



Galileo 03 Ltd.

Mynydd Ty-talwyn Energy Park - Environmental Statement Volume III

Appendix 4.1: High Level Grid Connection Assessment

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RSK GENERAL NOTES

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Galileo 03 Ltd.

Mynydd Ty-talwyn Energy Park - Environmental Statement Volume III
663870

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1 INTRODUCTION

1.1 Background

- 1.1.1 Galileo 03 Ltd (part of Galileo Empower UK Ltd) (hereafter referred to as 'the Applicant') is seeking to obtain full planning permission for the construction, operation and decommissioning of the Mynydd Ty-talwyn Energy Park (hereafter referred to as the 'Proposed Development'), located north of Bridgend, south Wales.
- 1.1.2 The Proposed Development comprises the construction operation, and subsequent decommissioning, of up to six wind turbines, ground mounted solar photovoltaic (PV) modules, one project substation and ancillary infrastructure works.
- 1.1.3 The Applicant has received a grid connection offer for the Proposed Development from the district network operator, National Grid Electricity Distribution, including an indicative grid connection method. The point of connection is located at the Pyle Substation, located approximately 3 km south-west of the Site. The proposed routing is illustrated in **Figure 1.1: Indicative Grid Connection Route** as shown in the rear of this report.

1.2 Scoping Direction

- 1.2.1 To inform the detail included within this Environmental Statement (ES), the Applicant has sought a Scoping Direction from Planning and Environment Decisions Wales (PEDW) (**ES Volume III, Appendix 1.2: Scoping Direction**). The Scoping Direction included a request to undertake a high level assessment of the grid connection, as set out below.

"The SR [Scoping Report] states the route and specification of the grid connection are still subject to design and assessment, and that the grid connection will be subject to a separate consent application. The applicant's attention is drawn to comments from NPTCBC and BCBC, within which they highlight the requirement for the associated grid connection to be considered as part of the ES.

PEDW states that the proposed grid connection routing options should be included in the ES with an assessment of the likely significant effects of the associated grid connection, including cumulative impacts. Therefore, a high level assessment of the grid connection is scoped in to the ES."

- 1.2.2 This document presents the results of the high-level environmental assessment undertaken for the proposed grid connection required for the Proposed Development.

2 PROPOSED GRID CONNECTION

- 2.1.1 The grid connection would be subject to a separate planning application. In line with the grid offer received, it has been assumed that the grid connection would require an underground cable, approximately 8 km in length, from the point of connection (Pyle Substation) to the proposed on-Site Substation shown on **ES Volume IV, Figure 2.1: Proposed Development Layout**.
- 2.1.2 The full route is intended to be underground along existing roads. From the on-site substation, the route would travel south along Ffordd-Y-Gyfraith, until the junction with New Road where it would continue west along Crown Road and Heol-Y-Glo until Glan Yr Afon Road, where it would continue south to connect at Pyle Substation.
- 2.1.3 It is anticipated that open-cut trenching methods would be used for the majority of the cable routing. A narrow trench would be prepared before bedding material is placed along the base of the trench with the cable laid above. The cables would then be protected by a layer of protective plastic covers and backfilled with subbase, base course and surface course (hardstanding) where located in the tarmac road, or subsoil and topsoil, where located in the verge.
- 2.1.4 Any additional electrical infrastructure would be contained within the electrical compound at the proposed on-site substation or within Pyle Substation at the connection point.
- 2.1.5 The area above the cable route would be restored to its original condition.

3 LIKELY EFFECTS

3.1 Introduction

- 3.1.1 A high-level assessment of the likely environmental impacts of the proposed grid connection route has been undertaken for the following topics:
- Land soils and groundwater;
 - Water;
 - Cultural heritage;
 - Landscape and visual;
 - Noise and vibration;
 - Terrestrial ecology;
 - Ornithology;
 - Traffic and access; and
 - Population.

3.2 Land, Soils and Groundwater

- 3.2.1 The proposed installation of the grid connection would require trenching followed by the reinstatement of existing roads. Potential impacts associated with land, soil and groundwater are associated with the limited areas where works are required along road verges rather than within the road, where there is the potential for effects associated with any introduced potential contamination sources (e.g. accidental spills or leaks from construction plant). Any potential effects on land or soils, and groundwater receptors would be reduced to acceptable levels through appropriate design, such as avoiding verges and disruption of any soil where possible, and best practice construction methods to manage loose sediment, minimise surface water runoff and any potential sources of contamination. A Construction Environmental Management Plan (CEMP) would be produced as part of the consenting process for the grid connection. The CEMP would specific details of the management and mitigation measures required.
- 3.2.2 No effects are anticipated to peat soils within the Site boundary, as the limited peat soil identified within the Site would not fall within the route. Along the proposed grid connection route, the cable would be primarily located within existing roads, with disturbance of verges avoided wherever possible through the design. Therefore, no effects are anticipated in relation to peat along the remainder of the route.
- 3.2.3 It is anticipated that the grid connection would be underground during the operational phase and would remain in situ following the decommissioning of the Proposed Development. As part of the Decommissioning Strategy, which would be secured via planning condition, a Buried Cable Risk Assessment will be undertaken to assess and mitigate for any risks associated with the cables being left in place. Therefore, no further effects are anticipated in relation to land, soil and groundwater receptors during the operational and decommissioning phases.

3.3 Water

- 3.3.1 The proposed route would cross the existing route of ordinary watercourse Nant Craigraber and main river Afon Cynffig. However, these watercourses are already routed below Ffordd-Y-Gyfraith and Crown Road respectively (via culvert/bridge) and therefore no direct effects are anticipated on these watercourses.
- 3.3.2 Any further required crossings of watercourses or drainage channels would be achieved by use of isolated open-cut trenching, with cut-off dams to control water flow. Over pumping would be used as necessary to manage water within the channels. With the implementation of best practice construction methods (e.g. the use of well-maintained construction plant and ensuring that spill kits are available, and that staff are suitably trained in the use of spill kits and other pollution prevention methods), no adverse effects are anticipated.
- 3.3.3 As the proposed grid connection route is along the existing road network, there would be no increase in hardstanding and no subsequent changes to flood risk.
- 3.3.4 Once operational, the grid connection would be underground and therefore no impacts are likely during the operational phase. Furthermore, it is anticipated that the cables would be left in the ground on decommissioning of the Proposed Development and as such no impacts on water receptors are anticipated during the decommissioning phase.

3.4 Heritage

- 3.4.1 Given the extent of the route would be limited to existing roads, the potential for the grid connection route to have an effect on known or unknown archaeological assets is considered to be negligible.
- 3.4.2 Grade II Listed Building Aberbaiden is located to the immediate south of the proposed route. This designation consists of a three-window two-storey house which was built circa 1810 by the Margam estate to replace an earlier farmhouse. The house is unusual for the period being almost symmetrical but incorporating elements of an earlier tradition (CADW, 2000). During the installation of the cabling along the section of New Road on which the listed building is located, adequate protection measures would be afforded to the building. This would likely include the implementation of a reasonable buffer and focusing the installation along the northern edge of the carriageway as far as practicable. Safeguarding measures such as temporary fencing (not affixed to the property), “toolbox talks” and, if necessary, signage to ensure that the asset is not directly impacted by the construction activities would also be utilised as needed. These measures would be secured through the implementation of the CEMP. As such, no direct effects are anticipated in relation to the Grade II Listed Building Aberbaiden.
- 3.4.3 Potential setting effects may occur during the installation of the grid connection, however given the existing proximity of the asset to the road network, it is anticipated that effects would be limited as the building is already located in the context of an existing road. Furthermore, as a buried cable is proposed, with no permanent above ground structures, any settings effects would be temporary (short-term) and reversible on completion of the construction phase.

- 3.4.4 No effects are anticipated during the operational or decommissioning phases of the grid connection.

3.5 Landscape & Visual

- 3.5.1 During construction, visual effects would be associated with ground disturbance, and the presence of construction plant and traffic along an existing road. As the works would be undertaken along sections of the route, effects would be localised to the immediate vicinity of the works. Therefore, while the installation of the grid connection is anticipated to result in some changes to visual amenity, these effects would be localised, temporary (short-term) and reversible given the transient nature of the works.
- 3.5.2 Effects to landscape receptors are anticipated to be minimal, given the proposed route is predominantly along existing hardstanding. Where possible, tree root protection areas will be avoided. Where this is not possible, it is expected alternative measures would be used such as the use of a vacuum excavator or hand digging trenches, to ensure that trees and tree groups remain.
- 3.5.3 Once operational, the proposed grid connection is expected to be underground therefore no operational landscape and visual effects are anticipated.
- 3.5.4 It is assumed that cables would be left in the ground on decommissioning of the Proposed Development and no landscape or visual effects are therefore anticipated during the decommissioning phase.

3.6 Noise and Vibration

- 3.6.1 The construction programme for the grid connection is not suitably developed to provide detailed phasing and equipment data. However, associated short-term noise impacts would be controlled through general best practice construction guidance ("best practicable means", as set out in Chapter 8 of BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Part 1: Noise). These measures would be secured through the implementation of the CEMP.
- 3.6.2 With regards to operational noise, the grid connection would be underground, and therefore there would be no impact at receptor locations.
- 3.6.3 It is assumed that cables would be left in the ground on decommissioning of the Proposed Development and no noise impacts on residential receptors are therefore anticipated during the decommissioning phase.

3.7 Terrestrial Ecology

- 3.7.1 As the proposed route is situated along existing roads, the potential for habitat loss has been minimised through design. Any habitat loss to enable grid connection is assumed to be limited to verge vegetation and would be temporary, reversible and guided by an Ecological Clerk of Works (ECoW) such that impacts, such as disturbance of more sensitive/higher value vegetation types, could be reduced to acceptable levels.

- 3.7.2 Provided that standard good practice mitigation measures, similar to those proposed for the Proposed Development (please refer to **ES Volume II, Chapter 10: Terrestrial Ecology** for further information), are implemented through the CEMP to avoid fatality and injury to protected species (for example during any necessary vegetation removal), no unacceptable effects on protected or notable species are anticipated as part of the construction of the grid connection.
- 3.7.3 It is assumed that the grid connection would be underground and therefore no impacts are likely during the operational phase.
- 3.7.4 It is assumed that cables would be left in the ground on decommissioning of the Proposed Development and no impacts on habitats or faunal species are therefore anticipated during the decommissioning phase.

3.8 Ornithology

- 3.8.1 Impacts on birds during the installation of the grid connection would be limited to any small areas along the route where verge vegetation would require removal to facilitate the construction plant or where trees and tree groups are in proximity to the works and require pruning. Where possible, works would be undertaken outside of the breeding season (March to August inclusive) and where this could not be achieved, any vegetation clearance or pruning would be checked by a suitably qualified ornithologist no more than 24 hours prior to the works being undertaken. Any nest in use, or nest being built, identified during the inspection would be left undamaged until the young have fledged or a licence is obtained for the works.
- 3.8.2 It is assumed that the grid connection would be underground and therefore no impacts on bird species are likely during the operational phase.
- 3.8.3 It is assumed that cables would be left in the ground on decommissioning of the Proposed Development and therefore no impacts on bird species are therefore anticipated during the decommissioning phase.

3.9 Traffic and Movement

- 3.9.1 Whilst potentially large construction plant may be involved in the short-term, as part of the construction phase, it is not anticipated that they would qualify as abnormal loads or be present in large volumes. Additionally, it is anticipated that the required plant would be similar to that of routine road maintenance activities.
- 3.9.2 While the works are being undertaken, sections of the highway, where roads are single track or not wide enough to provide suitable and safe conditions for construction workers, would require temporary closure and diversions put in place. Such closures would require a traffic regulation order to be published if lasting more than five days. Should they be required, appropriate orders would be sought from the relevant highway authority (Bridgend County Borough Council and Neath Port Talbot Council). Additionally, if required, a Construction Traffic Management Plan (CTMP) could be agreed with Bridgend County Borough Council and Neath Port Talbot Council in advance of any construction works.
- 3.9.3 During operation, only maintenance vehicles would be required with limited visits anticipated to the electrical compound and point of connection.

- 3.9.4 It is assumed that cables would be left in the ground on decommissioning of the Proposed Development and no traffic impacts are therefore anticipated during the decommissioning phase.

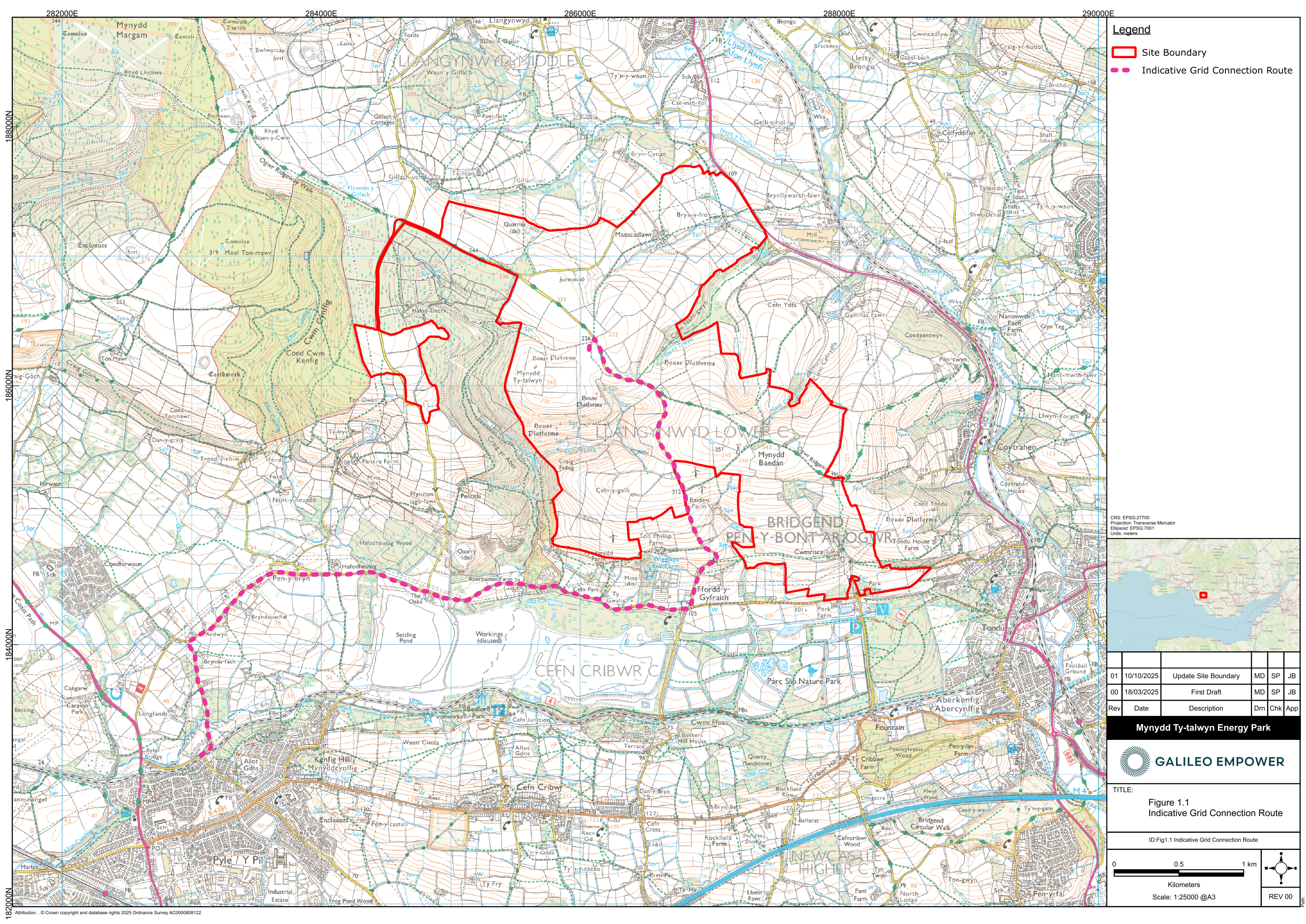
3.10 Population

- 3.10.1 The construction of the grid connection would be undertaken by National Grid Electricity Distribution and therefore would not be likely to result in the creation of new jobs or services. Therefore, construction effects relating to employment opportunities and expenditure are likely to be negligible.
- 3.10.2 The installation of the cables along the existing road network may require some localised diversions of Public Rights of Way (PRoW). Temporary diversions or closures would be required to ensure public safety in proximity to the works. Any diversions or closures would be indicated by signs informing the public of the affected routes. The most suitable approach for each PRoW would be agreed with the relevant local authority (Bridgend County Borough Council or Neath Port Talbot Council) and secured via the necessary consents. Where possible, diversions would be the preferred option over closures, although given the transient nature of the works, any effects to users of the PRoW would be short-term.
- 3.10.3 The installation of the cables may also temporarily affect businesses, including agricultural enterprises, accessed off the proposed route. However, as any closures would be temporary and, for the most part, are expected to be one-directional, i.e., one lane or controlled via traffic lights or similar, then effects to local business are expected to be negligible, and of no greater magnitude than regular road maintenance operations.
- 3.10.4 Once operational, it is assumed that the grid connection would be underground and would require minimal maintenance. During the decommissioning of the Proposed Development, it is assumed that cables would be left in situ. Therefore, no effects are anticipated during the decommissioning phase.

4 CONCLUSION

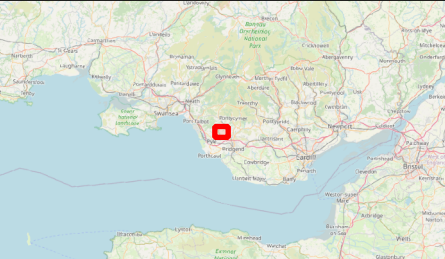
- 4.1.1 A high-level assessment of the likely environmental impacts of the proposed grid connection route for the Proposed Development has been undertaken. From this assessment, it is considered that the likely effects could be reduced to acceptable levels through the careful routing of the grid connection, the use of appropriate design, best practice construction methods and implementation of well-established mitigation.

5 FIGURES



- Legend**
- Site Boundary
 - Indicative Grid Connection Route

CRS: EPSG:27700
Projection: Transverse Mercator
Ellipsoid: EPSG:7001
Units: meters



Rev	Date	Description	Drm	Chk	App
01	10/10/2025	Update Site Boundary	MD	SP	JB
00	18/03/2025	First Draft	MD	SP	JB

Mynydd Ty-talwyn Energy Park



TITLE:
Figure 1.1
Indicative Grid Connection Route

ID:Fig1.1 Indicative Grid Connection Route

0 0.5 1 km

Kilometers

Scale: 1:25000 @A3

REV 00