

ENVIRONMENTAL STATEMENT VOLUME 3: NON-TECHNICAL SUMMARY LAMBEETH BATTERY ENERGY STORAGE SYSTEM

LAND ADJACENT TO GREENLINK CONVERTER STATION | OFF GOLDBOROUGH ROAD | PEMBROKE



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1. INTRODUCTION

1.1 INTRODUCTION

- 1.1.1 This Non-Technical Summary (NTS) presents, in a simplified form, the results of a detailed assessment of the potential environmental effects from the proposal to construct and operate a battery energy storage system across a total area of approximately 3.5ha on land adjacent to the Greenlink Converter Station, off Goldborough Road, south of Pembroke Power Station. The proposal site is set within a semi-rural context surrounding by agricultural land and isolated farms however the landscape is strongly influenced by a recently constructed Converter Station to the west, Pembroke Power Station to the north and Valero Oil Refinery north-west.
- 1.1.2 The BESS and supporting infrastructure will have a maximum import and export capacity of 49.9MW. The facility will deliver significant environmental benefits with the capacity to store and supply over 72,869,875kWh of electricity per year as an enabling technology for renewable generation and a replacement for gas fired power generation in providing rapid response power to satisfy peak demand. In performing these roles, the development has the ability to reduce carbon dioxide emissions by over 20,499 metric tonnes annually whilst also providing electricity storage equivalent to supplying over 20,819 homes.

1.2 THE APPLICANT

- 1.2.1 Sirius Renewable Energy is developing an expanding portfolio of low carbon energy projects throughout the UK, including solar, wind and battery energy storage systems.

1.3 WHY BATTERY ENERGY STORAGE?

- 1.3.1 The UK has committed to target of Net Zero emissions by 2050 and to decarbonise the electricity system by 2035. Pembrokeshire County Council, as part of its climate strategy, has committed to reducing its carbon emission and achieve Net Zero target by 2045.
- 1.3.2 These commitments require a significant growth in implementation of renewable energy sources like wind and solar. Moreover, the electricity demand is expected to double by 2050 due to the adoption of electric vehicles and deployment of heat pumps and other low carbon technologies.
- 1.3.3 Accelerated deployment of battery energy storage systems is required to manage the increase in renewable generation and balance the supply with escalation in demand in the electricity network to help UK achieve its goal of lowering carbon emissions. Battery energy storage systems, like the one proposed at Lambeeth, are also an important step towards Pembrokeshire County Council's commitment to becoming a Net Zero and Sustainable Council.

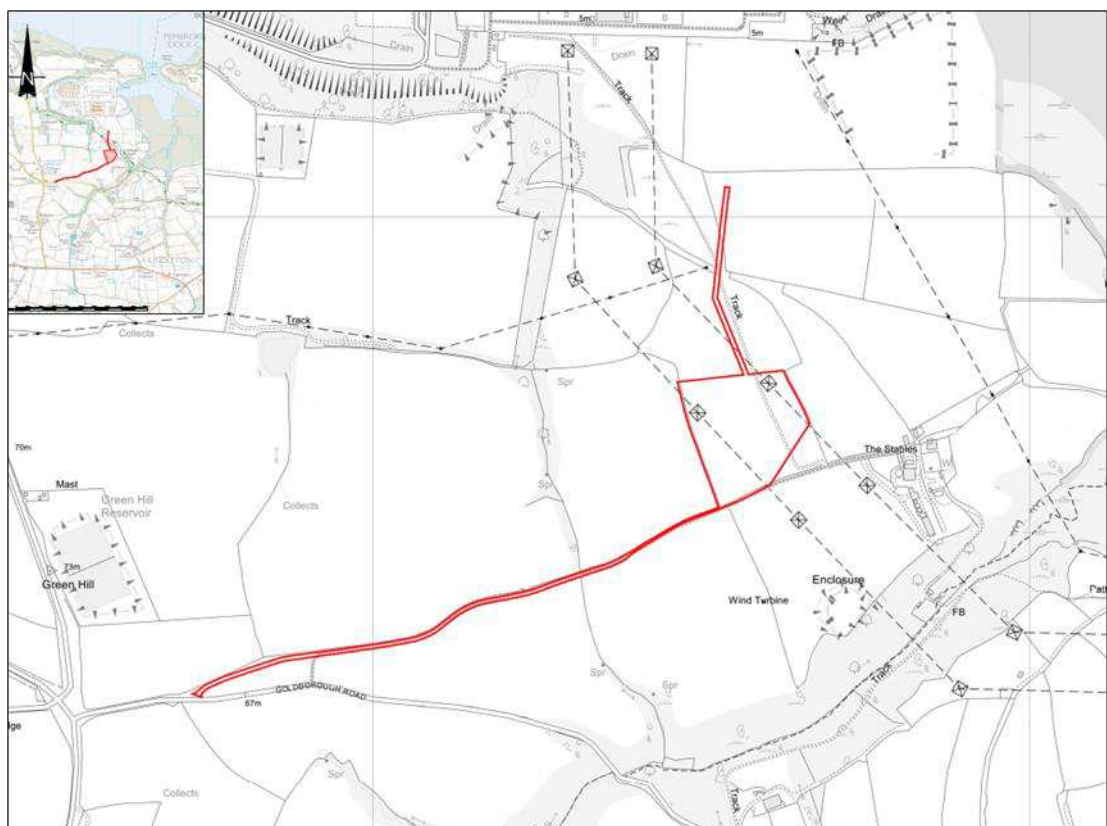


2. THE SITE AND SURROUNDINGS

2.1 LOCATION

- 2.1.1 The application site is located on approximately 3.5ha of land adjacent to the Greenlink Converter Station, off Goldborough Road, south of Pembroke Power Station. The site area includes the access track, the battery compound and the cable run to the proposed point of connection (an electricity pole in the field to the north-east of the proposed battery compound). The cable will run from the battery compound below ground before connecting into the point of connection.
- 2.1.2 The site is situated to the east of the newly constructed Greenlink Converter Station, 500m south of Pembroke Power Station, c.1.5km north-east of the existing Wallaston Green Solar Farm, c.2.3km south-east of the Valero Oil Refinery and c.3km south-west of Pembroke Dock. Pembrokeshire Coast National Park lies c.2.2km to the south-west of the application site, and is separated from the site by woodland, roads, hedgerows and fields. The site location is illustrated on Drawing No. SRE1137/04/01 and **Figure 2.1** below.

Figure 2.1: Site Location



2.2 SITE OVERVIEW

- 2.2.1 The site sits in a semi-rural setting, with several farms in the locality and agricultural fields. However the landscape is strongly influenced by a Converter Station which is currently being constructed immediately to the west, Pembroke Power Station to the north and Valero Oil Refinery to the north-west. A solar farm lies 1.4km south-west of the site, beyond which is a second solar farm. Two sets of power lines and telegraph poles run in parallel across the site (in a south-east to north-west alignment). These uses serve to partly industrialise the area with the surrounding land being utilised for a mixture of energy generation and food production purposes. Lambeeth Farm is located to the south-east.

2.3 IDENTIFIED RECEPTORS AND DESIGNATIONS

- 2.3.1 The nearest residential receptors to the application site are Lambeeth Farm to the south east which is

financially connected to the proposal and a lodge to the west of Lambeeth Farm (c.130m south east of the application site). There is a further property within 500m of the site and another c. 5 properties within 1km of the site.

- 2.3.2 Drawing No. SRE1137/07/02 identifies the environmental setting and constraints of land in and surrounding the proposal site.
- 2.3.3 The benign nature of the proposed development combined with the existing and proposed vegetation and surrounding built structures means there is limited opportunity to create significant environmental effects on identified receptors.
- 2.3.4 Under the adopted Local Development Plan Policies Map, the site is identified as located outside any settlement boundaries and is therefore located within the 'open countryside'. In addition, the site is identified as being within an area of Hard Rock Resource.
- 2.3.5 The nearest statutory designated ecological sites are the Milford Haven Waterway SSSI and the Pembrokeshire Marine / Sir Benfro Forol SAC located c. 550m to the east of the site. One non-statutory designated site lies within the northern half of the application site known as B-Line sight.
- 2.3.6 The site is located within the Milford Haven Waterway Registered Historic Landscape. There are no Listed Buildings or Schedule Monuments within close proximity of the site. Within a 3km of the application site, there are 11 Scheduled Monuments, Oriulton Historic Park and Garden and 55 Listed Buildings. The site does not form part of a Conservation Area, nor are there any Conservation Areas in proximity to the site.
- 2.3.7 Natural Resource Wales's Development Advice Map identifies the site as being at low risk of flooding.
- 2.3.8 There are two Public Rights of Way within 500m of the application site. A Public Right of Way runs to the south along Goldborough Road and the Wales Coastal Path runs to the north-east of the site.

2.4 SITE ACCESS

- 2.4.1 Access to the site is from the south-west off Goldborough Road via a tarmacked access track which runs to Lambeeth Farm. A new access point will be created from this access track to the host field. This access track is utilised as the sole access to Lambeeth Farm (and another residential property) and therefore accommodates large farm vehicles. In addition, it is understood that this access road was utilised for the construction of the Greenlink Converter Station on the adjacent field to the west of the application site accommodating HGV's. Figure 2.4 below illustrates the site access off Goldborough Road.
- 2.4.2 Further details in respect of construction traffic are presented in the Construction Traffic Management Statement (**Appendix 6.1**) which is submitted as a standalone document with the application.

Figure 2.4: Photograph looking north-west along part of the access track





3. THE PROPOSED DEVELOPMENT

3.1 OUTLINE OF THE PROPOSAL

3.1.1 The proposed development is for the construction and operation of a 49.9MW Battery Energy Storage System (BESS) and associated infrastructure on a parcel of land adjacent to the Greenlink Converter Station off Goldborough Road, south of Pembroke Power Station. The site is situated c.500m south of Pembroke Power Station.

3.1.2 The total proposed BESS development covers an area of circa 3.5ha, as shown on Drawing No. SRE1137/04/01 and will consist of the following:

- 46no. Battery Container Units (arranged in no. 23pairs);
- 23no. Power Conversion System (PCS) and MV Skids located adjacent to each battery unit pair;
- 132kV Developer and Distribution Network Operator (DNO) substation compound and Customer substation compound along with associated infrastructure surrounded by a c.2.4m high palisade fencing;
- Underground cable to the point of connection with the local distribution network;
- 1 No. Switchgear cabins;
- 2 No. spare / storage cabins;
- Fire water storage tanks and fire water pumphouse;
- 2 No. DNO cabins;
- Perimeter paladin fencing 2.4m high and inward facing infra-red CCTV;
- Internal service road and vehicle turning area;
- Site access; and
- Landscaping.

3.1.3 The BESS and supporting infrastructure will have a maximum import and export capacity of 49.9MW. The facility will deliver significant environmental benefits with the capacity to store and supply over 72,869,875kWh of electricity per year as an enabling technology for renewable generation and a replacement for gas fired power generation in providing rapid response power to satisfy peak demand. In performing these roles, the development has the ability to reduce carbon dioxide emissions by over 20,499 metric tonnes annually whilst also providing electricity storage equivalent to supplying over 20,819 homes.

3.2 SITE DESIGN

3.2.1 The proposed layout is shown on Drawing No. **SRE1137/04/04**. Due to commercial constraints, potential changes in battery technology and associated infrastructure changes during the determination process an element of flexibility is required in relation to their dimensions, appearances and their arrangement. The submitted layout is therefore indicative as the detailed layout and phasing of construction will be agreed with the Local Planning Authority (LPA) by way of planning condition following grant of planning consent. This approach is commonplace in battery storage planning permissions.

3.2.2 The BESS will comprise 46 battery container units arranged in 23 pairs. Each battery container will measure typically 6.1m long, 2.5m wide and 3.1m in height from ground level. **Figure 3.2** below and Drawing No. **SRE1137/04/08** provides details of the battery containers.

3.2.3 The batteries will operate when called upon by the National Grid. But as electrical demand is greatest in the morning and early evening this is when the facility is most likely to be delivering power to the grid.

3.2.4 A 132kV DNO substation is proposed which will enable the battery electricity to be released onto the wider distribution network. The point of connection will be an electricity pole in the field to the north-east of the proposed battery compound.

Figure 3.1: Indicative Site Layout

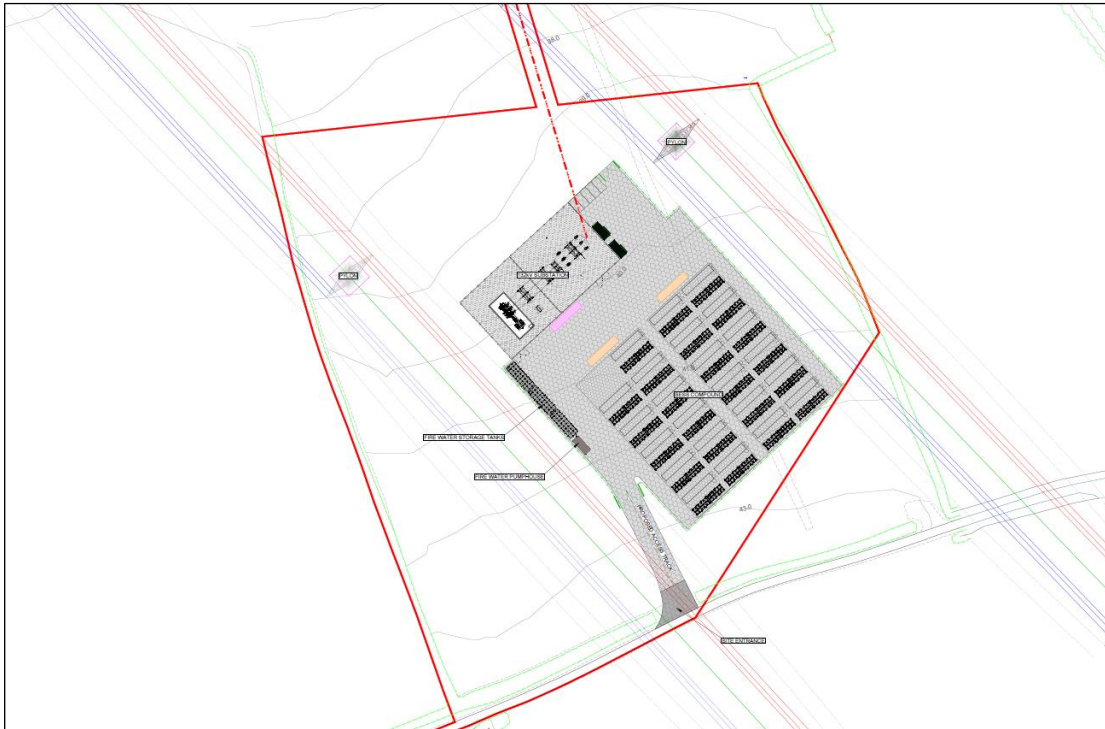
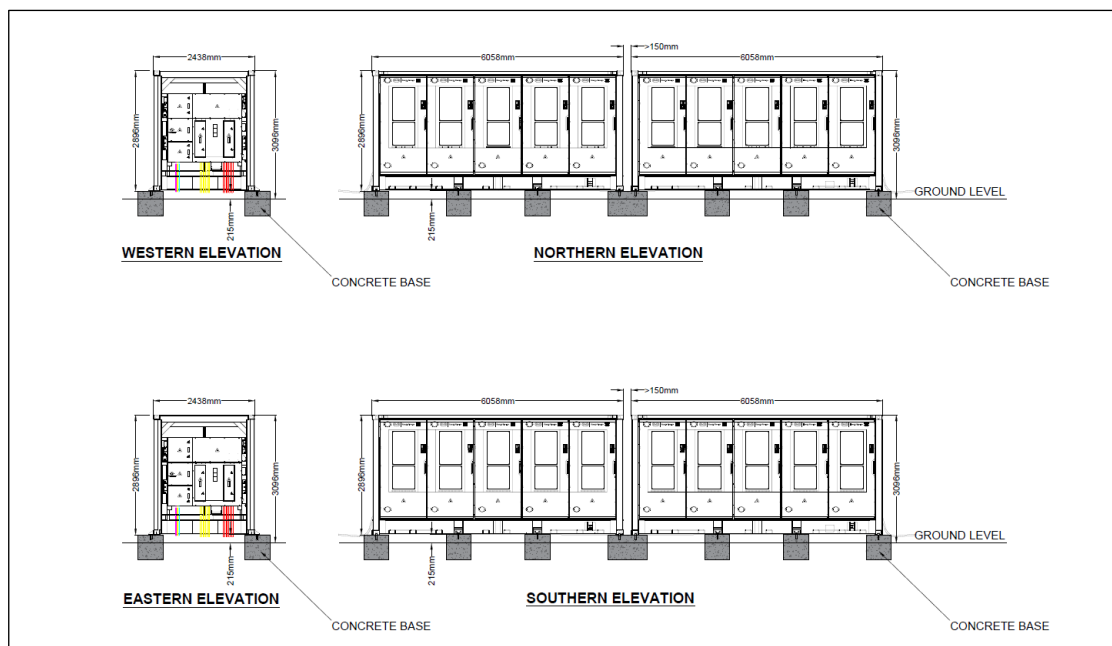


Figure 3.2: Battery Container Details



- 3.2.5 Other proposed equipment includes the Power Conversion Systems (PCS) and MV Skids which act as transformers and measure approximately 12.2m long, 2.4m wide and 3.1m in height from ground level. Drawing No. SRE1137/04/09 provides details of the PCS and MV Skids. The batteries and PCS and MV Skids will be mounted off the ground on outdoor high resistance concrete columns.
- 3.2.6 The tallest structure on site will be the 132kV substation which measures approximately 52.5m in length and 23.5m in width with the highest piece of equipment being approximately 5.8m as illustrated on Drawing No. SRE1137/04/11. The 132kV substation will be enclosed within a 2.4m palisade fence,

details of which are provided on Drawing No. SRE1137/04/XX. The appearance of the 132kV substation is decided by the DNO operator.

- 3.2.7 Additional equipment proposed on site include a switchgear cabin, 2 No. spare / storage cabins, fire water storage tanks and fire water pumphouse and 2 No. DNO cabins. Drawing No's. SRE1137/04/XX – SRE1137/04/XX all provide details on these additional structures.

3.3 POINT OF CONNECTION AND CABLE ROUTE

- 3.3.1 The proposed development will connect into the point of connection at an electricity pole in the field to the north-east of the proposed battery compound. The planning application boundary includes the proposed underground cable route to the point of connection.

3.4 SITE SECURITY

- 3.4.1 The BESS compound will be secured by a 2.4m high paladin security perimeter fence and inward facing infra-red CCTV will be included for security reasons around the battery storage area as illustrated on Drawing No. **SRE1137/04/15**.

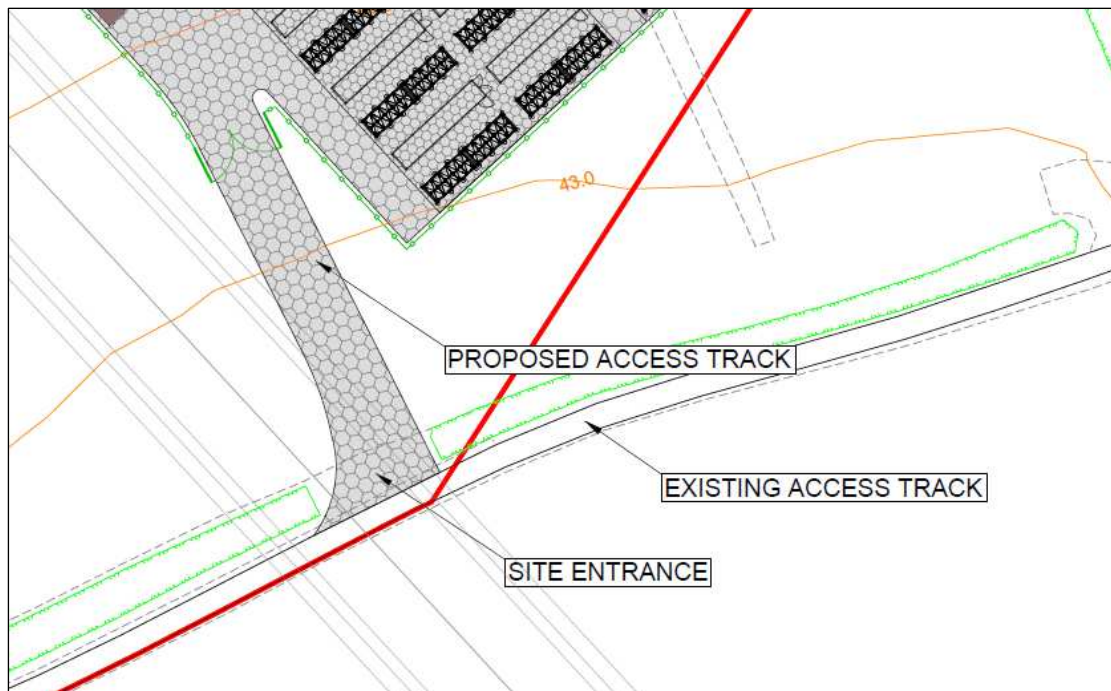
3.5 CONSTRUCTION PROGRAMME

- 3.5.1 BESS developments do not generate significant levels of traffic on a permanent basis. Once the construction phase of the facility is complete, visits to site will be limited to monthly occurrences by single operatives.
- 3.5.2 Subject to the granting of planning permission, construction activity for the development would last approximately 6 months and employ up to 10 staff over the construction period.
- 3.5.3 A secure temporary set down area will be established within the site for the construction phase as illustrated on Drawing No. **SRE1137/04/20**. The set down area will accommodate site materials for the construction works and there will be car parking for the site construction operatives.
- 3.5.4 Construction is expected to take place during the hours of 0700 to 1900 (Monday to Friday) and 0800 to 1600 hours (Saturday). Deliveries will be carried out within the hours above. Under exceptional circumstances, both working and deliveries outside of these hours may be required. In these cases, prior permission will be sought from Pembrokeshire County Council.
- 3.5.5 An Outline Construction Traffic Method Statement (CTMS) accompanies the application (**Appendix 6.1**). The CTMS provides details of proposed access arrangements, the anticipated build programme, construction vehicle numbers and type, construction worker numbers and the proposed construction hours. The outline CTMS will be subject to final approval by the LPA post-consent under the terms of an appropriately worded planning condition.

3.6 SITE ACCESS

- 3.6.1 Access to the site is from the south-west off Goldborough Road via a tarmacked access track which runs to Lambeeth Farm. A new site access point will be created from this existing access track to the host field. Access into the site during the construction and operational phases will utilise this existing access point. Vehicles entering the site will turn left into the site from the existing access track. Upon exiting the site, vehicles will turn right onto the access track before turning right onto Goldborough road and left to re-join the B4320.
- 3.6.2 The proposal utilises an existing well-functioning vehicle access track currently utilised as the sole access to Lambeeth Farm (plus an additional residential property) and therefore accommodates large farm vehicles. Part of this access was utilised for the construction of the Greenlink Converter Station on the adjacent field to the west of the application site accommodating HGV's.

Figure 3.2: Access Details



- 3.6.3 The proposed development will have restricted public access. In designing the proposed development emphasis will be placed on security. The design ensures the site is secure and not readily accessible to the public through the installation of security fencing and infra-red CCTV. Access to the site will be through invitation only.
- 3.6.4 Details of the proposed access arrangements during construction are presented in the Outline CTMS (**Appendix 6.1**). Once operational, the proposal will generate minimal traffic from monthly inspections and maintenance. The CTMS will be subject to final approval by the LPA post-consent under the terms of an appropriately worded planning condition.

Car Parking

- 3.6.5 During construction of the development, it is expected that the site will provide sufficient available land for temporary parking, storage and lay-down for the construction phase. Once operational, the site will be manned remotely offsite. However, the site will be required to have monthly maintenance checks. Five car parking spaces have been provided within the site as illustrated on Drawing No. **SRE1137/04/03**.

3.7 PUBLIC FOOTPATHS

- 3.7.1 There are two Public Rights of Way within 500m of the application site. A Public Right of Way runs to the south along Goldborough Road and the Welsh Coastal Path runs to the north-east of the site.

3.8 BIODIVERSITY ENHANCEMENTS AND LANDSCAPING

- 3.8.1 Landscape and visual mitigation seek to integrate the development into the local landscape, screen and filter views to the site from sensitive receptors and provide landscape (and often ecological) enhancement using un-utilised land within the site.
- 3.8.2 The Landscape and Visual Impact Assessment and Ecology and Nature Conservation Chapters (ES Chapters 7 & 8) provide full details of the enhancement proposals, in summary these include:
- native hedgerow with hedge trees is proposed to the north of the site compound which will provide screening to nearby PROW. Species selected include fruiting and flowering species

suitable for supporting nesting and foraging birds, insects and small mammals.

- A native scrub planting block is proposed to the south of the site compound which will provide screening to nearby PROW and filter views to the Lambeeth Farm grouping. Species selected include fruiting and flowering species suitable for supporting nesting and foraging birds, insects and small mammals.
- Wildflower seeding to the remaining areas of the field around the BESS compound will enhance the existing biodiversity and species mix in comparison to the existing pasture coverage. This will attract a range of wildlife including birds, bats and invertebrates to the site as well as compensating for the temporary loss of farmland.

3.9 DECOMMISSIONING

- 3.9.1 After 40 years of operation all of the battery equipment and associated infrastructure will be removed from site.



4. PLANNING POLICY CONTEXT

4.1 INTRODUCTION

- 4.1.1 To understand why Sirius Renewable Energy are proposing a battery energy storage system in this location, national and local policy (the 'Development Plan') must be considered. A detailed appraisal of Development Plan policy and material considerations is presented in a standalone Planning Statement submitted with the planning application.
- 4.1.2 Section 38(6) of the Planning and Compulsory Purchase Act 2004 (as amended) requires planning applications to be determined in accordance with the provisions of the Development Plan unless material considerations indicate otherwise. Given the primacy of the Development Plan in the decision-making process it is imperative that the application identifies which planning policies are relevant to the proposal.
- 4.1.3 The proposed development is to construct and operate a 49.9MW solar farm that will contribute towards achieving the legally binding target of net zero carbon emissions by 2050.

4.2 ENVIRONMENTAL IMPACT ASSESSMENT

- 4.2.1 Sirius Planning was commissioned to co-ordinate an Environmental Impact Assessment (EIA) of the proposed BESS. The findings of the assessment are presented in an Environmental Statement which accompanies the planning application, as required by the Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017.
- 4.2.2 Specialist consultants in a wide range of disciplines have been employed to carry out environmental studies and assessments. Details of the independent studies and assessments are contained in the ES.

4.3 NEED FOR RENEWABLE ENERGY

Climate Change Act

- 4.3.1 The Climate Change Act 2008 required long term targets for the UK to achieve an 80% reduction in greenhouse gases by 2050 against 1990 levels. In June 2019, the Climate Change Act 2008 (2050 target Amendment) Order came into effect which required the net UK carbon account for the year 2050 to be 100% of 1990 levels.
- 4.3.2 The UK Act requires governments to set legally binding 'carbon budgets'. Each budget provides a five-year cap on total greenhouse emissions; in order to meet the UK's emission reduction commitments caps should not be exceeded.
- 4.3.3 The first carbon budget (2008-12) and the second (2013-17) have been met and the UK is on track to outperform the third (2018-22). However, it is not on track to meet the fourth (2023-27) or the fifth (2028-32).

COP26 and the Net Zero Strategy

- 4.3.4 As highlighted during the recent COP26 event in Glasgow, "We cannot afford to wait to act against the threat of climate change. We must work together to protect our planet and people and ensure a greener, more resilient future for us all".
- 4.3.5 The UK Government have set a target of decarbonising the electricity grid by 2035. To deliver the strategy overall electricity demand is expected to increase 40-60% by 2035, all met from low carbon sources.
- 4.3.6 This strategy sets out the objective of transforming the UK's power system so that it will consist of abundant, cheap British renewables, "underpinned by flexibility including storage", and ensure reliable power is always there at the flick of a switch.
- 4.3.7 A key stated Policy in the Net Zero Strategy is the "deployment of new flexibility measures including

storage to help smooth out future price spikes”.

- 4.3.8 There is a real emphasis on the importance of decarbonising the electricity grid by central government and schemes such as this are essential in supporting the rollout of renewable energy.

- 4.3.9 It is noted by the former Minister for Energy and Clean Growth (Kwasi Karteng):

“The key to capturing the full value of renewables is in ensuring homes and businesses can still be powered by green energy even when the sun is not shining or the wind has stopped blowing. Removing barriers in the planning system will help us build bigger and more powerful batteries, creating more green-collar jobs and a smarter electricity network”.

“Flexible technologies like batteries will form part of the UK’s smarter electricity grid, supporting the integration of more low-carbon power, heat and transport technologies, which it is estimated could save the UK energy system up to £40 billion by 2050.”

- 4.3.10 As we move forward and aim to achieve a carbon neutral economy and mitigate the risks and effects of climate change, cleaner and more sustainable methods of power generation are being brought online which are intermittent in character (e.g. wind and solar PV) and place certain demands on the electricity grid due to fluctuations in power generation and demand.
- 4.3.11 The National Grid operates a balancing service to balance supply and demand and to ensure the security and quality of the electricity supply across its transmission system.
- 4.3.12 The BESS will assist towards controlling the balancing service by providing the National Grid with access to extra power which is stored ‘off grid’ in batteries when demand outstrips supply.
- 4.3.13 When levels of electricity on the grid are below that of demand, the electricity stored in the batteries can be fed back (discharged) onto the network to meet the demand so that there is no loss of power to end users. Smooth grid operation relies on the provision of rapid reactive power services either by generation or dedicated facilities to enable frequency stabilisation. BESS provides sub-second response times, so offer a reliable solution to a number of the Grid’s balancing issues thus supporting the development and deployment of low carbon intermittent energy technologies upon which society must increasingly rely on to satisfy its energy requirements.
- 4.3.14 Delivering a secure energy supply is a priority for the Government and this is duly reflected in the NPPF whereby local authorities must coordinate with providers to meet the demand. In this instance, the energy balancing requirements have been identified by the Applicant and the power will be stored during times of oversupply and released (supplied) when demand outweighs supply.
- 4.3.15 The development has the capacity to store and supply over 72,869,875kWh of electricity per year as an enabling technology for renewable generation and a replacement for gas fired power generation in providing rapid response power to satisfy peak demand. In performing these roles the development has the ability to reduce carbon dioxide emissions by over 20,499 metric tonnes annually whilst also providing electricity storage equivalent to supplying over 20,819 homes.
- 4.3.16 The proposed BESS can therefore be considered as development which would support the operation of existing and development of proposed renewable energy projects, essential to delivering the Net Zero Strategy of decarbonising the electricity grid by 2035 and meeting the nations carbon reduction targets.
- 4.3.17 Based on the above, it is clear that there is an identified and urgent need for developments such as this as clearly outlined in the Government’s energy strategy and in national planning policy. The proposal will contribute to meeting this requirement and this should carry significant weight.
- 4.3.18 On 14th July 2020, the Government announced that planning legislation is to be relaxed to make it

easier to construct large battery schemes to store renewable energy .



5. SUMMARY OF TOPIC ASSESSMENTS

5.1 INTRODUCTION

- 5.1.1 To determine the extent (or 'scope') of environmental topics to be considered in the EIA and reported on in the ES, Pembrokeshire County Council were requested to provide a Scoping Opinion. This Scoping Opinion (presented in **Appendix 1.1** to the ES) confirmed the information to be supplied in the ES. The ES has been prepared in accordance with the Scoping Opinion from the Council.
- 5.1.2 The following sections summarise the environmental topic chapters of the Environmental Statement, Volume 1. Each section includes a brief description of any identified potential environmental effects resulting from the proposed development and the ways, if necessary, to reduce such impacts.

5.2 LANDSCAPE AND VISUAL

Landscape Character

- 5.2.1 The landscape and visual assessment work has demonstrated that the proposed BESS (Battery Energy Storage System) could be successfully integrated into the local landscape of Pembrokeshire without causing significant and wide scale harm to the landscape character. No significant landscape effects are concluded upon the identified landscape receptors. The development allows for opportunities for on-site mitigation within the host field and retention of its defining characteristics, namely hedgerows enclosing the site on all sides. At the end of the project's lifecycle the decommissioning of the BESS and associated infrastructure will cause minimal impact and allow for the existing field conditions to be reinstated and therefore its agricultural use could be continued. The landscape effects are judged to be effects that would not be a material factor in the decision-making process.
- 5.2.2 The proposed development would result in limited landscape effects within the site and its immediate context and would be much less perceptible outside of the site area from the remainder of the rolling arable landscape VS area PMBRKVS061 Castlemarton.
- 5.2.3 The combined landscape effects which range from a 'Low' magnitude of change for the study area to a 'Low-Medium' magnitude of change for the site and its immediate context would result in 'Minor' level of effect on the receiving landscape of both the site and surrounding study area at Year 1. Following the establishment of mitigation planting at Years 5 - 10 the level of effect would remain at 'Minor' for the site and immediate context and reduce to 'Minor-Neutral' for the wider study area. These are 'Not Significant' landscape effects.

Visual Impact

- 5.2.4 With regard to residential receptors, the two residential receptors identified to experience theoretical visibility would in reality experience very low levels of visibility to the new BESS proposal. The properties have limited windows facing the site, are greater than 800m away and both are surrounded by vegetation. This combined with intermediate hedgerows between the site and the properties substantially reduces the level of visibility, both are considered to be at 'Not Significant' levels.
- 5.2.5 With regard to PROW, a range of views to the BESS site will be possible from the Wales Coast Path although large areas are screened, particularly those close to the site, as illustrated by Viewpoint 2 (in part) and Viewpoint 3. Despite the range of visibility, due to the separation distances and intervening features, and the near infrastructure context, visual effects upon users of the route are considered to be no greater than Moderate, 'Not Significant' effects.
- 5.2.6 Only one viewpoint is considered to experience visual effects of a 'significant' nature, the PROW PROW SP34/6/1, Viewpoint 1. This is as expected due to the location, set close to the site's southern boundary, near to the site entrance in an existing gap in the path side hedgerow. Mitigation planting upon the site's southern boundary would reduce visual effects to a level of Moderate 'Not Significant' within c.5 – 10 years. It however highlighted that this view (and level of effect) represents a 'worst case' from the path corridor directly to the south of the site boundary. In most situations upon this PROW the BESS

would be screened either by mature path side hedgerows or the very large adjacent Converter Station building.

- 5.2.7 All of the other selected viewpoints would experience visual effects of a 'Not Significant' nature. The viewpoints serve to demonstrate the overall restricted visibility to the BESS site from a range of receptors and distances. In many cases visibility is filtered by hedgerows and vegetation around the site boundary and in the intermediate areas. The recently constructed Converter Station is now a main infrastructure feature beside the site area, this development from certain aspects screens visibility to the proposed BESS area. Where limited visibility to the BESS site is concluded, it also considered that following the establishment of the mitigation planting and management of perimeter hedgerows, views would be generally all screened with c.5 – 10 years.

Overall landscape and visual considerations

- 5.2.8 All of the other selected viewpoints would experience visual effects of a 'Not Significant' nature. The viewpoints serve to demonstrate the overall restricted visibility to the BESS site from a range of receptors and distances. In many cases visibility is filtered by hedgerows and vegetation around the site boundary and in the intermediate areas. The recently constructed Converter Station is now a main infrastructure feature beside the site area, this development from certain aspects screens visibility to the proposed BESS area. Where limited visibility to the BESS site is concluded, it also considered that following the establishment of the mitigation planting and management of perimeter hedgerows, views would be generally all screened with c.5 – 10 years.

5.3 ECOLOGY

- 5.3.1 A field survey was conducted on 17th August 2022 of habitats. The Phase 1 Habitat and preliminary protected species survey was conducted using the methodology outlined in the Handbook for Phase 1 Habitat Survey (JNCC 2010) . Hedgerows were also assessed.
- 5.3.2 Consultation responses were received from the Planning Ecologist and Conservation Team Leader of Pembrokeshire County Council and Senior Advisor – Development Planning at Natural Resources Wales in August 2023.
- 5.3.3 Within the Zone of Influence (ZOI) there are 8no. statutory designated sites; Pembrokeshire Marine SAC (0.38km east), Milford Haven Waterway SSSI (0.28km east), Gweunydd Somerton Meadows SSSI (0.89km south), Pembrokeshire Bat Sites and Boscherton Lakes SAC (and Orielton Stables and Cellars SSSI) (3.1km south), Orielton Stables and Cellars SSSI (3.1km south), Limestone Coast of South West Wales SAC (3.5km west), Castlemartin Coast SPA (3.6km west), West Wales Marine and Bristol Channel Approaches SAC (5.5km west).
- 5.3.4 There is one non-statutory designated site within the ZOI (B-Lines (LWS)) which is partially on site in the north east. This covers a large part of the Welsh coastline and is designed to act as a connecting habitat for insects.
- 5.3.5 Of the statutory sites identified within the ZOI of the scheme, Limestone Coast of West Wales SAC, Castlemartin Coast SPA and West Wales Marine and Bristol Channel Approaches SAC are considered very highly unlikely to be affected by the scheme due to their significant distance from the Site together with the scale and nature of the proposed works being unlikely to generate effects over these distances in particular when considered in the context of the designation / qualifying features of the three sites.
- 5.3.6 There is potential for the habitats within the site to provide suitable habitat for overwintering birds associated with estuarine habitat of Pembrokeshire Marine SAC and Milford Haven Waterways SSSI although given the small size of the Site and the low levels of disturbance likely to be generated by construction, operation and decommissioning phases of the proposed development, this is considered very highly unlikely. Works are therefore not expected to affect these sites either directly or indirectly

and the magnitude of effect is therefore not applicable.

- 5.3.7 Wintering/SPA bird surveys are currently being conducted in order to provide a robust evidence base to support the assessment that the proposed development will have no likely significant effect upon the integrity of either site.
- 5.3.8 Gweunydd Somerton Meadows Site of Special Scientific Interest (SSSI) lies approximately 890m south of the Application Site. Works are not anticipated to affect this woodland either directly or indirectly and the magnitude of effect is therefore not applicable.
- 5.3.9 Pembrokeshire Bat Sites and Bosherston Lakes SAC (including Oriulton Stables and Cellars SSSI as a component of the former) lie 3.1km south of the Application Site. Works are not anticipated to affect the Annex I habitats for which the SAC is designated, either directly or indirectly and the magnitude of effects is therefore not applicable. However, the Application Site does fall within the 3-4km roost sustenance zone of Annex II lesser horseshoe bat nursery roost at Oriulton Stables and Cellars SSSI, a component site of Pembrokeshire Bats and Bosherston Lakes SAC and further consideration of the potential likely significant effects upon Annex II bat populations is detailed in **Chapter 8** of the Environmental Statement.
- 5.3.10 The Site covers (or crosses) three large fields; one arable, one improved pasture the other, species poor semi improved grassland. Some boundaries are formed by hedgerows with the site also crossing a narrow section of broadleaved scrub that continues offsite connecting to a larger area of contiguous, established, broadleaved scrub.
- 5.3.11 Habitats on site are considered to be sub-local to local importance.
- 5.3.12 A total of six hedgerows were surveyed. All hedgerows comprised >80% indigenous woody canopy species. They are considered to be of County importance.
- 5.3.13 Mitigation and enhancement measures inherent to the design of the proposed BESS include the buffering of all retained linear habitat features with species rich wildflower grassland, indigenous shrub/scrub planting and new, species rich hedgerows.
- 5.3.14 When considering the mitigation and enhancement measures inherent to the design of the proposed BESS scheme, specifically the enhancement of significant areas of current improved grassland to species rich wildflower meadow, the provision of substantial areas of indigenous shrub/scrub and provision of a new, species rich hedgerow that will represent a change in the composition of baseline conditions, an effect of medium magnitude on receptors of low-medium sensitivity, the impact is likely to be significant minor-moderate beneficial in the long-term.
- 5.3.15 No specific mitigation has been proposed for the scheme. It is considered that the scheme will have minimal impacts on the ecological features identified within the ZoI that will largely be mitigated for through inherent project design measures and therefore specifically designed measures are not required to be implemented.
- 5.3.16 The proposed inherent mitigation and enhancement measures, are anticipated to improve the condition of retained habitats within the Site and increase the overall biodiversity value of the Site.
- 5.3.17 However, standard, actionable mitigation or measures to be implemented will include the following:
- Provision of a Construction Environment Management Plan (CEMP): Ecology. The CEMP will include detail of standard mitigation measures for pollution prevention as well as protection measures to safeguard any existing retained habitat during the construction phase. In addition, the CEMP will detail specific measures to be taken on Site during the construction phase to avoid and mitigate effects upon identified faunal resources i.e. methods and timings of sensitive vegetation removal, covering of excavations at night time, positioning of site offices,

compounds and associated infrastructure.

- A detailed Landscape and Environmental Management Plan will also be in place. The LEMP will provide detail of the habitat creation, set out clear objectives and prescriptions for the long-term management of all habitats on site in order to maximise their biodiversity value, specifically but not exclusively to the benefit of the identified ecological resources within this ES.

5.3.18 Both the above CEMP and LEMP will be adequately secured through an appropriately worded condition attached to planning consent.

5.3.19 **Chapter 8** of the Environmental Statement has identified no significant adverse residual effects from the scheme on any ecological features.

5.4 HERITAGE

5.4.1 The likely significance of the effects of the Proposed Development on the historic environment which comprises historic assets including archaeological remains (both buried and upstanding), historic landscape elements and structures within the built environment has been assessed.

5.4.2 In order to assess the potential environmental effects on the archaeological assets a comprehensive assessment of the archaeological assets was undertaken using a 1.0km search area assessment radius centred on the Site. Data was sourced from the Dyfed Historic Environment Record (HER), the Pembrokeshire Record Office, Haverfordwest, Cadw, the Royal Commission on the Ancient and Historic Monuments in Wales (RCAHMW) National Monuments Record (NMR) and the Welsh Government's Cartographic Department.

5.4.3 The DHER identifies 38 non-designated monuments within 1.0km of the Site but none lie within the Site boundary.

5.4.4 The NMR records 51 non-designated monuments within 1.0km of the Site but none lie within the Site boundary.

5.4.5 Cadw records one Listed Building within 1.0km of the Site (but this does not lie within the Site) and two Scheduled Monuments (within 1.0km of the Site but neither lies within the Site).

5.4.6 Cadw also records that the Site lies within the Milford Haven Waterway Registered Landscape of Outstanding Historic Interest. Specifically, it lies within the Rhoscrowther Historic Landscape Character Area (HLCA). Cadw records that no Registered Historic Parks and Gardens within 1.0km of the Site boundary. The nearest Registered Historic Park and Garden to the Site is that of the grade II Orielson historic garden located approximately 2.2km to the southeast.

5.4.7 The Inventory of Historic Battlefields in Wales. Records no battlefields within 1km of the Site boundary. The nearest recorded battlefield site is that at Pwllchrochan. In March 1648, Parliamentary combatants landed at Pwllchrochan Royalist forces from Pembroke attacked and the Parliamentarian forces withdrew to Church of St. Mary, Pwllchrochan and eventually sailed away.

5.4.8 There are no World Heritage Sites within 1.0km of the Site boundary. The nearest World Heritage Site is that of Blaenavon Industrial Landscape (UNESCO ref: 984) located approximately 130km to the north-east

5.4.9 The research for the Archaeological Assessment (particularly examination of historic maps) and the walk-over survey of the Site identified five hitherto unrecorded archaeological assets within the Site: a trackway from Goldborough Road to Lambeeth Farm, two hedgerow field boundaries, a clawdd field boundary, and a trackway from Lambeeth Farm to Pwllcrochan.

5.4.10 Inherent mitigation measures are embedded within the design of the proposed development. Broadly, impacts have been avoided because the proposed development has been carefully considered to

minimise the level of adverse effects on archaeological assets. This consideration includes the best and most effective use of land available at an expedient location aligning with the technical requirements of the proposed development; a realistic and deliverable outcome using the minimum quantum of development, arranged in the most compact configuration possible. The combination of these considerations with a capacity for the receiving environment to absorb development of the type and scale that is proposed has the consequential benefit of embedding mitigation for archaeological assets within the design.

- 5.4.11 Nevertheless, there is some impact to archaeological assets which is not environmentally significant but which, under applicable planning policies and best practice would attract the deployment of mitigation responses. In this instance the recommended mitigation for the hedgerow field boundary which would be directly impacted upon during the construction stage is the completion of a basic record and the recommended mitigation for the trackway from Lambeeth Farm to Pwllcrochan which would be directly impacted upon during the construction stage is the completion of a basic record. These records have been completed in order to contribute to the environmental impact assessment process. Therefore, the recommended archaeological mitigation has been completed.
- 5.4.12 In the light of the inherent mitigation measures there would be no adverse residual or consequential effects for archaeological assets.
- 5.4.13 Assessment of the proposed development has shown that the potential effects of the development on the historic landscape are not environmentally significant.
- 5.4.14 Assessment of the proposed development has shown that the potential effects of the development on designated historic assets are not environmentally significant, and no mitigation is required.

5.5 CUMULATIVE EFFECTS

- 5.5.1 Assessment of the proposed development has shown that the potential effects of the development on designated historic assets are not environmentally significant, and no mitigation is required.
- 5.5.2 Of the environmental topic areas considered as part of the EIA, the significance of impacts from the proposed development considered to be greater than negligible are limited to:
- Landscape and Visual;
 - Ecology; and
 - Heritage.
- 5.5.3 With regards to landscape and visual matters, a **Minor Adverse** impact on landscape character and visual impact is predicted to occur during the construction and decommissioning phases. However, this is only a temporary (6 months) impact. Once operational, the impact on landscape character is judged to be **Minor Adverse** for the site and **Minor Adverse-Negligible** for the immediate context following the establishment of mitigation planting which are '**Not Significant**' landscape effects. In terms of visual impact, viewpoint 1 is subject to a **moderate 'Not Significant'** level of effect following mitigation planting. The remaining viewpoints are considered to experience at most a **Minor Adverse** level of effect with many experiencing no change in the view.
- 5.5.4 In relation to ecology, provision of newly created habitat of greater value within the proposed scheme; specifically the enhancement of significant areas of current improved grassland to species rich wildflower meadow, the provision of substantial areas of indigenous shrub/scrub and provision of a new, species rich hedgerow will provide a **Minor Beneficial to Moderate Beneficial** level of effect. All other effects reduce to **Negligible** following implementation of mitigation.
- 5.5.5 In terms of heritage, the assessment of the proposed development has shown that the potential effects of the development on the historic landscape are not environmentally significant. The effect on one

Historic Landscape Character Area is **Minor Adverse** during construction and **Slight / Moderate** during operation which is a **'Not Significant'** effect. No significant effects are considered and therefore there is no requirement for additional mitigation. It should be noted that there is inherent mitigation in the design of the proposed development which has contributed to this neutral outcome. This takes the form of the equipment being dark green to help assimilate the scheme into the landscape. The site already benefits from screening to the south, east and west by established tall hedgerows. The addition of scrub planting to the south-east and east, and a new native hedgerow along the northern boundary will provide further visual containment and limit the detectability of the proposed development. It should also be remembered that the proposed development would be screened by the recently constructed Greenlink Converter Station, to the south-west of the site which establishes a presence of built form in the surrounding landscape. The proposed BESS will appear subservient to the Greenlink Converter.

- 5.5.6 In terms of assessing the cumulative impact from the proposal in isolation, it is considered that there would be a **Minor Adverse** impact on landscape character and visual impact. Where possible mitigation measures are to be implemented to reduce the impact, including the implementation of a landscaping scheme. Provision of newly created habitat of greater value within the proposed scheme will provide a minor to moderate beneficial level of effect. The effect on one Historic Landscape Character Area is **Minor Adverse** during construction and **Slight / Moderate** during operation which is a **'Not Significant'** effect. Inherent mitigation in the design of the proposed development has contributed to this neutral outcome.
- 5.5.7 There are no topic areas where there will be an adverse residual impact which is greater than slight / moderate. It is considered that when the adverse impacts are combined across topic areas there would be no synergistic effects which would mean that the effects would be greater than minor.
- 5.5.8 It is considered that when the effects are combined across topic areas there would be no synergistic effects.

5.6 ENVIRONMENTAL CONSIDERATIONS NOT SIGNIFICANTLY AFFECTED BY THE PROPOSALS

- 5.6.1 The following environmental considerations are unlikely to be materially affected or give rise to significant environmental effects as a consequence of the proposed development. Following the headings a justification is provided as to why these assessments have been scoped out of the EIA.

Traffic and transport

- 5.6.2 The CTMS sets out the current and proposed access arrangements to the site, the anticipated construction programme, construction vehicle numbers and routing of deliveries, construction worker numbers and the proposed construction hours. The CTMS also gives consideration to the decommissioning phase.
- 5.6.3 The construction of the Battery Energy Storage System (BESS) is expected to last around 6 months. During this period, there will be journeys associated with the arrival and departure of site staff and the delivery of parts and construction materials.
- 5.6.4 Subject to a 6-month construction period, it is anticipated that the construction phase will generate approximately 726 return journeys, or 363 individual movements. The majority of deliveries will be made during the beginning of construction works as site preparation works are carried out, and towards the end when the electrical infrastructure and equipment is delivered.
- 5.6.5 It is envisaged that there will be up to 10no. employees working on site during the construction phase. Many of these are likely (and will be encouraged to do so) share vehicles. Assuming a worst-case scenario of all staff members arriving by single-occupancy private vehicle during the peak construction

period, a total of 10 vehicles will arrive on site prior to the AM peak and an equal number will depart after the PM peak. There is sufficient space on site for staff vehicles within the temporary set down area as shown on Drawing No. **SRE1137 04 20**.

- 5.6.6 Vehicular access during the construction phase will follow the proposed routes as set out in the CTMS, notably travelling from the south-east off Goldborough Road via a tarmacked access track which runs to Lambeeth Farm. Vehicles entering the site will turn left into the site via a new site access from the existing access track as shown on Drawing No. **SRE1137 04 04**.
- 5.6.7 The proposal utilises an existing well-functioning vehicle access track currently utilised as the sole access to Lambeeth Farm (plus an additional residential property) and therefore accommodates large farm vehicles. In addition, it is understood that part of this access was utilised for the construction of the Greenlink Converter Station on the adjacent field to the west of the application site accommodating HGV's.
- 5.6.8 Once operational, the BESS will be unmanned and managed by remote access. Access for a low number of trips required for occasional maintenance and inspections will be typically made by light goods vehicles, e.g. vans or 4x4 vehicles but expected not to be larger than a 7.5t vehicle. Access will via as per the construction phase.
- 5.6.9 There will be no public access into the site.
- 5.6.10 Once on site there will be sufficient space for manoeuvring to allow the visiting vehicle to leave the site in a forward gear. The increase in traffic movements is considered to be negligible and is not therefore considered to be an Intensification of use of the local highway network.
- 5.6.11 No significant adverse effects are predicted to occur which is why this topic has been scoped out of the Environmental Statement.

Noise and Vibration

- 5.6.12 The application is accompanied by a Noise Impact Assessment which is presented at Appendix ##.
- 5.6.13 The results of baseline noise monitoring over a weekday and weekend monitoring period at two locations (in areas representing typical background sound levels) indicate that modal (i.e. most common place value) or average background sound levels are 34dB LA90 during the daytime and night-time.
- 5.6.14 Typical site operating noise levels have been established from empirical data obtained from Technology Providers taken from other sites in the UK to provide input data for the noise model.
- 5.6.15 The results show that the noise contribution from maximum site rating noise levels would not exceed the representative background sound level during daytime and night-time periods.
- 5.6.16 The Local Authority are able to condition the site in terms of noise, to ensure noise levels and mitigation measures achieve a reasonable level of amenity in accordance with relevant guidance and standards.
- 5.6.17 Predictions of construction noise would indicate no significant impacts and 'best practicable means' would be applied in accordance with BS5228-1:2009+A1:2014.
- 5.6.18 The assessment concludes that the site can be designed to operate such that it complies with all appropriate and relevant noise standards and guidance. There is, therefore, no reason to refuse the proposed development on the grounds of noise.
- 5.6.19 The potential noise effects are not considered to be significant and the topic has therefore been scoped out.

Hydrology, Flood Consequences and Drainage

- 5.6.20 A Flood Consequence Assessment (FCA) and Drainage Strategy has been prepared and is presented in Appendix 6.2. The assessment concludes that the site is not at risk of flooding from all sources of flooding and is located within Development Advice Map (DAM) Zone A and Flood Zone 1, with less than a 1 in 1000 (0.1%) annual probability of flooding in a given year, including the effects of climate change. In addition, there will be no net loss in flood storage capacity or impact on movement of floodwater across the site.
- 5.6.21 At this stage, ground conditions suggest that infiltration methods would provide a suitable option on site for surface water management. The equipment will sit on concrete columns, with the apron in front of the equipment to be constructed from compacted impermeable surfaces. These areas, where possible, will be constructed to shed water to any adjacent permeable areas. The rest of the site will be constructed from free draining stone or grass which will allow infiltration of rainfall. The majority of the 132kV substation compound will comprise crushed aggregate, with small concrete pads utilised where necessary.
- 5.6.22 The FCA concludes 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 TAN15. The potential effects on hydrology, flooding and drainage from the proposed development is not considered to be significant and the topic has therefore been scoped out.

Air Quality

- 5.6.23 BESS developments have no direct point source of emissions to atmosphere during the operational phase. Possible impacts to local air quality only have the potential to occur during the short period of the construction phase through vehicular and plant emissions or through the creation of dust.
- 5.6.24 The construction phase is anticipated to last around 6 months. An outline Construction Traffic Method Statement (CTMS) accompanies this planning application (Appendix 6.1) and provides expected vehicle movements during the construction phase. During this period, there will be approximately 726 return journeys to site, which on average is equivalent to five deliveries each working day (6 day working week). As all deliveries will result in a return journey for the vehicle there will be up to an average of ten vehicle movements per day. An estimated 10 staff will be on site during the construction period, depending on the phases of the construction schedule. It is envisaged that staff will be from both local and regional contractors and will car-share to reduce the numbers of vehicles on site.
- 5.6.25 The proposed traffic generation during the limited duration of the construction period will not lead to significant vehicle emissions. Once the site is operational, there will be no staff based on site however monthly routine checks will be required.
- 5.6.26 The site is not within or near an Air Quality Management Area and traffic levels on the local roads will not significantly increase during either construction or operation. Excessive dust is unlikely to be generated. Excavation is limited to trenching thus minimising the potential for ground disturbance and the entrainment of dust. Vehicle movements on site will be limited to transportation of equipment from the set down area to the final equipment positions.
- 5.6.27 Given the limited duration of the proposed construction works and the nature of the works during the construction phase the potential for dust creation will be relatively low. However a Construction Management Plan will be implemented during the construction phase and will require all construction activities to be undertaken in accordance with best practice methods. The potential effects on air quality from the proposed development is not considered to be significant and the topic has therefore been scoped out.

Major Accidents and/or Disasters

- 5.6.28 The nature of the proposed development is such that it is unlikely to release pollutants or any hazardous, toxic or noxious substances to air or land and is unlikely to have a significant effect in terms of pollution and nuisance.
- 5.6.29 The Health and Safety Executive (HSE) identifies three Control of Major Accident Hazards (COMAH) registered sites in proximity to the application site, these are:
- Pembroke Refinery, Pembrokeshire, SA71 5SJ. This site, operated by Valero Energy Limited, is located 2.3km north-west of the application site and is a COMAH site due to flammable liquids and gasses stored on site.
 - Dragon LNG Terminal, Waterson, Milford Haven, Pembrokeshire, SA73 1DR. This site is located 2.6km to the north of the application site, beyond Milford Haven Waterway, and is a COMAH site due to flammable liquids and gases stored on site.
 - Waterston Refinery, Waterson, Milford Haven, Pembrokeshire, SA73 1DR. This site is located 2.6km to the north of the application site, beyond Milford Haven Waterway, and is a COMAH site due to flammable liquids and gases stored on site.
- 5.6.30 Given the separation distance together with the intervening topography and built development and the numerous control measures in place to address any hazards at the above listed sites, it is considered that there is no significant risk of creating a major accident or disaster.
- 5.6.31 The development is not considered likely to cause a significant accident or disaster risk during either the construction or operational phases.
- 5.6.32 The risk to both construction workers and the public is low. A detailed Construction Environmental Management Plan will be implemented during the construction period and will include the requirement for all construction activities to be undertaken in accordance with statutory requirements and best practice methods.
- 5.6.33 When operational, the proposal will comprise a Battery Energy Storage System will associated electrical infrastructure. All development on site will be subject to routine maintenance such that it is not considered to pose a significant risk of creating an accident or disaster.
- 5.6.34 The site will be secured by a 2.4m high perimeter fence with CCTV ensuring there is no public access and ensuring public safety.
- 5.6.35 There have been significant and material safety improvements in the battery storage technologies including different battery chemistry make-up and individual fire suppressant systems.
- 5.6.36 As a multimillion-pound investment it is essential that insurance and protection is in place for the development. Inherently any form of built development e.g., residential, commercial or industrial buildings can be at risk from catching fire. This risk also exists for battery energy storage facilities but advancements in technology and protocols have resulted in the adoption of an integrated three stage fire prevention and suppression system built into the design to ensure this risk is managed out. A typical system comprises:
- 5.6.37 Early warning of any battery cells failing with gas detectors (in each enclosure) – this triggers automatic power disconnection and an alarm to the remote monitoring station;
- 5.6.38 Automatic inert gas discharge is triggered if heat is detected, together with an automatic disconnect of the battery and an alarm signal to the remote monitoring station. This inert gas displaces all oxygen in the battery area and stops any fire developing; and
- 5.6.39 Internal water mist deluge system activation (requiring low water volumes) that can be supported by

fire services. Primarily to address heat build-up, and alleviating / preventing potential damage to adjacent enclosures.

- 5.6.40 To provide an additional layer of protection, batteries for energy storage systems are also generally housed in modular containers. Risk associated with fire from the associated electrical equipment are also considered low as the proposed electrical systems will have a cooling mechanisms and will automatically shut down should any overheating occur.
- 5.6.41 Consideration has been given to the vulnerability of the proposed development to major accidents / disasters, particularly in terms of the potential from flooding. A Flood Consequence Assessment (FCA) accompanies this planning application (**Appendix 6.2**), confirms that the application site is located within Flood Zone A and Flood Zone 1 with less than a 1 in 1000 (0.1%) annual probability of flooding in a given year, including the effects of climate change.
- 5.6.42 The FCA also considers the potential contribution to flood risk from the proposal. The equipment associated with the BESS will sit on concrete columns, with the apron in front of the equipment to be constructed from compacted impermeable surfaces. These areas, where possible, will be constructed to shed water to any adjacent permeable areas. The rest of the site will be constructed from free draining stone or grass which will allow infiltration of rainfall. Therefore, surface water runoff from the site will be largely the same as existing levels.
- 5.6.43 In addition, the facility can be controlled remotely so that the transmission of electricity could be quickly disabled if any concerns should arise resulting from disasters.
- 5.6.44 It is considered that the potential for major accidents and disasters from the proposed development will not be significant and therefore the topic has been scoped out

SOILS, GEOLOGY AND AGRICULTURAL LAND

- 5.6.45 The application site comprises an agricultural field. The nature of the development being temporary and reversible, means that a detailed understanding of local geology is not required and the topic has been scoped out.
- 5.6.46 Data Map Wales interactive maps shows that the proposed BESS compound is located on predictive Grade 3b land and is therefore not classed as best and most versatile land.
- 5.6.47 The construction and decommissioning of the BESS site will have little impact on the land quality as the fields will be returned to full agricultural use on removal of the BESS and associated infrastructure. Therefore agricultural land quality has not been considered further.
- 5.6.48 A Phase 1 Desk Study has been undertaken. The preliminary conceptual site model has not Identified any plausible contaminant linkages considered to pose a significant risk to proposed end users, controlled waters and / or the proposed development. The assessment recommends in order to the foundation design, intrusive ground Investigation works should be carried out which can be controlled by a suitably worded planning condition.

MAJOR ACCIDENTS / DISASTERS

- 5.6.49 It is considered that the potential for major accidents and disasters from the proposed development will not be significant and therefore the topic has been scoped out
- 5.6.50 The proposal is for a Battery Energy Storage System (BESS) supporting infrastructure which will have a maximum import and export capacity of 49.9MW. The facility will deliver significant environmental benefits with the capacity to store and supply over 72,869,875kWh of electricity per year as an enabling technology for renewable generation and a replacement for gas fired power generation in providing rapid response power to satisfy peak demand. In performing these roles, the development has the ability to reduce carbon dioxide emissions by over 20,499 metric tonnes annually whilst also providing

electricity storage equivalent to supplying over 20,819 homes. A positive impact is considered, however the proposal is not considered to have a major significant effect on climate change.

- 5.6.51 The main potential risks presented by a changing climate to the development are considered to be the projected increase in annual precipitation and extreme weather events.
- 5.6.52 A comprehensive Flood Consequence Assessment (FCA) (**Appendix 6.2**) has been carried out to assess the vulnerability of the development to all possible types of flooding. The FCA identifies and assesses the risks of all forms of flooding to and from the development and demonstrates how these flood risks will be managed, taking climate change into account. The FCA concludes 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 TAN15.
- 5.6.53 Biodiversity net gain will be delivered as part of the development and will include habitat creation, enhancement and likely succession of habitats. Through ensuring that the planting is suited to adapt to the climatic changes outlined and through increasing the biodiversity of the Site, it is considered that the Development will be increasingly resilient to the effects of climate change. Although the effects of climate change are uncertain, the enhancement in biodiversity will result in a positive effect.
- 5.6.54 Overall, the proposal has embedded mitigation measures which will result in the development being resilient to changes in climate.

HUMAN HEALTH

- 5.6.55 The proposed development is unlikely to release pollutants or any hazardous, toxic or noxious substances to air or land. Potential health impacts are therefore related primarily to construction and operational related impacts.
- 5.6.56 Comprehensive health and safety assessments are an essential part of the construction process and would be carried out prior to construction by the contractor in accordance with relevant legislation. The appointed Site Manager will have the responsibility of Health and Safety on site during the construction phase and all personnel working on site will be required to follow the appropriate operational procedures, which will include the need to wear the appropriate Personal Protective Equipment (PPE).
- 5.6.57 The potential impacts from noise and vibration during the construction and operational phases has been assessed and the results are presented within **Appendix 6.3**. The assessment concludes that noise contribution from the proposal would not exceed the representative background sound level during daytime and nighttime periods and that the site can be designed to operate such that it complies with all appropriate and relevant noise standards and guidance.
- 5.6.58 An outline Construction Traffic Method Statement (CTMS) has been prepared and is presented in **Appendix 6.1**. This sets out the anticipated traffic generation associated with the proposed development. Given the short duration of the construction phase, it is expected that the relatively low number of proposed vehicle movements will not lead to significantly adverse effects on health from vehicle emissions. All deliveries will take place within the temporary construction set down area and away from the public highway, therefore no adverse impacts on road safety are anticipated. Once operational, visits to site will be limited to largely monthly visits by car or van.
- 5.6.59 Dust can be created from the movement of construction traffic and from general construction activities and particles can be carried by prevailing wind. Construction traffic carrying loose materials will be covered to reduce dust generation. Weather and ground conditions will be observed on a daily basis throughout the construction phase. In addition, plant and equipment will be maintained in accordance with manufacturer's specifications to help control air emissions. Vehicle and construction equipment shall be switched off when not in use (where practicable) to avoid unnecessary emissions.

Consideration of potential effects on air quality is presented in section 6.5.

- 5.6.60 A detailed CEMP will be implemented during the construction period and will include the requirement for all construction activities to be undertaken in accordance with statutory requirements and best practice methods.
- 5.6.61 Once operational, there will be no public access to the facility, which will be secured by fencing and monitored by CCTV.
- 5.6.62 The development can be safely managed, the battery units and associated equipment will be housed in sealed containers mounted above the ground. In addition, the scheme can be controlled remotely so that the transmission of electricity could be quickly disabled if any immediate health and safety concerns should arise.
- 5.6.63 It is considered that the potential for adverse impacts on public health and wellbeing from the proposed development will not be significant and therefore the topic has been scoped out.

CLIMATE CHANGE

- 5.6.64 It is considered that the potential for adverse impacts on public health and wellbeing from the proposed development will not be significant and therefore the topic has been scoped out.
- 5.6.65 Climate change is generally considered to be the greatest existential threat to the environment, our way of living and humanity in general. Addressing this huge challenge requires a change in how we live our lives in the future and the decisions we make.
- 5.6.66 As highlighted during the recent COP26 event in Glasgow, "We cannot afford to wait to act against the threat of climate change. We must work together to protect our planet and people and ensure a greener, more resilient future for us all".
- 5.6.67 In addition to this, this past year has brought into stark focus the need for the UK to improve its energy security to ensure both continuity of supply, reduced costs to the consumer and avoid future price spikes caused by geo-political events.
- 5.6.68 The UK Government's 'Net Zero Strategy' commits the UK to be powered entirely by clean electricity by 2035, subject to security of supply. To meet this target a key component is the deployment of new flexible measures including energy storage to help smooth out power supply delivery and future price spikes.
- 5.6.69 Of national concern is the significant economic leakage because of the current energy system. There is a need to create an energy system that retains more of the economic value for Wales. Through localised production more benefits can be directed to the local communities through skills, quality jobs and a greater retention of economic value.
- 5.6.70 At a local level, the need to mitigate the effects of climate change, e.g. reduce greenhouse gas emissions, promote generating renewable energy and low carbon is accepted as a key issue. Pembrokeshire County Council declared a climate emergency in 2019.
- 5.6.71 Therefore, the proposed development would contribute to local and regional economic growth aspirations, whilst also providing progress in meeting energy supply security.
- 5.6.72 Across the lifecycle of the project a range of skills and training are required. There will be numerous entry points for employment across the different phases of construction and throughout the operational period of the proposed development. Many skills will be transferable from other industries although training will be required to take on many of the roles which will be created.
- 5.6.73 The proposed development could potentially generate numerous socio-economic and economic benefits throughout the 40-year lifespan.

- 5.6.74 The BESS will deliver significant environmental benefits, enabling technology for renewable generation, replacing the requirement for gas fired power generation and providing rapid response power to satisfy peak demand. In performing these roles, the development has the ability to reduce carbon dioxide emissions by over 20,499 metric tonnes annually whilst also providing electricity storage equivalent to supplying over 20,819 homes.
- 5.6.75 It is anticipated that the development will employ approximately 10 people during the 6-month construction phase, followed by approximately half a dozen operational and maintenance staff over the 40-year lifespan. The labour force employed throughout the initial six-month construction stage would likely spend in the local economy.
- 5.6.76 There will also be benefits to the landowner accommodating the proposal by diversifying their agricultural business and in turn supporting the rural economy.
- 5.6.77 Whilst the above is considered a positive for the local area, given the relatively short construction phase it is unlikely to have a major significant effect on the social or economic well-being of the vicinity. The potential effects on the social and economic fabric of the area is not considered to be significant and the topic has therefore been scoped out.

5.7 SUMMARY AND CONCLUSION

- 5.7.1 This Non-Technical Summary has outlined the findings of an Environmental Impact Assessment of the proposed battery energy storage system and associated infrastructure, which are contained within the Environmental Statement that accompanies the planning application.
- 5.7.2 The potential environmental impacts have been fully assessed for the development and where appropriate mitigated as a result of an iterative design process and through careful consideration of process management, abatement techniques, landscape design and biodiversity enhancement. The limited, identified residual impacts would be heavily outweighed by the significant amount of renewable electricity that will be generated, the considerable investment in the local economy and major benefits to local biodiversity.
- 5.7.3 The EIA and this ES confirms that the proposed development and operation of Lambeeth Battery Energy Storage System will not lead to unacceptable impacts on identified receptors so long as the proposed mitigation and enhancement measures are implemented.



**6. WHAT HAPPENS
NEXT**

5.8 NEXT STEPS

5.8.1 Prior to Pembrokeshire County Council making a decision on the planning application, the Council will seek advice from a number of statutory/non-statutory consultees and key stakeholders, and will make the full Environmental Statement available for examination by members of the public.

5.8.2 Electronic copies of all the documents submitted in respect of the planning application will be viewable using the Council's online public access system:

<https://planning.agileapplications.co.uk/pembrokeshire>

5.8.3 Additional copies of the Non-Technical Summary can be obtained upon written request from the following address:

Sirius Planning
4245 Park Approach
Thorpe Park
Leeds
LS15 8GB

