/government/publications/committee-on-climate-changes-2018-progress-report-government-response>

¹⁰ <https://www.gov.uk/government/publications/clean-growth-strategy>

- *“The Government, Ofgem and industry will implement the 29 actions set out in the Smart Systems and Flexibility Plan published on 24 July. These will enable technologies such as energy storage and demand side response to compete effectively within the energy market, help integrate more low carbon generation such as solar into our energy system, and deliver secure, smart appliances and smart tariffs to allow consumers to benefit from using energy at times when it is cheaper. Innovations and other steps to increase flexibility could unlock up to £40 billion in energy cost savings up to 2050.”*
- *“We will work with Ofgem to ensure the necessary regulatory and market arrangements evolve to support the development of a clean, smart and flexible energy system as outlined in their strategy for regulating the future energy system.”*
- *“The Government expects to invest around £900 million of public funds between 2015 and 2021 in research and innovation in the power sector.” For power and smart systems, this includes: “Ensuring that the power system is smart and resilient to new demands and new sources of supply will be important for energy security, cost and industrial opportunities. The Government, in partnership with the Research Councils and Innovate UK, expects to invest around £265 million in research, development and deployment in this area which will help to reduce the cost of electricity storage, advance innovative demand response technologies and develop new ways of balancing the grid...” (emphasis added)*

4.3.21 The Proposed Development would help deliver the flexible energy network and move to a low carbon economy envisaged by the strategy.

Building a Britain Fit for the Future (November 2017)

- 4.3.22 The ‘Building a Britain Fit for the Future’¹¹ White Paper was published by the Department for BEIS in November 2017. It sets out the long-term plan to help businesses create better, higher paying jobs with investment in the skills, industries and infrastructure of the future.
- 4.3.23 The plan is supported by five foundations of productivity (ideas, people, infrastructure, business environment and places) which align with the Government’s vision for a transformed economy. It also defines 4 No. ‘grand challenges’, one of which is the

¹¹ <https://www.gov.uk/government/publications/industrial-strategy-building-a-britain-fit-for-the-future>

aim of: *“maximising the advantages for UK industry from the global shift to clean growth.”* (page 10)

- 4.3.24 The Government identifies that: *“The move to cleaner economic growth – through low carbon technologies and the efficient use of resources – is one of the greatest industrial opportunities of our time...”* (page 42). The strategy goes on to identify that the Government: *“...will take action to establish and extend UK leadership in the following priority areas:”* which amongst others includes developing: *“...smart systems for cheap and clean energy across power, heating and transport”* (page 44).
- 4.3.25 Page 45 of the Strategy recognises that: *“Smart systems transform our ability to use clean energy cost-effectively...we are setting ourselves the challenge of remodelling it [the national electricity grid] so it can handle many different sources of clean energy, and use new technologies to store energy and manage demand...”*

Prosperity for All: Low Carbon Wales (2019)

- 4.3.26 This document sets out actions that will be taken by the Welsh Government to cut emissions and support the growth of a low carbon economy, in light of the recent decarbonisation agenda.
- 4.3.27 Under Part 3 ‘Sector Emission Pathways: Power’ (page 65), the ‘ambition’ of the Welsh Government is set out: *“We need low carbon electricity to become the main source of energy in Wales. Renewable electricity will be used to provide both heating and transport in addition to power.”*
- 4.3.28 It continues by addressing the key issue with reliance on renewable energy: *“Renewable generation will continue to increase to meet a large portion of power in a decarbonised system. However, the intermittent nature of renewables means they alone cannot currently meet an electricity demand that varies considerably by time of day and season and will increase with the penetration of electric vehicles and electric heating... 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.”* (emphasis added).
- 4.3.29 It is clear from this recent publication that the Welsh Government acknowledges storage (such as battery) as important integration technology to support existing and new renewable energy schemes.

Single Department Plan (June 2019)

4.3.30 In June 2019, the Department for BEIS published ‘The Single Department Plan’¹². The plan identifies five overarching objectives, including ensuring that: *‘the UK has a reliable, low cost and clean energy system’*. This objective is broken down into the following sub-objectives:

1. *“Set out a vision for the energy system consistent with the Government’s 2050 climate goals, with concrete actions that the Government will take up to 2030” – to be achieved by (amongst others): “delivering an ambitious Energy White Paper addressing the transformation of the GB electricity system, including proposed legislation where appropriate”; and “further developing carbon capture, use and storage deployment, to support decarbonisation and meet our legally binding carbon budgets, including potential ‘net zero’ by 2050.”*
2. *“Support clean growth and promote global action to tackle climate change” – to be achieved by (amongst others): “working with business...to deliver the Clean Growth Strategy, our legally binding greenhouse gas emissions reductions targets...”; “becoming the first major economy to legislate for net zero. Maintain the UK’s position as a global leader in cutting emissions while growing the economy, and develop world leading sectors to drive clean growth across the UK”; and “continuing to decarbonise the power sector by running the next Contracts for Difference allocation round to secure new renewable capacity.”*
3. *“Ensure our energy system is reliable and secure” – to be achieved by (amongst other): “ensuring reliable supplies of electricity and gas, including for example through...industry to reinstate the capacity market and undertaking a statutory 5- year review of the capacity market.”*
4. *“Deliver affordable energy for households and businesses” – to be achieved by: “continuing to implement the Government and Ofgem’s ‘Smart Systems and Flexibility Plan’ by 2022, removing barriers to smart technologies, enabling smart homes and businesses, and improving access to markets for new technologies and business models.”*

¹² <https://www.gov.uk/government/publications/department-for-business-energy-and-industrial-strategy-single-departmental-plan>

Energy White Paper – Powering our Net Zero Future (December 2020)

- 4.3.31 In December 2020, the Department for BEIS published the Energy White Paper ‘Powering our Net Zero Future’¹³. This Paper addresses the transformation of our energy system and how the UK will clean up its energy system and reach net zero emissions by 2050.
- 4.3.32 The Paper’s ‘Ten Point Plan’ sets out, *inter alia*, the aim to quadruple offshore wind capacity by 2030, targeting 40GW of offshore wind by this date. This is a significant investment in the renewable energy industry. Supporting infrastructure on land (such as storage facilities) will be even more vital to maximise the potential to harness this energy across UK shores for use in homes and industry.
- 4.3.33 The Paper sets out that “By 2050, we expect low-carbon options, such as clean hydrogen and long-duration storage, to satisfy the need for peaking capacity and ensure security of supply at low cost, likely eliminating the reliance on generation from unabated gas.” (emphasis added). It is clear from this that the UK Government sees storage as the way forward for peaking facilities and to ensure energy security.

National Grid Predicted Future Requirements

- 4.3.34 National Grid Electricity System Operator (NG ESO) publishes a suite of documents on the future of energy needs in the UK annually. Those considered to be of most relevance to the Proposed Development are the latest Future Energy Scenarios¹⁴ and System Operability Framework¹⁵ documents, both of which are considered in turn below.

Future Energy Scenarios

- 4.3.35 The latest publication of the FES was published in July 2020. The document sets out ‘Key Messages’ where it states that *“reaching net zero carbon emissions by 2050 is achievable. However, this requires immediate action across all key technologies and policy areas.”*

¹³ <https://www.gov.uk/government/publications/energy-white-paper-powering-our-net-zero-future>

¹⁴ <http://fes.nationalgrid.com/>

¹⁵ <https://www.nationalgrideso.com/insights/system-operability-framework-sof>

- 4.3.36 The FES 2020 report states on page 97 that '*Electricity storage increases in all scenarios as costs fall and renewable generation increases. Larger, longer duration storage will be needed to support decarbonisation in the net zero scenarios*'
- 4.3.37 Under all scenarios considered in the FES 2020 report increased electricity storage is predicted, as illustrated in the chart below from page 97 of the FES report (Figure 1).

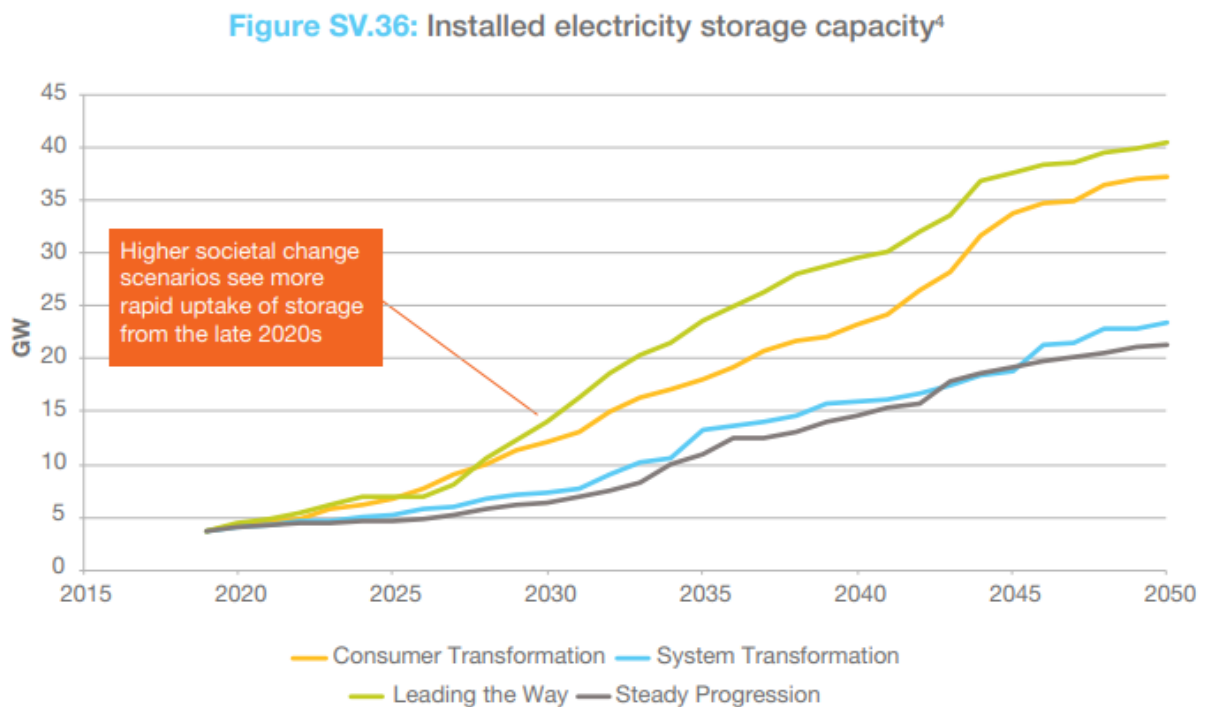


Figure 1

- 4.3.38 It should be noted that only the Leading the Way, Consumer Transformation and System Transformation scenarios achieve the net zero target by 2050. Under these scenarios energy storage by 2030 will need to increase from the 2019 baseline position of 3.75GW to 13.98GW, 12.03GW and 7.38GW respectively. This is more than double the current battery storage capacity available for the lowest scenario and almost a quadrupling for the Leading the Way scenario.
- 4.3.39 By 2050 energy storage will need to increase to 40.45GW, 37.34GW and 23.47GW respectively under the scenarios that achieve net zero.

System Operability Framework

- 4.3.40 The System Operability Framework (SOF) takes a holistic view of the changing energy landscape to assess the future operational requirements of the electricity network. It combines insight from the FES report with a programme of technical assessments to identify medium and long term requirements for operability.
- 4.3.41 The Operability Strategy Report 2020 outlines the future challenges and actions in maintaining an operable electricity system. It sets out what needs to be done to reach NG's zero carbon 2025 ambition and highlights how stakeholders can engage to assist in the achievement of these challenges.
- 4.3.42 The Report states that; *"By 2025, we will have transformed the operation of Great Britain's electricity system and put in place innovative systems, products and services to ensure that the network is ready to handle zero carbon energy. This means a fundamental change in how our system is operated – integrating newer technologies right across the system – from large scale off-shore wind to domestic scale solar panels and increased demand side participation."* To support the integration of these technologies, storage will be key component of future operating systems.

4.4 Summary

- 4.4.1 It can be seen from the above review that the Welsh and UK Governments policy message on energy security is strong and unambiguous. There is a clear need to ensure security of supply through the development of a diverse energy generation system to support the increased deployment of renewable energy, increased peak demands and the move to electric vehicles.
- 4.4.2 BSFs are considered to be a key component of the future energy mix in the UK under all scenarios considered in the FES. The existing storage provision will need to increase significantly by 2030 to be on track to achieve net zero by 2050.
- 4.4.3 The Proposed Development would provide the type of significant capital investment that the Welsh and UK Governments envisaged would come forward through the mechanisms promoted through Energy Market Reforms. The BSF would provide a flexible modular energy storage system which could instantly deliver or store power in response to system stress events on the national grid transmission network.

5.0 NOISE ASSESSMENT

- 5.1.1 To assess the potential noise levels at the nearest sensitive receptors, NVC were commissioned to undertake a noise impact assessment and to advise (where appropriate) on any additional noise mitigation measures to meet planning guidance and noise standards. The Noise Impact Assessment is contained within Appendix A.
- 5.1.2 The results of baseline noise monitoring over a weekend monitoring period at three locations (in areas providing a representative assessment of background sound level) in the vicinity of sensitive receptors indicated that representative background sound levels between 0700-2300 hours at the monitoring position were shown to vary between 42dB and 50dB LA90. During night-time periods the background levels were established as 35dB to 42dB LA90.
- 5.1.3 Typical site operating noise levels have been established from empirical library data of typical acoustically treated gas generator sets and ancillary plant to provide input data for the noise model.
- 5.1.4 In order to achieve reasonable and appropriate noise contribution levels at the nearest receptors to the site the following example of noise mitigation is included. It should be noted that there is more than one design that could achieve the design limits:
- i. The ground floor positioned battery units would need to be housed within a container that provides a reduction in noise level for each unit not to exceed a design level of 75dB(A) Leq15mins @ 1m at maximum load. This includes any HVAC systems associated with the battery containers.
 - ii. The first floor (upper positioned) battery units would need to be housed within a container that provides a reduction in noise level for each unit not to exceed a design level of 70dB(A) Leq15mins @ 1m at maximum load. This includes any HVAC systems associated with the battery containers.
 - iii. Inverters would also be in containers or in the open, designed to a level not exceeding 75dB(A) Leq15mins @ 1m at maximum load.
 - iv. The switchgear container would be designed not to exceed 70dB(A) @ 1m Leq15mins at maximum load.
 - v. The transformers designed to a level not exceeding 65dB(A) @ 1m Leq15mins at maximum load.

- 5.1.5 The predicted noise contribution from the application site using ISO9613-2 methodology and CadnaA noise modelling software with assumed noise mitigation measures show rating noise levels from Site to range between 30dB and 38dB LAeq during maximum site operations.
- 5.1.6 The BS4142 assessment shows that with appropriate mitigation the Proposed Development can be designed to comply with relevant noise guidance and standards. The impact at other receptor positions would be lower than that predicted for the chosen receptors.
- 5.1.7 In terms of absolute levels, the predicted highest noise contributions from the proposed site operations are shown to be well below residual sound levels and therefore in context noise levels would not be significant.
- 5.1.8 Absolute levels are below WHO guidelines for general daytime amenity levels, night-time levels for sleep disturbance and internal room design criteria according to BS8233: 2014 assuming windows open.
- 5.1.9 The predicted residual noise levels from the site have been calculated based on an example of noise mitigation measures designed to achieve a specific design level. This design limit would form part of the purchasing specification when the plant supplier is defined.
- 5.1.10 Noise from construction activities would not be significant and best practice would be applied according to BS5228-1:2009+A1:2014 to minimise noise.
- 5.1.11 The Noise Assessment concluded that the Proposed Development can be designed to operate such that it complies with all appropriate and relevant noise standards and guidance.

6.0 LANDSCAPE AND VISUAL EFFECTS

- 6.1.1 This application is supported by a Landscape and Visual Appraisal (LVA), provided at Appendix B. The LVA seeks to provide a clear understanding of the Site and its context, identify how the proposal would relate to existing landscape and views, and identify any likely significant landscape and visual effects.
- 6.1.2 The LVA concluded that the Proposed Development would be modest both in extent and in height, being largely contained within an existing plot defined by the planted earthworks at the perimeter of the Legacy Substation. The proposed new structures would be barely visible outside of the substation curtilage due to these planted earthworks and would have no appreciable influence upon the wider landscape or views across it.
- 6.1.3 The LVA concludes that the landscape and visual effects of the Proposed Development would not be significant and no mitigation measures are required.

Heritage Features

- 6.1.4 As discussed previously in this Statement, there are several designated heritage assets within 2km of the Site. However, as identified in the LVA, views of the Proposed Development will be heavily screened by the planted embankments surrounding the substation. In addition to this, the topography of the surrounding landscape, existing buildings of the substation, and existing vegetation in the wider landscape would further screen views of the Site to these heritage assets.
- 6.1.5 In the EIA Screening consultation undertaken for the Gas Plant Scheme on the Site Cadw, the Welsh Governments historic environmental service, assessed its characteristics and location within the historic environment, particularly its likely impact on designated or registered historic assets of national importance. Cadw highlighted the presence of the aforementioned designated heritage assets within 2km of the Site but stated that; *“most views of the development will be blocked by the earthworks of the Substation, topography, buildings and existing vegetation. In winter it may be possible to see the top of exhaust stacks from scheduled monument DE137 Offa's Dyke: Pentre-Bychan Hall Section, extending 540m S from Bron-Wylfa, but they will still be heavily screened by the trees. It is therefore [Cadw's] opinion that the Proposed Development is unlikely to have a significant impact on the settings of any designated heritage assets.”*

- 6.1.6 It is considered that these comments are relevant to the proposal for a BSF on the Site as the Proposed Development would sit on the same footprint (albeit without the gas pipeline route previously required for the gas scheme). Furthermore, the maximum height of the BSF proposal is half that of the Gas Plant Scheme (6m double-stacked containers for the BSF and 12m high for the stacks of the gas peaking plant). Accordingly, the Proposed Development would have no significant impacts on heritage assets.

7.0 ECOLOGY AND NATURE CONSERVATION

- 7.1.1 Avian Ecology were commissioned to undertake an ecological assessment of the Site and its immediate surroundings in the context of the Proposed Development. The site survey and assessment were undertaken on 30th September 2019 by a qualified and experienced ecologist, with a subsequent visit undertaken in May 2020. The findings of the ecological assessment are provided in an Ecological Assessment Report in Appendix C and this accords with national best practice guidelines in: *Chartered Institute of Ecology and Environmental Management (2017) Guidelines for Preliminary Ecological Appraisal. Second Edition. CIEEM, Hampshire*. The findings and conclusions are summarised below.
- 7.1.2 The Site sits within the Legacy Substation Local Wildlife Site (LWS) which is a non-statutory designated site. The LWS is designated for its range of habitats and constituent species rather than for a single feature.
- 7.1.3 Whilst the layout of the Proposed Development has been designed to minimise land take within the LWS, this land will be directly impacted by the proposals and an area of habitat would be lost (comprising species-rich grassland, semi-improved grassland of lower diversity and a small area of scrub).
- 7.1.4 To compensate for the loss of LWS land and to mitigate for any effects on associated species, a series of mitigation and enhancement measures will be implemented. These are to be set out within a Biodiversity Management Plan.
- 7.1.5 These mitigation measures were originally agreed with the WCBC Ecologist for the Gas Plant Scheme on the Site. As the site's development footprint is largely unchanged (indeed, the Proposed Development has less land-take than the Gas Plant Scheme), the mitigation measures proposed are considered entirely appropriate for the Proposed Development. Such measures will include:
- Selective translocation of species-rich grassland turves from within the construction footprint to prepared receptor areas within the LWS. Turf from the construction footprint, particularly the areas containing orchids, would be carefully lifted and translocated, for example to reinstate ground temporarily affected during construction or add to areas of low diversity within the LWS;
 - Selective scrub management to encourage the spread of species-rich grassland and protect existing grassland currently being overgrown by scrub. Grassland extends up the steep slope adjacent to the Site and remains reasonably diverse,

although not to the extent of the grassland within the proposed development footprint. This grassland is however gradually being lost due to considerable scrub encroachment. Scrub control to maintain would improve the diversity of this grassland, which could then be maintained through ongoing management;

- Invasive species control and eradication plan across the LWS;
- Implementation of a Habitat Management Plan to ensure the successful establishment of the translocated grassland and subsequent grassland management regime to encourage a diverse sward to be maintained;
- Provision of an additional barn owl box and 5 further bird boxes and 6 bat boxes, to be suitably positioned on trees under the advice of an ecologist;
- Three insect hotels/refugia (for range of species from solitary bees to ground dwelling species);
- Three hedgehog refuge/hibernation boxes; and,
- New bee hives (subject to beekeeper management and ongoing judgement on local foraging capacity to ensure wild pollinators are not out-competed by additional hives)

7.1.6 The Ecological Assessment identified the presence of great crested newts ('GCN') within a pond near to the development site, and in response to the potential impacts the Proposed Development may have on GCN and their habitat, a GCN Mitigation Strategy has been produced. This Strategy sets out measures for habitat creation and enhancement of the LWS for GCN (see Appendix 3 of the Ecological Assessment). The GCN habitat creation and enhancement measures are proposed within the National Grid land ownership and with the agreement of National Grid. The Strategy will guarantee the long-term security of GCN habitat provisions.

7.1.7 Woodland situated on the embankments to the north, east and west will not be significantly affected by the proposal, with only minor areas of vegetation removal required, affecting self-sown semi-mature and young trees. All retained trees within the vicinity of construction areas will be protected during construction works in-line with BS 5837:2012 *Trees in relation to design, demolition and construction*.

7.1.8 Bare ground and ephemeral/short perennial habitats within the survey area were of low value to wildlife, supporting little structural or species diversity. The temporary loss of areas of such habitat during construction are considered negligible in the context of likely value to wildlife and botanical value.

- 7.1.9 The trees on or bordering the Site were considered to offer negligible bat roost potential due to their age and lack of features such as cracks, rot holes etc. No further surveys were considered to be required in relation to roosting bats and the proposed development will not affect any potential roost locations. As the woodland, scrub, pond and majority of grassland within the Substation curtilage will be retained and no loss of connectivity with suitable habitats in the wider area will be felt, bats will continue to be able to use the Legacy Substation LWS for foraging and commuting purposes.
- 7.1.10 Subject to the recommendations set out in Table 5.1 of the Ecological Assessment Report in Appendix C and the GCN Mitigation Strategy, other potential ecological effects of the Proposed Development can be effectively managed. As such, the Proposed Development would not result in unacceptable ecological impacts on protected habitats or species, if recommendations are followed.

8.0 SURFACE WATER DRAINAGE

- 8.1.1 KRS were commissioned to undertake a Surface Water Drainage Assessment for the Proposed Development. The purpose of this report is to assess the potential for disposing of surface water. The report is provided at Appendix D, and a summary of the findings is provided below.
- 8.1.2 The ground conditions suggest infiltration would provide inception storage, but disposal of significant volumes of runoff may not be appropriate. At this stage, it is proposed that the surface water runoff from the Site can be discharged partially via infiltration SuDS methods.
- 8.1.3 Should infiltration be found to be unsuitable, the next option is discharge to a surface waterbody. There is a drainage ditch to the north east of the site. If the potential of discharge to a surface water body is required, then discharge to this drainage ditch should be investigated further.
- 8.1.4 There are no public sewers located within the vicinity of the Site therefore, it would not be possible to discharge to the public sewers.
- 8.1.5 The most suitable and likely scenario would be discharging to the ditch with attenuation and a restricted runoff rate. The SuDS Strategy takes into account the following principles:
- No increase in the volume or runoff rate of surface water runoff from the Site;
 - No increase in flooding to people or property off-site as a result of the Proposed Development;
 - No surface water flooding of the Site;
 - A 30% increase in rainfall intensity due to climate change during the lifetime of the development;
 - A 10% increase in impermeable areas due to urban creep;
 - Maintain / improve surface water quality; and
 - Provide amenity and biodiversity benefits.
- 8.1.6 The proposed SuDS Strategy will take the form of:
- Permeable surfaces - crushed permeable stone and grass;
 - Surface water attenuation storage in the form of an infiltration trench along the perimeter of the site; and

- If required - surface water attenuation storage in the form of underground storage /oversized pipes. Runoff rates would be restricted to 2.00l/s to the watercourse.

8.1.7 For the purposes of the Surface Water Drainage Assessment the most likely scenario, of discharging to the ground has been considered. However, should infiltration testing prove that this would not be a viable option the option of discharge to the drainage ditch would be investigated further to ensure the most sustainable solution is used. The various drainage options would be explored further at the detailed design stage and it is suggested that these detailed drainage proposals could be secured through a suitably worded planning condition.

8.1.8 The Surface Water Drainage Assessment demonstrates that the Proposed Development would be operated with minimal risk from flooding, would not increase flood risk elsewhere and is compliant with the requirements of the SuDS Standards. The Proposed Development will considerably reduce the flood risk posed to the Site and to off-Site locations due to the adoption of a SuDS Strategy.

8.1.9 The Surface Water Drainage Assessment concluded that the Proposed Development should not therefore be precluded on the grounds of flood risk or drainage.

9.0 ARBORICULTURE

- 9.1.1 An Arboricultural survey to BS5837 of all trees within impacting distance of the Site was undertaken by Arbtech Consulting on 1st June 2020. The Arboricultural Method Statement, Tree Protection Plan and Arboricultural Impact Assessment are contained within Appendix E.
- 9.1.2 A total of 8 No. individual trees and 10 No. groups of trees were surveyed. Details for each of the trees surveyed are provided in the Schedule of Trees. The proposal requires the removal of two individual category C trees and four category C groups of trees/shrubs. All tree work is to be undertaken in accordance with British Standard BS 3998:2010 *Recommendations for tree work*.
- 9.1.3 Protective measures are to be installed immediately following the completion of the tree works and are to be sited and aligned in accordance with the tree protection plan (Arbtech TPP 01) prior to the commencement of any works or the introduction of any machinery or material to site.
- 9.1.4 The Arboricultural Report concluded that the overall quality and longevity of the amenity contribution provided for by the trees and groups of trees within and adjacent to the Site would not be adversely affected as a result of the Proposed Development. It was considered that tree protection measures could be dealt with by planning conditions.

10.0 GROUND CONTAMINATION AND INSTABILITY

- 10.1.1 Smith Grant Environmental Consultancy LLP ('SGP') were commissioned to undertake a Stage 1 Geo-Environmental Assessment (Desk Study) to determine any potential constraints with regard to ground conditions and contamination that may impact the Proposed Development. This Assessment is contained within Appendix F. The findings and conclusions are summarised below.
- 10.1.2 SGP previously consulted WCBC's Local Authority Contaminated Land Officer regarding the Site and any information they may have with regards to contamination. The Officer confirmed that WCBC had no *"no specific concerns in relation to contamination issues, with respect to the proposed development, and should a planning application be received we would not recommend that any contamination conditions be placed on any future planning permission that may be granted"*.
- 10.1.3 The Site is not located within a Development High Risk Area and the Coal Authority has not identified it as located within an area of past shallow coal mine workings or probable shallow coal mine workings. The report considered that a Coal Mining Risk Assessment was not required for the Site.
- 10.1.4 No sources of on-site contamination have been identified which could pose a risk to human health, the environment or pose a significant constraint to the proposed development of the Site.
- 10.1.5 No landfills have been identified within 500m of the site. The Coal Authority have confirmed the absence of underlying coal measures, recorded past mining and no probable unrecorded shallow mine workings; no mine entries are present within 100m of the site boundary.
- 10.1.6 The Site is located within an area where 3-5% of homes lie above the Radon Action Level; basic radon protection measures are required in new buildings or extension/ However, it is noted that the control room/welfare office on the Site is not a permanently manned structure, and therefore these radon protection measures are not required for any element of the Proposed Development.
- 10.1.7 The proposed use of the Site for a battery storage facility is considered to be of low sensitivity in regard to potential contaminants. The operational area of the Site will be covered by hardstanding or stone surfacing in its entirety. Considering the Proposed Development, the history of the Site and the absence of significant contaminants, the risks to human health is very low / negligible.

- 10.1.8 The report recommends that a geotechnical investigation is carried out to confirm the shallow ground conditions and bearing capacity of the underlying stratum to inform the design of the development. It is considered that these further investigative works are only required to inform the engineering design.
- 10.1.9 In conclusion the report found that there were no particular constraints to the Proposed Development with regards to ground contamination and concluded that the Site is suitable for the proposed use with regards to ground contamination and no further investigations or assessment with regard to contaminated land were considered necessary.

11.0 PLANNING POLICY CONTEXT AND APPRAISAL

11.1 Introduction

11.1.1 This section undertakes an appraisal of the Proposed Development in the context of the current and emerging planning policy framework.

Local Development Plan

11.1.2 Section 38(6) of the Planning and Compulsory Purchase Act 2004 (PCPA) requires applications to be determined in accordance with the Development Plan unless material considerations indicate otherwise. At the time of drafting, the adopted Development Plan, relevant to the Proposed Development comprises:

- Wrexham Unitary Development Plan ('UDP'), adopted February 2005.

Material Considerations

11.1.3 There is no strict definition of what constitutes a 'material consideration' in planning legislation, although case law indicates that any consideration, which relates to the use or development of land is capable of being a material consideration in the determination of a planning application.

11.1.4 Such considerations can include Planning Policy Wales ('PPW'), emerging planning policies, government policy & strategy and Supplementary Planning Documents ('SPDs').

11.1.5 The emerging Wrexham Local Development Plan ('LDP') will replace the UDP once adopted. The LDP will be used as a basis for making land use planning decisions on until 2028. A 'Deposit Plan' of the LDP was submitted for examination in November 2018. The latest update on the council's webpage indicates that the LDP is still under examination, with several updates to the examination library having occurred in Q1 2021. Whilst the LDP is not yet adopted, it is a material consideration for this application due to its advanced stage and therefore the relevant policies have been addressed in the subsequent sections.

11.2 Planning Policy Appraisal

11.2.1 The following appraisal considers the policies and guidance which are considered directly material to the determination of the proposal for which planning permission is being sought.

The Statutory Development Plan

- 11.2.2 All relevant key policies contained within the Statutory Development Plan are considered below.

Wrexham Unitary Development Plan (UDP) (2005)

- 11.2.3 The UDP was adopted in February 2005 and covers the administrative area of the Wrexham County Borough Council. It provides the current framework for local decision making.

Strategic Policies of the UDP

- 11.2.4 Part 1 of the UDP sets out the ‘Strategic Policies’ for the Borough. Those strategic policies of key relevance to the Proposed Development are the location of developments and renewable energy. Each of the relevant strategic policies are discussed below:

Policy PS2

- 11.2.5 Strategic Policy PS2 states that “*Development must not materially detrimentally affect countryside, landscape/townscape character, open space, or the quality of the natural environment*”. As set out within the conclusions of the LVA (see Section 6.0 of this Statement and Appendix B), the Proposed Development would have no significant visual impacts on the landscape due to the existing screening provided planted earthworks.
- 11.2.6 The Ecological Assessment (Appendix C) found that, whilst there would be some direct impacts of the Proposed Development on the natural environment, appropriate mitigation measures could be implemented to make the proposals acceptable. Accordingly, the Proposed Development would not detrimentally affect the quality of the natural environment.
- 11.2.7 In light of the above, the Proposed Development is considered to conform to this policy.

Policy PS3

- 11.2.8 This strategic policy aims to direct new development towards previously developed land (brownfield land). However, most brownfield sites are typically within or adjacent to built-up areas and are therefore unsuitable for BSF development which should be

situated away from sensitive receptors. BSFs also require means of a grid connection and therefore their location is largely dependent on existing infrastructure.

- 11.2.9 Furthermore, and as previously discussed within the Statement, the site selection process for the Proposed Development has been assessed as part of a nation-wide study of potential sites. The Site at the Legacy substation was deemed one of the most suitable locations to establish a BSF of this scale.

Policy PS4

- 11.2.10 Policy PS4 requires that *“Development should maintain the existing settlement pattern and character and be integrated with the existing transport network...”*

- 11.2.11 As previously addressed under Policy PS3, the Proposed Development has locational requirements and therefore, the proposal site is situated outside of the local settlement boundary for these reasons.

Policy PS11

- 11.2.12 This policy seeks that development proposals improve biodiversity and protect sites of local nature conservation. As previously addressed under Section 7.0 of this Statement and within the Ecological Assessment under Appendix C, the Proposed Development sits on land within the Legacy Substation LWS. The potential impacts of the Gas Plant Scheme on the LWS and appropriate mitigation measures have been previously discussed with WCBC. These mitigation measures have been adapted for the BSF scheme and are set out in full within the updated Ecological Assessment. Furthermore, a BSF on the Site would have significantly less impact on the LWS than the Gas Plant Scheme due to a) having no emissions, and b) not requiring a gas connection route to be installed. In light of the considerations above, the Proposed Development would comply with this policy.

Policy PS12

- 11.2.13 Strategic Policy PS12 sets out WCBC’s strategy for renewable energy within the Borough. The policy states that *“Proposals for the generation of energy from renewable sources will be supported provided that the wider environmental benefits are not outweighed by any detrimental impacts of the proposed development (including any electricity transmission facilities needed) on the landscape, public safety, and the local environment.”*

11.2.14 BSFs support the deployment of renewable energy generation opportunities through the balancing services that it would provide. The benefits and need for such balancing services have previously been addressed under Section 4.0 of this Planning Statement. The proposal is therefore considered to support the principles of this strategic policy.

Other Policies of the UDP

11.2.15 Part 2 of the UDP covers 'Specific Policies' of the plan. Those relevant to the Proposed Development are set out and appraised below.

Policy GDP1

11.2.16 Policy GDP1 sets out several criteria for which all new development should follow. Each criteria is set out below and discussed in context of the Proposed Development.

a) *Ensure that built development in its scale, design and layout, and in its use of materials and landscaping, accords with the character of the site and makes a positive contribution to the appearance of the nearby locality.*

11.2.17 The Proposed Development has been designed to reduce its footprint on the Site whilst maximising its operational ability. The proposal would sit alongside the existing NG substation to the south, which is considered a significantly sized infrastructure development in the local area. This existing development has established a precedent of industrial character and appearance in the locality. The Site is surrounded by a thickly wooded embankment to the east, north and west, which provide full screening of the Site to the countryside beyond. Due to these existing characteristics of the Site and its immediate surrounds, the Proposed Development's impact on the appearance of the locality is considered negligible. This was also confirmed in the LVA (Appendix B).

b) *Take account of personal and community safety and security in the design and layout of development and public / private spaces.*

11.2.18 The Proposed Development would be enclosed within a secure gated compound surrounded by a 2.4m weldmesh fence to prevent unauthorised access. It therefore accords with this policy criterion.

c) *Make the best use of design techniques, siting and orientation in order to conserve energy and water resources.*

11.2.19 A key benefit of locating the Proposed Development adjacent to a NG substation is the reduced transmission losses (hence, energy conservation) as electricity imported and exported from the BSF has minimal distance to travel before it connects to the grid. The location of the Proposed Development is therefore considered suitable and effective in reducing energy losses from the facility through its transmission to the grid. The Proposed Development would have no significant impact on water resources.

d) Ensure safe and convenient pedestrian and vehicular access to and from development sites, both on site and in the nearby locality.

11.2.20 The Site is not available for public access. Vehicle access would be via the existing route through the NG substation complex to Bronwylfa Road.

e) Ensure that built development is located where it has convenient access to public transport facilities and is well related to pedestrian and cycle routes wherever possible.

11.2.21 Due to the nature of the proposals, the Site is restricted from public access and will operate unmanned. Maintenance engineer visits would be via a van. As such, public transport facilities to such infrastructure is not a relevant consideration.

f) Ensure the safety and amenity of the public and safeguard the environment from the adverse effects of pollution of water, land or air, hazards from industry and quarrying, and associated noise, odour or vibration arising from development.

11.2.22 The potential noise impacts of the Proposed Development on public amenity and the environment have been assessed in Appendix A. The Noise Assessment concluded that the Proposed Development would not cause significant adverse impacts on the environment nor on public amenity. Where impacts were found to be potentially adverse, appropriate mitigation measures have been incorporated to make the development acceptable. Furthermore, the Proposed Development would not create any adverse effects related to air, land or water pollution, nor would it generate significant vibrations. As such, the proposal is considered to conform with this policy criterion.

g) Secure public services (e.g. gas, water, electricity) to development at minimum public cost.

11.2.23 The Proposed Development would provide important public services through grid balancing infrastructure.

- h) Safeguard sites and areas of nature conservation and wildlife interest, and to provide new habitats where there is an unavoidable loss of existing habitats and areas of wildlife interest.*

11.2.24 As previously identified, the Site sits within the Legacy Substation LWS. The Ecological Assessment (Appendix C) assessed the impacts of the Proposed Development on the LWS and makes recommendations that the loss of land within the LWS can be compensated for through a Biodiversity Management Plan and GCN Mitigation Strategy (see details within Appendix C). The Biodiversity Management Plan would be agreed with WCBC's Ecologist before implementation. The Proposed Development is therefore considered to be appropriate in regard to this policy criterion.

- i) Ensure that development does not result in, or is subject to, flooding, soil erosion, landslides or contamination, either on or off the site.*

11.2.25 The Site is not within an area of flood risk. The Surface Water Drainage Assessment (Appendix D) concluded that the Proposed Development would considerably reduce the flood risk posed to the Site and to off-site locations due to the adoption of a SuDS Strategy.

- j) Have regard to the need to safeguard those areas that possess a strong Welsh cultural and/or linguistic identity from development that could harm this identity.*

11.2.26 The Site does not sit within an area of cultural / historic value and is located adjacent to an existing substation complex, which itself has no cultural / historic value. The Proposed Development would therefore cause no harm to areas of strong cultural and/or linguistic identity.

- k) Secure the development of sustainable communities, through the promotion of the economic, social and environmental well-being of the area.*

11.2.27 The Proposed Development would support renewable energy generation and, through its grid balancing services, would support the energy security and sustainability of the local community.

Policy GDP2

- 11.2.28 This policy concerns the need for new developments to contribute towards community infrastructure where there might be deficiencies as a result of the development. By the very nature of the Proposed Development, it is supportive of this policy through its provision of energy storage infrastructure to support the national grid and as a result, the energy security of local communities, as well supporting existing and future renewable energy development projects.

Policy GDP3

- 11.2.29 Policy GDP3 concerns development proposals within the Borough's 'Green Barrier'. The Site does not sit within the Green Barrier and therefore the policy is not applicable to the Proposed Development.

Policy EC4

- 11.2.30 This policy states that *"Development proposals should provide for the conservation and management of hedgerows, trees, orchards, woodland, wildlife and other natural landscape and water features, and include new planting in order to enhance the character of the landscape and townscape. Development which results in the loss or significant damage to valuable trees, important hedgerows or ancient woodland sites will not be permitted."*

- 11.2.31 The Arboricultural Impact Assessment (Appendix E) found that the overall quality and longevity of the amenity contribution provided for by the trees and groups of trees within and adjacent to the Site would not be adversely affected by the Proposed Development.

Policy EC5

- 11.2.32 This policy sets out that *"Within Special Landscape Areas, priority will be given to the conservation and enhancement of the landscape. Development, other than for agriculture, small-scale farm-based and other rural enterprises, and essential operational development by utility service providers, will be strictly controlled. Development will be required to conform to a high standard of design and landscaping, and special attention will be paid to minimising its visual impact both from nearby and distant viewpoints."*

11.2.33 The Proposed Development sits within a Special Landscape Area as defined on the council's proposals map. However, the Site is heavily screened from the surrounding landscape due to the thickly wooded embankments to the east, north and west, whilst the existing Legacy substation complex and further woodland planting blocks views of the Site to the south.

11.2.34 With regard to the visual impact from nearby and distant viewpoints, the Proposed Development is supported by a Landscape and Visual Appraisal (Appendix B) which has assessed the impact of the Proposed Development on viewpoints in the surrounding landscape. The findings of the LVA are summarised within Section 6.0 of this Statement. The LVA concluded that the Proposed Development would be barely visible outside of the substation complex and the surrounding earthworks and would therefore have no appreciable influence upon the wider landscape or views across it. Landscape and visual effects of the Proposed Development on the Special Landscape Area are therefore not significant.

11.2.35 The layout of the components of the Proposed Development on the Site has been designed to minimise its development footprint and thus reduce its impacts on the Special Landscape Area. The colour finishes of the components of the Proposed Development have been chosen to reduce visual intrusion. The Proposed Development is considered to comply with Policy EC5 in line with these matters discussed.

Policy EC6

11.2.36 Policy EC6 requires that *"Development either within or close to sites of biodiversity interest will only be permitted where it can be clearly demonstrated that the need for the development outweighs the need to safeguard the intrinsic nature conservation value of the site. Where such development is permitted, damage should be kept to a minimum, and compensatory measures should be provided. Measures to improve the biodiversity value of sites and enhance their natural conservation interest and landscape quality including the establishment of local nature reserves, will be supported."*

11.2.37 The need and benefits of the Proposed Development have been fully addressed under Section 4.0 of this Statement. Appropriate mitigation measures have been set out within the Ecological Assessment in Appendix C. These mitigation measures not only seek to conserve the existing features of ecological value on the Site (e.g. through their translocation to other parts of the Site) but also enhance the biodiversity

of the surrounding land (e.g. through bat and bird boxes). Furthermore, a great crested newt Mitigation Strategy has been prepared for the site (see appendix 3 to the Ecological Assessment Report) to enhance the existing great crested newt habitat in the surrounding LWS and provide improved habitat.

Policy EC12

- 11.2.38 This policy makes requirements for development to be directed away from sites of flood risk. As the Site sits within a Flood Zone 1, the development is not at significant risk of flooding and therefore accords with this policy.

Policy EC13

- 11.2.39 Policy EC13 requires that *“Development which would result in an unacceptable adverse impact on the water environment due to additional surface water run-off will not be permitted.”* This application is accompanied by a Surface Water Drainage Assessment (Appendix D). The assessment demonstrates that the Proposed Development would be operated with minimal risk from flooding, would not increase flood risk elsewhere and is compliant with the requirements of the SuDS Standards. As such, it will not have an adverse impact on the water environment.

Policy T8

- 11.2.40 The delivery of parking spaces is set out within the policy of the UDP. The policy requires that developments provide vehicle parking spaces either on site or nearby, in accordance with the Council's current parking standards. Requirement for parking during operation of the Proposed Development would be limited to the occasional maintenance engineer vehicle visiting the Site, who would be able to use the access track / areas of hardstanding for parking.

Policy T9

- 11.2.41 This policy requires that development proposals provide walking and cycling routes that link with existing or proposed walking and cycling, where feasible and appropriate. The proposed BSF site would be secured by fencing with no public access. The surrounding land is in ownership of National Grid and the substation itself is also a secure complex. It is therefore considered inappropriate to incorporate additional walking and cycling routes near to such developments as this could increase the risk of unauthorised access and increase safety risks.

- 11.2.42 It is noted that there is an existing public footpath which runs adjacent to the woodland embankment to the west of the Site. The proposal would not have any negative impact on the function of this path for its users.

Material Considerations

Wrexham Local Development Plan (LDP) (Deposit Plan) 2013-2028

Policy SP17: Minerals Supply and Safeguarding

- 11.2.43 The draft proposals maps for the LDP indicate that the Site falls within an area of 'secondary resource – coal'. Policy SP17 protects such areas from unnecessary sterilisation, however, excavation of minerals here would also conflict with the designation of the area as an LWS. Additionally, the Site is within an enclosed area of the landscape where extraction would be considered unfeasible.

Policy NE2: Local Designations for Nature Conservation and Geological Importance

- 11.2.44 The Site sits within a Locally Designated site on the draft proposals map. Policy NE2 permits development within such sites only where it is demonstrated that:

- i. there is no satisfactory alternative location for the development which avoids nature conservation impacts, and*
- ii. compensation measures are designed to ensure that there is no reduction in the overall nature or geological conservation value of the site.*

- 11.2.45 As previously addressed within this Statement, the Proposed Development has gone through a site selection process, whereby the current location was considered one of the most suitable locations in the UK.

- 11.2.46 In consideration of point ii, compensation / mitigation measures have been proposed within Appendix C and are summarised in Section 7.0 of this Statement. These measures have been adapted from those originally considered appropriate by WCBC to compensate for the likely harm caused by the Gas Plant Scheme proposal to the wildlife value of the Site. The likely impacts of the BSF scheme on the overall nature / geological conservation value of the site are considered to be significantly less than the Gas Plant Scheme due to:

- No requirement to install a gas pipeline through the LWS (and thus, an overall lower development footprint); and
- No air pollution is produced by the BSF.

Policy RE2: Renewable Energy Schemes

11.2.47 This policy is supportive of “[...]proposals to generate energy from renewable and low carbon sources”. The policy states that *“In assessing such proposals consideration will be given to the impacts of the development on the landscape, the number, scale, size, design and siting of renewable installations and associated infrastructure, alone, cumulatively and in combination.”*

11.2.48 In summary, the Proposed Development is considered to conform to the policies of the emerging LDP policies. The LDP position on energy developments is supportive, in line with the Welsh and UK Government’s agenda.

Planning Policy Wales 11th Edition (February 2021)

11.2.49 Planning Policy Wales (‘PPW’) 11th Edition sets out the land use planning policies of the Welsh Government. Paragraph 1.2 of PPW states that *“The primary objective of PPW is to ensure that the planning system contributes towards the delivery of sustainable development and improves the social, economic, environmental and cultural well-being of Wales”*.

11.2.50 In the context of energy policy, paragraph 5.7.1 states that *“Low carbon electricity must become the main source of energy in Wales. Renewable electricity will be used to provide both heating and transport in addition to power. The future energy supply mix will depend on a range of established and emerging low carbon technologies”*.

11.2.51 Paragraph 5.7.2 goes on to state that *“In order to ensure future [energy] demand can be met, significant investment will be needed in energy generation, transmission and distribution infrastructure. The system will need to integrate renewable generation with storage and other flexibility services, in order to minimise the need for new generation and grid system reinforcement.”* (emphasis added).

11.2.52 Paragraph 5.7.7 states that *“The benefits of renewable and low carbon energy, as part of the overall commitment to tackle the climate emergency and increase energy security, is of paramount importance[...]The planning system should [inter alia]:*

- *optimise energy storage;*
 - *maximise renewable and low carbon energy generation;*
- (emphasis added)

11.2.53 Paragraph 5.7.12 states that *“Energy storage has an important part to play in managing the transition to a low carbon economy. 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.

11.2.54 In summary, the messages in paragraph 5.7.12 and those above from the recently published 11th Edition of PPW (February 2021) could not be clearer in stating the strong support in national policy for energy storage schemes. Such developments are considered pivotal to help the Welsh Government achieve its renewable energy targets.

Government Policy and Strategy

11.2.55 As set out in Section 4.0 of this Statement, the Welsh and UK Governments policy message on energy security is strong and unambiguous. There is a clear need to ensure security of supply through the development of energy storage facilities to support the increased deployment of renewable energy.

11.2.56 The Proposed Development would provide the type of significant capital investment that the UK Government envisaged would come forward through the mechanisms promoted through EMR. In addition, it would assist in providing the energy storage required in National Grid's Future Energy Scenarios. It would be capable of almost instantly responding to fluctuations in the grid through the ability to import or export electricity.

Future Wales: The National Plan 2040

11.2.57 The Future Wales: National Plan 2040 ('FWNP') was first published in February 2021. This document is intended to set the direction for development in Wales to 2040 and will sit alongside PPW. The FWNP covers a range of issues and challenges which will need to be addressed in Wales. Energy security and decarbonisation feature at the forefront of these.

11.2.58 Page 48 of the FWNP addresses Renewable Energy and states that *"Wales can become a world leader in renewable energy technologies. Our wind and tidal resources, our potential for solar generation, our support for both large and community scaled projects and our commitment to ensuring the planning system provides a strong lead for renewable energy development, mean we are well placed to support the renewable sector, attract new investment and reduce carbon emissions."* (emphasis added).

11.2.59 The FWNP sets out 11no. 'Outcomes' which are the overarching ambitions based on the national planning principles and national sustainable placemaking outcomes set out in PPW. The 11no. Outcomes are collectively a statement of where Wales needs to be in 20 years' time. Every part of the FWNP, from the spatial strategy to regional policies, is concerned with achieving these Outcomes.

11.2.60 Outcome 11 sets out that *"The challenges of the climate emergency demand urgent action on carbon emissions and the planning system must help Wales lead the way in promoting and delivering a competitive, sustainable decarbonised society. Decarbonisation commitments and renewable energy targets will be treated as opportunities to build a more resilient and equitable low-carbon economy, develop clean and efficient transport infrastructure, improve public health and generate skilled jobs in new sectors[...]"* (emphasis added).

11.2.61 The FWNP contains several policies, of which Policy 17 relates to renewable energy and associated infrastructure.

Policy 17 – Renewable and Low Carbon Energy and Associated Infrastructure

11.2.62 This policy sets out a clear message that *"The Welsh Government strongly supports the principle of developing renewable and low carbon energy from all technologies and at all scales to meet our future energy needs."* The policy goes on to state that *"In determining planning applications for renewable and low carbon energy development, decision-makers must give significant weight to the need to meet Wales' international commitments and our target to generate 70% of consumed electricity by renewable means by 2030 in order to combat the climate emergency."* Section 4.0 of this Statement sets out this need in detail.

11.2.63 In summary, the FWNP adds an additional level of support to the national agenda for decarbonisation across Wales and the UK. The FWNP is clearly supportive of renewable energy development and its associated infrastructure (such as energy storage technology).

12.0 CONCLUSIONS

- 12.1.1 This Planning Statement has been prepared by AXIS, on behalf of HD639LEG Ltd in support of a full planning application for the development of a Battery Storage Facility on land to the north of National Grid's Legacy Substation, Talwrn, Wrexham.
- 12.1.2 The Proposed Development would support the decarbonisation of the energy industry in the UK and increasing deployment of intermittent renewable energy. The changing nature of the UK's energy requirements is clearly defined in Government energy policy and is supported by the anticipated requirements of the National Grid. These considerations clearly identify an essential requirement for additional balancing capacity to meet demand and support the transition to a low carbon, resilient energy network. The Proposed Development would make an important contribution towards meeting these requirements.
- 12.1.3 As identified in the preceding sections, the Proposed Development would not give rise to any material detrimental impacts in respect of noise, landscape and visual, ecology, flood risk, trees, traffic, heritage, pollution or local residential amenity.
- 12.1.4 No material planning considerations have been identified which would indicate that the planning application should be determined other than in accordance with the development plan, indeed they reinforce the logic for doing so.
- 12.1.5 Based upon the foregoing, it is demonstrably the case that the planning application should be approved without delay.

Appendix A: Noise Impact Assessment

Appendix B: Landscape and Visual Appraisal

Appendix C: Ecological Assessment Report

Appendix D: Drainage Impact Assessment

Appendix E: Tree Survey and Arboricultural Impact Assessment

Appendix F: Stage 1 Geo-Environmental Assessment