



GREEN GEN CYMRU

BRYN GILWERN GRID CONNECTION

SCOPING REPORT

November 2025

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FOR WALES**

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LIST OF ABBREVIATIONS

ABBREVIATION	DEFINITION
µT	MicroTesla
AAAC	Aluminium Alloy Conductors
ALARP	As Low As Reasonably Practicable
AQMA	Air Quality Management Area
AWI	Ancient Woodland Inventory
BPP	Bird Protection Plan
BBS	Breeding Bird Survey
BGS	British Geological Survey
BIS	Biodiversity Information Service
BoCC	Birds of Conservation Concern
BoCCW	Birds of Conservation Concern in Wales
BTO	British Trust for Ornithology
BS	British Standard
CB6	Sixth Carbon Budget
CEMP	Construction Environmental Management Plan
CIEEM	Chartered Institute for Ecology and Environmental Management
CIfA	Chartered Institute for Archaeologists
CTMP	Construction Traffic Management Plan
dB	decibel



ABBREVIATION	DEFINITION
DMRB	Design Manual for Roads and Bridges
DNO	Distribution Network Operator
DNS	Development of National Significance
ECoW	Ecological Clerk of Works
EIA	Environmental Impact Assessment
EMF	Electric and Magnetic Field
EPS	European Protected Species
ES	Environmental Statement
FCA	Flood Consequence Assessment
GCN	Great Crested Newt
GHG	Greenhouse Gas
GLVIA3	Guidelines for Landscape and Visual Impact Assessment, 3 rd edition
GWDTE	Ground Water Dependent Terrestrial Ecosystems
HER	Historic Environment Record
HMP	Habitat Management Plan
ICNIRP	International Commission on Non-Ionizing Radiation Protection
ICO	Infrastructure Consenting Order
IDNO	Independent Distribution Network Operator
IEF	Important Ecological Features
IEMA	Institute of Environmental Management and Assessment – now called the Institute of Sustainability and Environmental Professionals (ISEP).



ABBREVIATION	DEFINITION
IHBC	Institute of Historic Building Conservation
JNCC	Joint Nature Conservation Committee
kV	kilovolt
LBAP	Local Biodiversity Action Plan
LCA	Landscape Character Area
LDP	Local Development Plan
LNR	Local Nature Reserve
LVIA	Landscape and Visual Impact Assessment
LWS	Local Wildlife Sites
MAGIC	Multi-agency Geographic Information for the Countryside
MW	Megawatt
NCI	Nature Conservation Importance
NGC	National Grid Company
NLCA	National Landscape Character Area
NNR	National Nature Reserve
NRW	Natural Resources Wales
NSIP	Nationally Significant Infrastructure Project
NVC	National Vegetation Classification
OHL	Overhead line
OS	Ordnance Survey



ABBREVIATION	DEFINITION
PCC	Powys County Council
PEDW	Planning and Environment Decisions Wales
PPW	Planning Policy Wales
PRA	Preliminary Roost Assessment
PRN	Primary Record Number
PRoW	Public Right of Way
PWS	Private Water Supply
RVAA	Residential Visual Amenity Assessment
SAC	Special Area of Conservation
SEPA	Scottish Environment Protection Agency
SFRA	Strategic Flood Risk Assessment
SHETL	Scottish Hydro-Electric Transmission plc
SINC	Sites of Interest for Nature Conservation
SIP	Significant Infrastructure Projects
SLA	Special Landscape Area
SNH	NatureScot guidance - formerly Scottish Natural Heritage
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
SuDS	Sustainable Drainage Systems
TAN	Technical Advice Note



ABBREVIATION	DEFINITION
VP	Vantage Point
WCA	Wildlife and Countryside Act
WFD	Water Framework Directive
ZTV	Zone of Theoretical Visibility



GLOSSARY

TERM	DEFINITION
132 kV	132 kilovolt (132,000 volt) operating voltage electrical circuit.
Alignment	A centre line of an overhead line (OHL), along with all wood pole locations.
Baseline conditions	The existing physical, chemical, biological and cultural setting in which the Proposed Development is to be located, and where local impacts (both positive and adverse) might be expected to occur.
Construction Environmental Management Plan (CEMP)	A plan prepared by a contractor before the start of construction work, detailing 'environmental aspects' that may be affected by the construction work and management methods to prevent any such effects. The CEMP will include methods and site management practices to be applied to prevent generation of nuisance dust, accidental pollution events and a range of other potential sources of accidental damage to the environment, and response and reporting procedures to minimise the damage in the event of a pollution incident.
Chartered Institute for Archaeologists	A professional organisation for archaeologists working in the United Kingdom and overseas.
Conductor	A metallic wire strung between OHL support structures, to carry electric current.
Construction Phase	The process of building the development alongside other associated activities such as site clearance, landscaping, and demolition.
Cumulative effects	The likely effects that the Proposed Development may have in combination with other relevant developments in the vicinity of the Proposed Development.
Decommissioning phase	Last phase in the project life which includes the shutting down, demolition, removal from site and recycling of materials.



TERM	DEFINITION
Historic Asset	Historic buildings, places, landscapes, as well as archaeological remains that provide physical evidence of past human activity and hold of sufficient value (i.e. heritage significance) to this and future generations to merit consideration in the planning system.
Environmental Impact Assessment (EIA)	An assessment of the likely significant environmental effects as a result of a Proposed Development. The Applicant is required to carry out the assessment by law, in this case under the Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017.
EIA Regulations	The Town and Country Planning (EIA) (Wales) Regulations 2017
Environmental Statement (ES)	A statutory document which reports the findings of the EIA process and results, produced in accordance with the EIA Regulations.
Geology	Geology is the study of solid earth, the material of which it is composed (principally rocks) and the processes by which they evolve.
Heritage Significance	In historic environment policy and guidance, the heritage significance of a historic asset comprises a series of qualities, known as 'heritage values'. The heritage significance of assets can be articulated using the heritage values in Conservation Principles (Cadw 2011).
Historic Environment	All surviving physical elements of past human activity, the individual elements of which constitute historic assets.
Historic Environment Records (HER)	A database containing records of archaeological sites, historic buildings, and other aspects.
Local Planning Authority (LPA)	The local authority or council that is empowered by law to exercise planning functions
Mitigation	Measures which have the purpose of avoiding, reducing, or compensating for adverse environmental impacts. It



TERM	DEFINITION
	may also include measures to create environmental benefits.
Natural Resources Wales	A Welsh Government sponsored body which manages the natural resources of Wales.
Operational phase	This includes the operational running, monitoring, and maintenance of the Proposed Development.
Ordnance Survey	The official survey organisation preparing large-scale detailed maps of the whole country.
Overhead line	A structure made up of electric conductors suspended by wood poles or towers, used for electricity transmission and distribution.
Planning Environment Decisions Wales (PEDW)	The agency responsible for operating the planning process for DNSs on behalf of the Welsh Government.
Planning Policy Wales (PPW)	The Welsh Government's national land use planning policy outlining guidance for making planning decisions.
Proposed Development	Bryn Gilwern Grid Connection.
Public Rights of Way (PRoW)	A way over which the public have a right to pass and repass. The route may be used on foot, on (or leading) a horse, on a pedal cycle or with a motor vehicle, depending on its status. Although the land may be owned by a private individual, the public may still gain access across that land along a specific route.
Receptor	The existing environmental feature that will be affected by an impact.
Scoping	A step in the EIA process that identifies likely environmental impacts that will be assessed and reported in the environmental statement.
Scottish Environment Protection Agency (SEPA)	SEPA is a government agency in Scotland. It is responsible for ensuring that environment and human health are protected



TERM	DEFINITION
Setting	<i>'The surroundings in which an historic asset is experienced, its local context, embracing present and past relationships to the adjacent landscape.'</i> Error! Bookmark not defined. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of a setting may make a positive or negative contribution to the heritage significance of an asset, may affect the ability to appreciate the significance, or may be neutral.
Statutory consultees	Organisations that the Applicant is required to consult under The Developments of National Significance (Procedure) (Wales) Order 2016.
Study Area	An area of land that has been defined in each topic chapter of the Scoping Report within which the proposed assessment is focused.
The Applicant	Green GEN Cymru
Water Framework Directive (WFD)	WFD is the main law for protection of the water environment in Europe and applies to inland, transitional and coastal surface waters and groundwaters.
Woodland	Woodland is defined as vegetation dominated by trees more than 5 m high when mature, forming a distinct, although sometimes open, canopy.
Zone of Theoretical Visibility (ZTV)	The zone from which the scheme is theoretically visible over 'bare earth', meaning the earth surface, including bodies of water and permanent ice and snow but excluding vegetation and manmade objects.



CHAPTER 1 - INTRODUCTION

PURPOSE OF THE REPORT

- 1.1. This document has been prepared by LUC on behalf of Green Generation Energy Networks Cymru Limited (Green GEN Cymru). It relates to proposals to construct and operate a new 132 kilovolt (kV) overhead line (OHL) supported on wood poles from the proposed Bryn Gilwern Energy Park (under development by Bryn Gilwern Energy Park Limited, a subsidiary of Bute Energy Ltd) to the proposed Green GEN Cymru Towy Usk¹ Grid Connection. The Proposed Development is known as the 'Bryn Gilwern Grid Connection' (hereafter 'the Proposed Development').
- 1.2. The Proposed Development is required to connect Bryn Gilwern Energy Park to the electricity distribution network for the distribution of electricity generated from the Energy Park.
- 1.3. The location of the Proposed Development including the connection into the Towy Usk Grid Connection and the Bryn Gilwern Energy Park substation is shown in **Figure 1.1: Proposed Development**.
- 1.4. This report accompanies Green GEN Cymru's request for a Scoping Opinion which is being sought from Planning and Environment Decisions Wales (PEDW) in accordance with the Town and Country Planning (Environmental Impact Assessment (EIA)) (Wales) Regulations 2017² ('The EIA Regulations').
- 1.5. Scoping is an early step in the EIA process, ensuring the assessment process focuses on the likely significant effects associated with a Proposed Development. Scoping also provides an opportunity for consultees to comment on proposed methodologies, identify sources of baseline information and raise any specific areas that they consider require assessment.

THE APPLICANT

GREEN GEN CYMRU

- 1.6. Green GEN Cymru is an Independent Distribution Network Operator (IDNO) based in Wales. Green GEN Cymru is developing an electricity distribution network to provide the grid capacity required to connect renewable energy resources to people, communities, businesses and the wider electricity network, supporting energy resilience and supporting the transition to net zero. Green GEN Cymru's approach aligns with Future Wales³ (which is discussed in detail in **Chapter 5 – Planning Policy Context**) and the Welsh Government's ambitions for unlocking renewable energy generation in Wales. The approach also aligns with the UK Government's Net Zero targets.

¹ Green GEN Towy Usk project website accessible here: <https://www.greengentowyusk.com/>

² The Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017. Available at: <https://www.legislation.gov.uk/wsi/2017/567/contents/made> Accessed 03/10/2025.

³ Welsh Government (2021) Future Wales: The National Plan. Available at: <https://www.gov.wales/sites/default/files/publications/2021-02/future-wales-the-national-plan-2040.pdf> Accessed 03/10/2025.



- 1.7. Section 9 of the Electricity Act 1989⁴ imposes a statutory duty on IDNO licence holders to develop and maintain an efficient, co-ordinated and economical system of electricity distribution, whilst also having a duty under Schedule 9 of the same Act to have regard to the desirability of preserving natural beauty, of conserving flora, fauna and geological or physiographical features of special interest and of protected sites, buildings and objects of architectural, historic or archaeological interest, and doing what can reasonably be done to mitigate any effects the proposals may have on the same listed environmental features.
- 1.8. Green GEN Cymru is committed to following best practice in working with local communities throughout the development of its proposals, ensuring that communities have a voice in the process.

NEED FOR THE PROPOSED DEVELOPMENT

- 1.9. The Climate Change Act⁵ came into force in the UK in 2008 (the 2008 Act). Section 1, which was amended in 2019, requires the Secretary of State to ensure that the net UK carbon account for 2050 is at least 100% lower than the 1990 baseline. This is often referred to as the net zero target. The 2008 Act also requires the Secretary of State to set at five-year intervals beginning in 2008, legally binding carbon budgets⁶, which place a restriction on the total amount of Greenhouse Gases (GHGs) the UK can emit over those five-year periods. The underlying objective of these carbon budgets is to set a trajectory towards the achievement of the net zero target by 2050. The sixth carbon budget (CB6), which relates to the period 2033-2037, was made in 2021. The UK Government's October 2021 Net Zero Strategy sets out its policies and proposals for decarbonising all sectors of the UK economy to meet its net zero target by 2050.
- 1.10. The Well-being of Future Generations (Wales) Act 2015⁷ sets an overarching duty for public bodies in Wales to act sustainably. National and local policy is aligned with the goal of a resilient and globally responsible Wales. The Well-being of Future Generations (Wales) Act 2015 embeds long-term, preventative, and integrated thinking into energy planning.
- 1.11. The Environment (Wales) Act 2016⁸ also requires the Welsh Government to reduce GHG emissions in Wales to net zero for the year 2050, with a system of interim emissions targets and carbon budgets. In 2017, the Welsh Government set out a target that at least 70% of Wales' electricity consumption would be met from renewable generation by 2030. In 2023, the Welsh Government amended their target to aim to meet 100% of its electricity needs from renewable sources by 2035 and set out a target for at least 1.5GW of renewable energy capacity to be locally owned by 2035⁹.

⁴ Electricity Act 1989. Available at: <https://www.legislation.gov.uk/ukpga/1989/29/contents> Accessed 4/11/2025

⁵ Climate Change Act 2008. Available at: <https://www.legislation.gov.uk/ukpga/2008/27/contents> Accessed 4/11/2025

⁶ Welsh Government (2021) Net Zero Wales Carbon Budget 2 (2021 to 2025). Available at <https://www.gov.wales/net-zero-wales-carbon-budget-2-2021-2025> Accessed 30/10/2025

⁷ Well-being of Future Generations (Wales) Act 2015. Available at: <https://www.legislation.gov.uk/anaw/2015/2/contents> Accessed 4/11/2025

⁸ Environment (Wales) Act 2016. Available at: <https://www.legislation.gov.uk/anaw/2016/3/contents> Accessed 4/11/2025

⁹ Welsh Government (2023) Wales aims to meet 100% of its electricity needs from renewable sources by 2035. Available at: <https://www.gov.wales/wales-aims-meet-100-its-electricity-needs-renewable-sources-2035> Accessed 22/10/2025



- 1.12. In April 2019, the Welsh Government declared a climate emergency. As part of its plan to tackle this emergency, the Welsh Government has brought forward policies to encourage innovative ways of creating energy that are sustainable, secure, and cost effective. This includes Future Wales³ and the twelfth edition of Planning Policy Wales (PPW)¹⁰. As part of these new policies, the Welsh Government has confirmed that *“in determining planning applications for renewable and low carbon energy development, decision makers must give significant weight to the need to meet Wales’ international commitments and our target to generate 70% of consumed electricity by renewable means by 2030 in order to combat the climate emergency.”*
- 1.13. Onshore wind development will play a critical role in assisting the Welsh Government to meet its renewable targets. Central to this are the Pre-assessed Areas for Wind Energy identified in Future Wales, which comprise of those areas where the Welsh Government has already modelled the likely impact on the landscape and has found them to be capable of accommodating development in an acceptable way. Future Wales confirms that *“there is a presumption in favour of large-scale wind energy development ... in these areas.”* Outside of these areas, Future Wales confirms that a positive policy framework still exists.
- 1.14. Future Wales sets out that *“...in determining planning applications for renewable and low carbon energy development, decision makers must give significant weight to the need to meet Wales’ international commitments and our target to generate 70% of consumed electricity by renewable means by 2030 in order to combat the climate emergency”*. Policies 17 ‘Renewable and Low Carbon Energy and associated Infrastructure’ and 18 ‘Renewable and Low Carbon Energy Developments of National Significance’ of Future Wales are clear about the Welsh Government’s intentions for the planning system to help contribute to renewable energy provision.
- 1.15. It has long been acknowledged by the Welsh Government, energy generators and network operators that a key challenge with respect to delivering Wales’ net zero obligations is the fact that the strongest renewable resources are generally in areas that have the lowest existing electricity network capacity, essentially meaning that key strategic opportunities for renewable energy generation are currently sterilised. Without intervention, this lack of grid infrastructure across Wales is likely to have a detrimental impact on achieving the UK Government and Welsh Government’s net zero targets. Future Wales notes *“The Welsh Government acknowledges the significant challenge that grid infrastructure and capacity will have on the potential for new on-shore and off-shore renewable energy development across Wales”*, adding that the Welsh Government *“are committed to working with energy networks and developers to identify opportunities and barriers as well as working collaboratively to find solutions.”* There is therefore a clearly identified national need for new renewable energy development and associated grid infrastructure in Wales.
- 1.16. To support the transition to Net Zero, Bute Energy Ltd via its subsidiary, Bryn Gilwern Energy Park Limited, are proposing to develop the Bryn Gilwern Energy Park which comprises the construction and operation of 16 wind turbines with a generation capacity of

¹⁰ Welsh Government (2024) Planning Policy Wales Edition 12. Available at <https://www.gov.wales/sites/default/files/publications/2024-07/planning-policy-wales-edition-12.pdf> Accessed 03/09/2025



up to 100.5 megawatts (MW). The Energy Park will be a 'Development of National Significance' (DNS), as the wind turbines will have a combined installed capacity of greater than 10 MW. The Proposed Development will provide the grid connection required to enable the distribution of the 100.5 MW of renewable energy generated by the Bryn Gilwern Energy Park, therefore Green GEN Cymru will be able to play a proactive role in the progression towards achieving Net Zero in Wales.

PROPOSED DEVELOPMENT LOCATION

- 1.17. The Proposed Development will provide a connection between the proposed Bryn Gilwern Energy Park in Powys and the proposed Towy Usk Grid Connection¹ at a location at the foot of Aberedw Hill.
- 1.18. The Proposed Development is approximately 5.24 km in length, from the Bryn Gilwern Energy Park substation, located approximately 3 km south-east of Llandrindod Wells, to the point of connection to the proposed Towy Usk Grid Connection (see **Figure 1.1**).

THE EIA AND CONSENTING PROCESS

DEVELOPING AND CONSENTING PROCESS

- 1.19. The Infrastructure (Wales) Act 2024¹¹ introduced 'Infrastructure Consent Orders' (ICO) which will apply to Significant Infrastructure Projects (SIPs). The ICO regime will establish a unified infrastructure consenting process for specified major infrastructure located in Wales. PEDW will be responsible for advising on the preparation, submission and examination of ICO applications. Following examination, PEDW will submit a report and recommendation to Welsh Ministers, which will have the power to grant or refuse the ICO.
- 1.20. The Proposed Development meets the stated SIP criteria¹² and is considered a SIP by the 2024 Act and will be determined under the new ICO regime which will come into force on 15 December 2025. The ICO regime will supersede the existing DNS consenting process.

LEGISLATIVE REQUIREMENTS

- 1.21. The EIA Regulations² are the pertinent regulations for identifying whether the Proposed Development is 'EIA development' and whether an Environmental Statement (ES) is required to accompany a consent application.
- 1.22. As per Schedule 2 of the Welsh amended EIA regulations, The Town and Country Planning (Environmental Impact Assessment) (Wales) (Amendment) Regulations 2019¹³, electric lines installed above ground with a nominal voltage of 132 kV are required to submit an EIA.
- 1.23. As an IDNO licence holder, Green GEN Cymru will be required to adhere to the Electricity Act 1989⁴. Schedule 9(1) of the Electricity Act states that in formulating any relevant

¹¹ Infrastructure (Wales) Act 2024. Available at: <https://www.legislation.gov.uk/asc/2024/3/contents> Accessed 4/11/2025

¹² The installation of an electric line above ground in Wales that is expected to have a nominal voltage of 132 kV and be no less than 2km long.

¹³ The Town and Country Planning (Environmental Impact Assessment) (Wales) (Amendment) Regulations 2019. Available at: <https://www.legislation.gov.uk/wsi/2019/299/made/data.pdf> Accessed 6/11/2025



proposals, a person authorised to generate, distribute, supply, or participate in the transmission of electricity shall:

- *“have regard to the desirability of preserving natural beauty, of conserving flora, fauna and geological or physiographical features of special interest and of protecting sites, buildings and objects of architectural, historic or archaeological interest; and*
- *do what he reasonably can to mitigate any effect which the proposals would have on the natural beauty of the countryside or on any such flora, fauna, features, sites, buildings or objects.”*

- 1.24. The EIA process aims to avoid, reduce and where possible, mitigate likely significant environmental effects through an iterative design process. The findings of the EIA will be presented within an ES which will report on the effects of the construction, operation and associated maintenance of the Proposed Development.
- 1.25. The ES will also consider the cumulative effects of the Proposed Development with other projects that have progressed to the application stage within the Proposed Developments Study Area and other projects that have been specifically requested by Statutory Consultees to be included.

EIA: DEFINING ‘THE PROJECT’

- 1.26. At the project inception meeting on 10 July 2024 and at a follow up meeting on 14 October 2025, PEDW requested that this Scoping Report includes information on ‘relevant factors’ identified in [2019] EWHC 1975 (Admin)¹⁴ relevant to defining a project for EIA. As detailed in [2019] EWHC 1975 (Admin) relevant factors that may be used to constitute a ‘project’ for the purposes of EIA can include ‘common ownership’ and ‘simultaneous determinations’.
- 1.27. The Applicant for the Proposed Development and Towy Usk Grid Connection project is Green GEN Cymru as detailed in paragraph 1.6. The Applicant for the Bryn Gilwern Energy Park project is ‘Bryn Gilwern Energy Park Ltd. The energy park and grid connection projects do not share common ownership, a relevant factor in defining a project for EIA in consideration of R (Larkfleet Ltd) v South Kesteven District Council [2016] Env L.R. 4¹⁵. Therefore, the Proposed Development is a stand-alone project for the purposes of EIA in respect of the energy park.
- 1.28. The Proposed Development and Bryn Gilwern Energy Park are separate from one another and separate and individual planning applications and EIAs will be completed and submitted for each project. Consideration will be given to the Proposed Development and Bryn Gilwern Energy Park with each of the individual project’s cumulative assessments within their individual EIAs. This will avoid understating and not reporting overall environmental impacts across both projects.

¹⁴ Wingfield, R (On the Application Of) v Canterbury City Council [2019] EWHC 1975 (Admin) (24 July 2019) – 30th October 2025. Available at: <https://www.bailii.org/ew/cases/EWHC/Admin/2019/1975.html> Accessed 30/10/2025

¹⁵ R (Larkfleet Ltd) v South Kesteven District Council [2016] Env L.R. 30th October 2025. Available at <https://www.casemine.com/judgement/uk/5a8ff7a860d03e7f57eb0e5e> Accessed 4/11/2025



PURPOSE OF THE SCOPING REPORT

- 1.29. Scoping is an important part of the EIA process and is used to determine which likely environmental effects are assessed and presented in the ES.
- 1.30. This Scoping Report identifies the environmental effects that are expected to be significant, taking into account the relevant baseline conditions, emerging design proposals and available mitigation options. It also describes how the assessment will be undertaken, and the methods used to identify and quantify the environmental effects. Where baseline surveys and consultation undertaken to date support the methodologies proposed, this evidence is presented. Relevant reports have also been referenced as appropriate.
- 1.31. It is recognised that the scope of an EIA is a continually evolving process and following receipt of the Scoping Opinion, a change in the Proposed Development or the environmental baseline, there may be a resulting change in the scope of the ES which will be agreed with the statutory consultees as required.
- 1.32. This Scoping Report will be referenced, and the Scoping Opinion included as a technical appendix to the ES and a full audit trail, along with a suitable justification for all scope amendments, will be provided within the ES.

STRUCTURE OF THE SCOPING REPORT

- 1.33. **Table 1.1** presents the different chapters of the Scoping Report and the relevant author company. Refer to **Appendix A – Competent Expert Information** for competent expert details.

Table 1.1: Scoping Report Authors.

CHAPTER	RELEVANT AUTHOR COMPANY
Chapters 1 - 6: Introductory Chapters	LUC
Chapter 7: Landscape and Visual Amenity	LUC
Chapter 8: Biodiversity (including Ornithology)	LUC
Chapter 9: Historic Environment	LUC
Chapter 10: Geology, Hydrology and Hydrogeology (including Peat)	Aquaterra
Chapter 11: Cumulative Effects	LUC

- 1.34. Each of the chapters are described in more detail below.
- **Chapter 1** provides an introduction to the Proposed Development, details about the Applicant, the need for the Proposed Development and the EIA process.



- **Chapter 2** provides a description on the reasonable alternatives considered for the Proposed Development.
- **Chapter 3** provides a description of the Proposed Development, including outline construction and maintenance information.
- **Chapter 4** provides a description of the EIA approach and methodology.
- **Chapter 5** describes the relevant national and local planning policy relevant to the Proposed Development and its determination for consent.
- **Chapter 6** describes the topics that are proposed to be scoped out of the assessment.
- **Chapters 7 – 10** provide an overview of the environmental baseline and describe the specialist environmental studies, consultation and assessment methodologies that are proposed to assess the potential effects of the Proposed Development on the environment.
- **Chapter 11** describes the approach to the identification of cumulative effects.

1.35. The following Appendices are also provided:

- **Appendix A** - Competent Expert Information;
- **Appendix B** - Proposed Structure of the ES;
- **Appendix C** - List of Proposed Consultees; and
- **Appendix D** - Figures.



CHAPTER 2 – ALTERNATIVES CONSIDERED

INTRODUCTION

- 2.1. Schedule 4 (Regulation 17(3) of the EIA Regulations²) states that the ES should include a “description of the reasonable alternatives (for example, in terms of development design, technology, location, size and scale) studied by the applicant or appellant which are relevant to the proposed development and its specific characteristics and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects”. There is no statutory requirement to include an assessment of alternatives in support of a request for a Scoping Opinion although this chapter does identify the processes that have been followed to date in considering reasonable alternatives.

OVERVIEW OF ALTERNATIVES CONSIDERED

- 2.2. The reasonable alternatives considered during the early stages of the Proposed Development include:
- Alternative types of infrastructure technologies:
 - Underground cables; and
 - Steel lattice towers.
 - Alternative routes.
- 2.3. An overview of these alternatives is provided below.

ALTERNATIVE TYPES OF INFRASTRUCTURE TECHNOLOGIES

UNDERGROUND CABLES

- 2.4. PPW 12¹⁰ paragraph 5.7.9 states that “The Welsh Government’s preferred position on new power lines is that, where possible, they should be laid underground. However, it is recognised that a balanced view must be taken against costs which could render otherwise acceptable projects unviable.”
- 2.5. In considering whether electric lines should be placed underground to obtain the benefits of reductions in landscape and visual or other impacts, the Applicant must balance this with the technical challenges, their duty under Section 9 of the Electricity Act 1981 to be efficient, co-ordinated and economical during the development of the electrical system, and the requirement to have regard to other environmental impacts that undergrounding may give rise to.
- 2.6. The Applicant considered the use of underground cables for the Proposed Development as a starting point, however, undergrounding of cables was not considered to be a reasonable alternative for the Proposed Development when seeing to balance financial cost, operational efficiency and likely environmental effects, when compared to an OHL.
- 2.7. The ES will include further detail about the assessment of reasonable alternatives.



STEEL LATTICE TOWERS

- 2.8. The Applicant considered whether steel lattice towers or wood poles presented the best solution for the Proposed Development. The Applicant selected wood pole structures primarily as steel lattice towers are typically reserved for higher capacity or double-circuit applications where greater mechanical strength, and clearance are necessary.
- 2.9. The maximum power export from the Bryn Gilwern Energy Park is sufficiently low enough to be accommodated on a single circuit supported on wood poles. Wood pole construction is well-suited for single-circuit OHLs of this scale, offering several advantages in terms of installation speed, lower visual impact, and reduced capital compared to steel towers.
- 2.10. For the above reasons, the Applicant has concluded that an OHL connection supported on wood poles is the correct technology solution for this connection. The ES will include further detail about why the use of steel lattice towers was discounted as an option for the Proposed Development.

ALTERNATIVE ROUTES

- 2.11. In 2024, Green GEN Cymru undertook a routeing process to identify the most appropriate route for the grid connection. The methodology and findings of the routeing process were presented in the Bryn Gilwern Grid Connection Routeing Alignment Report¹⁶.
- 2.12. The overall approach taken to routeing by Green GEN Cymru is based on the acknowledgement that the most significant effects of an OHL are landscape and visual. As visual effects of OHLs cannot always be mitigated (for example, via screening), careful routeing is the primary way in which visual effects may be reduced. Other environmental and technical constraints and effects need to be taken into account alongside, and balanced with, landscape and visual effects.
- 2.13. It is generally accepted across the electricity industry that the guidelines developed by the late Lord Holford in 1959 for routeing OHLs (known as the 'The Holford Rules'¹⁷), which were reviewed and updated by the industry in the 1990s, should continue to be employed as the basis for routeing high voltage OHLs. The Holford Rules provided the basis for the approach taken in routeing the Proposed Development. An overview of the steps involved in routeing is shown in **Inset 2.1: OHL Routeing Process**.
- 2.14. The environmental considerations taken into account during the routeing process reflect the statutory duties imposed by section 38 and Schedule 9 of the Electricity Act 1989⁴. These require licence holders to seek to preserve features of natural and cultural heritage interest, and to mitigate where possible, any effects that their proposals may have on such features. This duty aligns with the requirements of PPW12 to develop proposals in line with the Step-Wise approach which seeks to avoid damage to biodiversity throughout the design process.

¹⁶ Green GEN Cymru (2024) Bryn Gilwern Grid Connection Routeing Alignment Report. Available at: <https://greengenbryngilwern.com/files/1726050542.pdf> Accessed 22/05/2025.

¹⁷ The Holford Rules: Guidelines for the routeing of new high voltage overhead transmission lines with NGC 1992 and Shetl 2003 notes. In: Scottish & Southern Electricity Networks Transmission Appendix 2.1 – The Holford Rules. Available at: <https://www.ssen-transmission.co.uk/globalassets/documents/dunoon/section-37-planning-application-volume-4---technical--appendices/appendix-2.1-the-holford-rules.pdf> Accessed 4/11/2025.



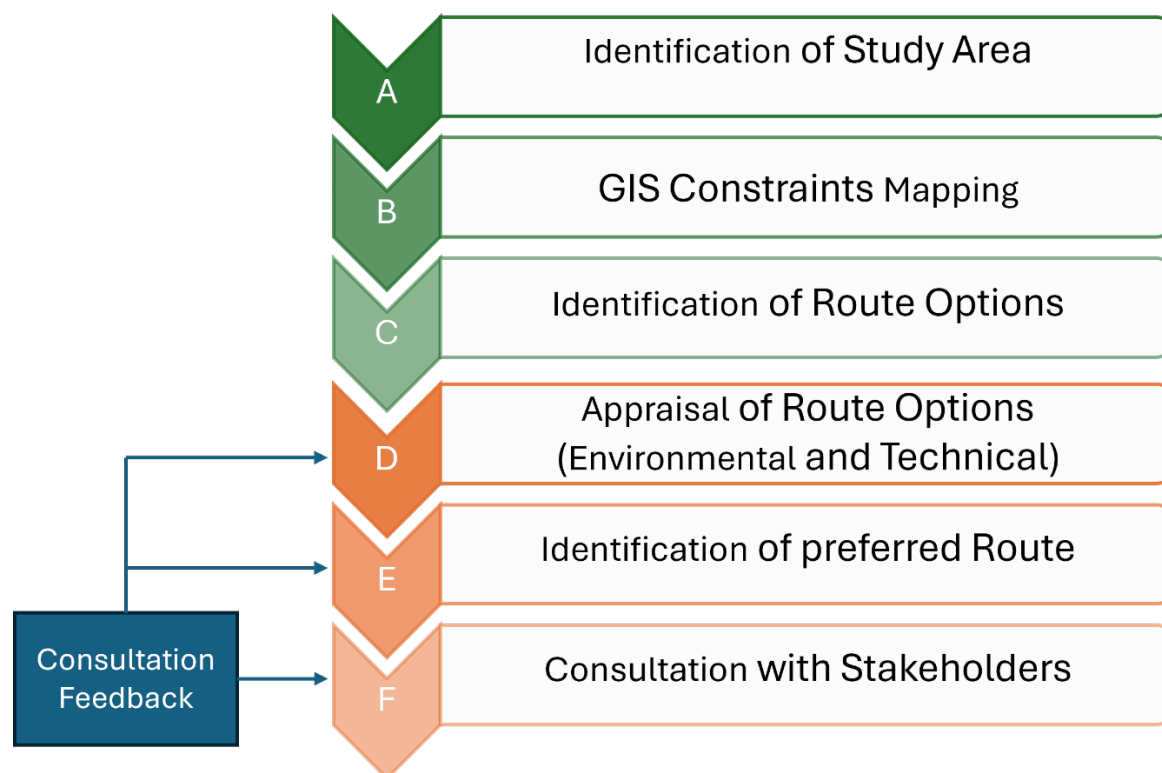
The construction and operation of an OHL will have potential effects on people and the environment, including potential effects on (in no hierarchical order):

- Visual amenity and landscape character;
- Cultural heritage including archaeology;
- Ecology and ornithology (biodiversity);
- Hydrology, hydrogeology, geology, and water resources; and
- Land uses including mineral operations, agriculture and forestry, and open access and common land.

- 2.15. Some of these effects can be avoided or limited through careful routeing. Other effects can be mitigated through local deviations of the route, the refining of wood pole locations and / or specific construction practices. These are reviewed as part of the EIA process.
- 2.16. There are technical considerations which influence routeing which include the existing electricity network, access requirements / opportunities, slope gradient, altitude, waterbodies, and existing infrastructure.
- 2.17. Between September and October 2024, Green GEN Cymru consulted upon the preferred route option, draft alignment, including indicative wood pole positions for the Proposed Development, as well as any other factors pertinent to the Proposed Development. The alternative route options considered during the routeing stage are shown on **Inset 2.1**. Green GEN Cymru have since refined the preferred route option alignment following feedback from statutory and non-statutory consultees and as such seek to obtain a Scoping Opinion for the Proposed Development based on the most recent alignment shown in **Figure 1.1**.
- 2.18. The ES will include an 'Alternatives' chapter which will present a description of the process that Green GEN Cymru has followed to identify and develop the route and final design of the grid connection (outlined in **Appendix B**). It will also describe the reasons for the selection of the final design along with any environmental reasons that have informed the decision.



Inset 2.1: OHL Routeing Process





CHAPTER 3 – PROPOSED DEVELOPMENT DESCRIPTION

PROPOSED DEVELOPMENT LOCATION

- 3.1. As outlined in **Chapter 1 - Introduction**, the Proposed Development will provide an OHL grid connection between the proposed Bryn Gilwern Energy Park in Powys and the proposed Towy Usk Grid Connection¹ at a location at the foot of Aberedw Hill. The Proposed Development is located in a rural landscape with small settlements and dispersed farmsteads almost entirely within Glascwm Community Ward with only the most northern section entering Disserth and Trecoed Community Ward. It is located approximately 3 km south-east of Llandridnod Wells and approximately 4.3 km to the north-east of Builth Wells. Other nearby settlements include Pontffranc to the east and Crossway to the west.
- 3.2. The Proposed Development is approximately 5.24 km in length, comprising of 47 wood poles and is aligned in a general south-westerly direction from the Bryn Gilwern Energy Park substation. The main public transport link in the area is the A481, and the OHL crosses this road prior to the point of connection to the proposed Towy Usk Grid Connection (see **Figure 1.1**). Other transport links surrounding the alignment are the A483 and a series of classified but unnumbered roads.
- 3.3. The northern 2.4 km of the route is within an area upland in character and passes through a range of habitats including improved grassland, continuous bracken, acid flush / acid grassland, dry and wet heath and some running water. While the southern 2.8 km portion of the route passes through a landscape dominated by agricultural fields supporting improved and semi-improved grassland with hedgerows, linear tree belts and several small watercourses.
- 3.4. There are a number of low voltage 11 kV OHLs, Public Rights of Way (PRoWs) and Open Access Land within the locality.
- 3.5. Nearby developments in various stages of planning include the Bryn Gilwern Energy Park to the north, Towy Usk Grid Connection and Aberedw Energy Park to the south and Nant Mithil Energy Park to the north-east. Other applications in planning are mostly domestic or agricultural in nature such as erection of agricultural buildings and siting of holiday chalets¹⁸.

OVERHEAD LINE INFRASTRUCTURE

- 3.6. As set out in **Chapter 2 – Alternatives Considered**, following a review of the alternative types of infrastructure considered, Green GEN Cymru are proposing an OHL supported on wood poles. An overview of the proposed infrastructure and construction processes is set out below.

WOOD POLES

- 3.7. The proposed OHL will be supported on wood poles with galvanised steel cross-arms, appropriate to support 132 kV single circuits, as shown in **Figure 3.1: Proposed Pole Type**.

¹⁸ Powys County Council. Planning Search. Available here: <https://pa.powys.gov.uk/online-applications/spatialDisplay.do?action=display&searchType=Application> Accessed 28/10/2025.



Angle and terminal poles, and occasionally intermediate poles, are back ‘stayed’ to balance loads acting on wood poles. Stay wires are made of stranded galvanised steel wires, wrapped around the upper end of the wood pole and anchored into the ground. Typically, stay wires are at 45 degrees to the pole and incorporate an insulator towards the upper end. Wood poles are made from pressure-treated softwood and preserved to maintain structural integrity.

- 3.8. All Aluminium Alloy Conductors (AAAC) are proposed for the OHL. The connection will comprise a three-phase single circuit without an earth wire but with the potential inclusion of an underslung communications wire.

WOOD POLE HEIGHTS AND SPAN LENGTHS

- 3.9. As with all OHLs, support heights and span lengths are dictated by development specific constraints, topography, clearance requirements, support capacity, and other factors.
- 3.10. The wood poles consulted upon previously during the six-week non-statutory consultation (September to Oct 2024) have a nominal height above ground of approximately 14 to 16 m, and nominal span lengths of approximately 110 m.

COLOURING OF WOOD POLES

- 3.11. Newly erected wood poles are generally a dark brown colour, which may discolour over time due to exposure to sunlight, rain, wind, moisture, or other factors. Newly installed galvanised steel crossarms have a shiny metallic finish, which dulls over time due to weathering.

VEGETATION REMOVAL AND PREPARATION OF ACCESSSES

- 3.12. Prior to construction of the OHL, where required, vegetation (e.g. hedgerows and grassland / topsoil) will be removed. Any trees which may have an impact on safety clearances will also be removed or lopped in line with Green GEN Cymru’s vegetation and clearance approach, with details to be provided in the ES.
- 3.13. Subsequently, temporary access routes will be constructed, as needed, and temporary laydown / storage areas created for equipment set up, whereby temporary soil stripping may be required. Each landowner will be consulted with options agreed prior to construction work commencing.
- 3.14. Following commissioning of the OHL, all temporary equipment and temporary accesses will be removed, with the land reinstated.

CONSTRUCTION WORKS

- 3.15. In addition to the proposed wood poles, ancillary development will be required to facilitate the construction of the OHL. Ancillary development will include working areas around wood poles, temporary access tracks, access entrance upgrades or new entrances (including bell mouths), pulling or tensioning areas, crossing protection (e.g. scaffolding across road crossings), welfare and construction compounds / laydown areas. This ancillary



development will be temporary and will be removed and the ground reinstated following construction of the OHL.

WOOD POLE CONSTRUCTION

3.16. The construction of the OHL will follow a well-established sequence of activities outlined below:

- Vegetation removal and environmental mitigation (where required);
- Preparation of accesses, compounds and working areas;
- Excavation of foundations;
- Delivery of wood poles;
- Erection of wood poles and stays;
- Delivery of conductors and stringing equipment;
- Insulator and conductor erection and tensioning; and
- Reinstatement.

TEMPORARY WORKING

- 3.17. Temporary working areas will be required at each pole position for the duration of construction works. There is a requirement for temporary vehicular access and associated access routes to every wood pole location,
- 3.18. Wood pole locations will have a working area of approximately 25 m x 25 m for intermediate poles, while section and angle poles will require extended areas to accommodate conductor stringing equipment. This area could have a radius of between 40 m and 60 m depending on the type of conductor used.
- 3.19. The temporary working areas will be returned and restored on completion of construction.

OPERATION AND MAINTENANCE

- 3.20. OHLs require periodic inspection and maintenance. Typically a 132 kV circuit will be visually inspected (either on foot or from the air) every year primarily to check on proximity risks and to look for defects. Wood poles also need physical testing for rot every 7-10 years to ensure adequate levels of safety, reliability, and that efficiency is maintained over their lifespan.
- 3.21. The frequency of inspections and maintenance activities may be influenced by environmental factors, exposure to the elements, or network planning requirements. Any felled easement areas will also be managed to maintain the required safety clearances whilst the connection remains active. Walkover surveys or flyovers will identify where there is requirement to clear easements of new growth.



DECOMMISSIONING

- 3.22. When the operational life of the Proposed Development ends, or when the operational life of the Bryn Gilwern Energy Park ends, it is possible the OHL may be re-equipped with new conductors, insulators and refurbished. The typical life expectancy of a wood pole is 30-50 years, conductors have a life expectancy of 40-60 years, and the insulators and fittings have a life span of approximately 25 years. This is dependent on the weather conditions are in the area. However, the OHL may also be fully decommissioned.



CHAPTER 4 – THE EIA APPROACH AND METHOD

INTRODUCTION

- 4.1. This chapter describes the EIA approach and methodology that will be adopted in the assessment of the Proposed Development and production of the ES to accompany the application for infrastructure consent.
- 4.2. EIA is a process of systematically compiling, evaluating, and presenting all the likely significant environmental effects, both positive and negative, of a proposed development, to assist the determining authority in considering the application for infrastructure consent, and reaching an informed decision. It enables the significance of these environmental effects, and the scope for reducing negative, or enhancing positive, effects to be clearly understood by the determining authority, as well as those consulted as part of the EIA process.
- 4.3. Relevant information compiled during this process will be presented within an ES that will accompany the application. The proposed structure of the ES is provided in **Appendix B**.
- 4.4. EIA is an iterative process and runs in tandem with the design of a proposed development. During the process, as likely significant adverse effects are identified, the design of the Proposed Development, for example the positioning of the wood poles and ancillary infrastructure, can be adjusted to avoid or reduce adverse environmental effects, with mitigation measures subsequently proposed where appropriate.
- 4.5. The significance of an effect is usually derived from combining the value of the receptor (sensitivity) with the magnitude of the impact. A significant effect is usually considered to be an effect that is of **moderate** or **major** significance although a precise determination will always entail an element of professional judgement.
- 4.6. Any assumptions or limitations with the assessment will be clearly set out within the ES.
- 4.7. The EIA will be undertaken in accordance with the current Welsh Government's regulations, policy, and guidance. Further details are presented in **Chapter 5**.

SCOPING

- 4.8. Scoping is important phase of the EIA process as it helps to focus the EIA on assessing the likely significant environmental effects relevant to the Proposed Development.
- 4.9. From the work undertaken to date as part of the routeing and consultation process, feedback received in response to the routeing and consultation report, professional judgment and experience of the EIA team, as well as policy and guidance, each topic in this Scoping Report outlines the likely significant effects anticipated to arise from the construction and operation of the Proposed Development.
- 4.10. Environmental topics that are deemed not likely to have effects which are considered significant are proposed to be 'scoped out' of the assessment. The justification for this is presented in **Chapter 6 – Approach to topics not to be included in the EIA**.
- 4.11. Other objectives of this Scoping Report are to consult with Statutory Consultees to:



- Establish the availability of baseline environmental data;
- Define a survey and framework from which a comprehensive overall assessment can be produced;
- Agree the proposed assessment methodology (including cumulatively);
- Agree the way in which the findings are presented in the ES; and
- Identify any additional stakeholders which Green GEN Cymru should consult to inform the EIA.

4.12. A list of consultees which are invited to respond to this request for a Scoping Opinion to help inform the EIA is provided in **Appendix C**. The list has been informed through discussion with PEDW. Additional suggestions from stakeholders which may have an interest in the Proposed Development, and which may wish to be consulted for information to inform the EIA are invited as part of the Scoping process.

EXISTING CONDITIONS

4.13. The EIA Regulations require that the aspects of the environment, which are likely to be significantly affected by the development, be defined within the ES. To achieve this, each of the topic specialists will gather information on the environment as it currently exists (i.e. 'baseline conditions'). This will be undertaken as the first step in the assembly of data for the ES through a combination of consultation with relevant stakeholders, field survey work, and desk-based research.

FUTURE BASELINE

- 4.14. The EIA Regulations² in Schedule 4 require an ES to outline how the baseline condition of the environment will evolve without the implementation of a project or development (the future baseline). The EIA Regulations acknowledge that this is subject to the availability of environmental information and scientific knowledge.
- 4.15. The ES will, therefore, include within each assessment, as it is appropriate and feasible to do so, an appraisal of how the baseline scenario is likely to change were the Proposed Development not to proceed.

IDENTIFICATION AND ASSESSMENT OF POTENTIAL EFFECTS (INCLUDING CUMULATIVE EFFECTS)

4.16. The assessment of the likely significant effects, using a range of appropriate methodologies, will consider the construction, maintenance, operation¹⁹ of the Proposed Development in relation to the Study Area and its environs as well as intra-project effects (i.e. those where more than one environmental factor impacts upon the same receptor).

¹⁹ Decommissioning is scoped out of the ES; this is described within **Chapter 6**.



- 4.17. The baseline, will include other proposed developments which are at the following stages in the development process, and which are of a scale and nature that they may result in significant cumulative effects upon the environment:
- Developments which are subject of applications for consent, and which have been submitted to the relevant determining authorities but not yet determined (or are the subject of a valid appeal);
 - Consented but not operational; and
 - Under construction.
- 4.18. The Study Area for each discipline will be defined separately to reflect the potential extent of likely significant effects associated with the Proposed Development. The Study Area for each discipline is not necessarily defined by the site boundary, with some survey areas being smaller and some larger depending on the nature of effects and taking into account guidance and professional judgement. Therefore, Study Areas will be defined separately for each topic reflect the extent of likely significant effects.
- 4.19. In the interests of producing a focussed and concise report, which clearly highlights those issues of particular relevance to the Proposed Development, the specialist topic area assessment methodologies are not presented in detail within this Scoping Report. Reference is made, however, to where the text of the relevant guidance or methodology can be accessed and expanded upon where this is considered helpful to consultee bodies.

MITIGATION AND RESIDUAL EFFECTS

- 4.20. The first step in the mitigation hierarchy is avoidance which is achieved through the routeing and design process. Where effects cannot be avoided, these are minimised through the application of embedded mitigation measures, such as those measures that are integrated within the design and / or management of the Proposed Development. Embedded mitigation measures will be clearly stated within each chapter of the ES as appropriate. The subsequent assessment presented within that chapter will be undertaken on the basis that these measures are included and inherent within the Proposed Development.
- 4.21. Where significant effects are identified, taking account of embedded mitigation, additional localised / effect specific mitigation measures will be adopted to reduce the significance of effects. The outcome of application of these additional measures will be presented as residual effects. Opportunities for restoration and / or offsetting effects (e.g. replanting) will also be considered as part of the EIA and presented within the ES.
- 4.22. PPW12¹⁰ paragraph 6.4.11 outlines that determining authorities must follow a 'step-wise' approach *"to maintain and enhance biodiversity, build resilient ecological networks and deliver net benefits for biodiversity by ensuring that any adverse environmental effects are firstly avoided, then minimized, mitigated, and as a last resort compensated for"*. This step-wise approach has been followed during the routeing and early design stages to date and will guide future design decisions and mitigation measures relating to ecology, ornithology, and biodiversity for the Proposed Development, and will be documented within the ES.



4.23. Net Benefit for Biodiversity (NBB) will be integrated into the Proposed Development in accordance with the Environment (Wales) Act 2016⁸.



CHAPTER 5 – PLANNING POLICY CONTEXT

INTRODUCTION

- 5.1. This chapter presents an overview of the planning policy context for the Proposed Development. A summary of relevant policies will be included within the ES and full details of the relevant policies will be provided in a Planning Statement.
- 5.2. This chapter, within the Scoping Report, is not intended to assess whether the Proposed Development will comply with the identified policies or give weight to the relevant material considerations.
- 5.3. The Proposed Development is located within the jurisdiction of Powys County Council (PCC). As outlined in **Chapter 1**, PEDW will be responsible for advising on the preparation, submission and conducting of the examination of this ICO application. After examination, PEDW will submit a report and recommendation to Welsh Ministers, which will have the power to grant or refuse the ICO. PCC will be a statutory consultee for the application.
- 5.4. An overview of the relevant planning policy, from a national to local level, which will be considered as part of the EIA process, is provided below.

NATIONAL PLANNING POLICY

FUTURE WALES: THE NATIONAL PLAN 2040 (FEBRUARY 2021)

- 5.5. The Welsh Government launched the National Development Framework for Wales titled 'Future Wales: The National Plan 2040 ('Future Wales')³. This is the highest tier Development Plan in Wales and sets out the key national planning policy direction. Future Wales is a *spatial plan* meaning it sets the direction for development in Wales and the policy framework for Local Development Plans (LDPs).
- 5.6. Within the document Policies 17 and 18 set out requirements in respect of renewable energy and are the policies against which applications for infrastructure consent will be determined. As Future Wales pre-dates the introduction of ICOs, reference is made in the document to DNSs rather than SIPs, but it is equally as applicable to SIPs.
- 5.7. Policy 17 'Renewable and Low Carbon Energy and Associated Infrastructure' states: *"The Welsh Government strongly supports the principle of developing renewable and low carbon energy from all technologies and at all scales to meet our future energy needs. In determining planning applications for renewable and low carbon energy development, decisionmakers must give significant weight to the need to meet Wales' international commitments and our target to generate 70% of consumed electricity by renewable means by 2030 in order to combat the climate emergency."*
- 5.8. Policy 18 'Renewable and Low Carbon Energy Developments of National Significance' provides the criteria for large scale proposals for renewable and low carbon energy and it is required to be read together with Policy 17.
- 5.9. The supporting text to Policy 17 and Policy 18 (page 96) sets out that Wales is abundant in opportunities to generate renewable energy: *"and the Welsh Government is committed to*



maximising this potential. Generating renewable energy is a key part of our commitment to decarbonisation and tackling the climate emergency.”

PLANNING POLICY WALES (FEBRUARY 2024)

- 5.10. The Welsh Government published PPW Edition 12¹⁰ in February 2024. It is supplemented by a series of Technical Advice Notes (TANs), Welsh Government Circulars, and policy clarification letters, which together with PPW provide the overall national planning policy framework for Wales.
- 5.11. The overarching aim of PPW is to make sure that the planning system contributes to the delivery of sustainable development and improves the social, economic, environmental, and cultural well-being of Wales.
- 5.12. PPW, in Paragraph 5.7.1 states that *“Low carbon electricity must become the main source of energy in Wales.”*
- 5.13. Section 5.7 relates specifically to electricity grid infrastructure / electricity grid networks. Paragraph 5.7.8 states that *“an effective electricity grid network is required to fulfil the Welsh Government’s renewable and low carbon ambitions. An integrated approach should be adopted towards planning for energy developments and additional electricity grid network infrastructure.”*
- 5.14. Additionally, Paragraph 5.7.9 states that *“the Welsh Government’s preferred position on new power lines is that, where possible, they should be laid underground. However, it is recognised that a balanced view must be taken against costs which could render otherwise acceptable projects unviable. Where undergrounding of lines is not possible or applicable, proactive engagement with energy companies and the public to mitigate the visual impact of any potential new transmission lines should take place.”*

TECHNICAL ADVICE NOTES

- 5.15. A series of TANs supplement PPW. Those relevant to the Proposed Development are:
- TAN 5: Nature Conservation and Planning (published 30th September 2009)²⁰;
 - TAN 6: Planning for Sustainable Rural Communities (published 30th July 2010)²¹;
 - TAN 10: Tree Preservation Orders (published 31st October 1997)²²;
 - TAN 11: Noise (published 31st October 1997)²³;
 - TAN 12: Design (published 31st March 2016)²⁴;

²⁰ Welsh Assembly Government (2009) Technical Advice Note 5: Nature Conservation and Planning. Available at: <https://www.gov.wales/sites/default/files/publications/2018-09/tan5-nature-conservation.pdf> Accessed 24/10/2025.

²¹ Welsh Assembly Government (2010) Technical Advice Note 6: Planning for Sustainable Rural Communities. Available at: <https://www.gov.wales/sites/default/files/publications/2018-09/tan6-sustainable-rural-communities.pdf> Accessed 24/10/2025.

²² Welsh Office (1997) Technical Advice Note (Wales) 10. Tree Preservation Orders. Available at: <https://www.gov.wales/sites/default/files/publications/2018-09/tan10-tree-preservation-orders.pdf> Accessed 24/10/2025.

²³ Welsh Government (1997) Technical Advice Note 11. Available at: <https://www.gov.wales/sites/default/files/publications/2018-09/tan11-noise.pdf> Accessed 24/10/2025.

²⁴ Welsh Government (2016) Technical Advice Note 12. Available at: <https://www.gov.wales/sites/default/files/publications/2018-09/tan12-design.pdf> Accessed 24/10/2025.



- TAN 13: Tourism (published 31st October 1997)²⁵;
- TAN 15: Development and Flood Risk (published 30th July 2004, but last updated 24th November 2021)²⁶;
- TAN 16: Sport, Recreation and Open Space (published 31st January 2009)²⁷;
- TAN 18: Transport (published 31st March 2007)²⁸; and
- TAN 24: Historic Environment (published 30th May 2017)²⁹.

REVIEW OF WALES' RENEWABLE ENERGY TARGETS

- 5.16. The Environment (Wales) Act 2016⁸ set in place an obligation on the Welsh Government to reduce GHG emissions by 80% against 1990 levels by 2050. In March 2021, the Welsh Government amended the Act to include Wales' commitment to a Net Zero UK by 2050. Section 29 of the Act establishes the 2050 emissions target and mandates that the Welsh Ministers must ensure that the net Welsh emissions account for the year 2050 is at least 100% lower than the baseline.
- 5.17. The Climate Change Act 2008⁵ (the 2008 Act) provides a system of carbon budgeting⁶. Under the 2008 Act, the UK committed to a net reduction in GHG emissions by 2050 of 80% against the 1990 baseline. In June 2019, secondary legislation was passed that extended that target to at least 100% against the 1990 baseline by 2050. Carbon budgets set a legally binding cap on the maximum level of emissions for a period of five years. The latest carbon budget, the CB6, requires a reduction in UK GHG emissions of 77% by 2037 relative to 1990 levels.
- 5.18. In 2019, the Welsh Government declared a Climate Emergency and the Environment (Wales) Act 2016 (Amendment of 2050 Emissions Target) Regulations 2021³⁰ sets a target to reduce GHG emissions in Wales by 100% by 2050. Defining the issue as an emergency is a reflection of both the seriousness of climate change and its potential effects and the need for urgent action to cut carbon dioxide and other GHG emissions.
- 5.19. In 2017³¹, the Welsh Government set renewable energy targets as part of our commitment to a more sustainable future for Wales. These targets are for:

²⁵ Welsh Office (1997) Technical Advice Note (Wales) 13. Available at:

<https://www.gov.wales/sites/default/files/publications/2022-07/tan13-tourism.pdf> Accessed 24/10/2025.

²⁶ Welsh Government (2004) Technical Advice Note 15 Development, flooding and coastal erosion. Available at:

<https://www.gov.wales/sites/default/files/publications/2025-03/technical-advice-note-15-development-flooding-and-coastal-erosion.pdf> Accessed 24/10/2025.

²⁷ Welsh Assembly Government (2009) Technical Advice Note 16: Sport, Recreation and Open Space. Available at:

<https://www.gov.wales/sites/default/files/publications/2018-09/tan16-sport-recreation-open-space.pdf> Accessed 24/10/2025.

²⁸ Welsh Assembly Government (2007) Technical Advice Note 18: Transport. Available at:

<https://www.gov.wales/sites/default/files/publications/2018-09/tan18-transport.pdf> Accessed 24/10/2025.

²⁹ Welsh Government (2017) Technical Advice Note 24: The Historic Environment. Available at:

<https://www.gov.wales/sites/default/files/publications/2018-09/tan24-historic-environment.pdf> Accessed 24/10/2025.

³⁰ The Environment (Wales) Act 2016 (Amendment of 2050 Emissions Target) Regulations 2021. Available at:

<https://www.legislation.gov.uk/wsi/2021/333/contents/made> Accessed 4/11/2025

³¹ Welsh Government (2023) Review of Wales' Renewable Energy Targets. Available at:

https://www.gov.wales/sites/default/files/consultations/2023-01/consultation-document-review-of-renewable-energy-targets_0.pdf Accessed 24/10/2025



- Wales to generate electricity equal to 70% of its consumption from renewable sources by 2030.
- 1GW of renewable energy capacity in Wales to be locally owned by 2030.
- An expectation for all new energy developments in Wales to have at least an element of local ownership from 2020.

5.20. Additionally, the Programme for Government 2021-26³² includes a commitment to “*expand renewable energy generation by public bodies and community groups in Wales by over 100 MW by 2026*”.

5.21. The Clean Power 2030³³ strategy outlines the UK Government’s commitment to fully decarbonising the electricity system by 2030, with a target of at least 95% of electricity generation coming from low-carbon sources. The plan emphasises the expansion of offshore wind, solar, and nuclear energy, alongside reforms to planning, grid infrastructure, and market mechanisms to support clean energy deployment. For Wales, this framework reinforces the need to accelerate renewable energy development to align with both UK-wide and devolved climate targets.

LOCAL PLANNING POLICY

5.22. Future Wales³ makes it clear that applications for ICO (formerly DNS) must be determined in accordance with Future Wales as the highest tier of the Development Plan hierarchy.

5.23. LDPs require consideration as part of the statutory Development Plan alongside Future Wales. There are no Strategic Development Plans covering the Proposed Development.

POWYS ADOPTED LOCAL DEVELOPMENT PLAN (2011-2026)

5.24. The LDP which covers the OHL alignment is the PCC LDP (2011-2026)³⁴ adopted on 17th April 2018.

5.25. Overall, the plan focuses on PCC’s visions, objectives, policies and proposals for the sustainable development and use of land in Powys between 2011-2026. It is applicable to all of Powys except the area of the Bannau Brycheiniog (Brecon Beacons) National Park. Work has started on a replacement LDP (to cover the period 2022 - 2037) which is expected to come into effect around March 2026.

5.26. Powys LDP states that “*utilisation of Powys’ renewable energy resource and associated infrastructure should be supported where cumulative, environmental, socio-economic effects are acceptable.*” This aims to protect / enhance the county’s physical, social, and cultural environment, including the natural landscape and historic environment.

³² Welsh Government (2025) Programme for Government 2021-2026. Available at: <https://www.gov.wales/programme-government> Accessed 30/10/2025.

³³ Department for Energy Security and Net Zero (2025) Clean Power 2030 Action Plan. Available at: <https://www.gov.uk/government/publications/clean-power-2030-action-plan> Accessed 30/10/2025.

³⁴ Powys County Council (2018) Powys Local Development Plan. Available at: https://en.powys.gov.uk/media/4256/Adopted-Powys-LDP-Written-Statement-April-2018/pdf/Adopted_Powys_LDP_Written_Statement_April_2018.pdf?m=1536134184070 Accessed 30/10/2025.



5.27. Powys LDP Policy RE1- Renewable Energy within Powys focuses mainly on renewable energy. Paragraph 4.10.13 states that *“all renewable energy proposals and associated infrastructure, such as power lines or battery storage facilities, must respect the existence and amenities of neighbouring residential and sensitive properties including approved development.”*



CHAPTER 6 – APPROACH TO TOPICS NOT TO BE INCLUDED IN THE EIA

INTRODUCTION

- 6.1. The purpose of this Scoping Report is to identify the scope of the EIA, the findings of which will be presented in the ES. Therefore, certain topics and / or effects associated with a particular environmental topic may be ‘scoped out’ or covered using an alternative approach where significant effects are considered unlikely, based on the nature of the Proposed Development and assessment undertaken to date.
- 6.2. This chapter provides details of the topics and effects that are proposed to be ‘scoped out’ of the ES, provides information to justify this reasoning and outlines proposed alternative approaches where being considered. Additional to whole topics being scoped out there may be effects which are proposed to be scoped out within individual topics, this is outlined within the individual topic chapters.
- 6.3. During the course of the assessment and preparation of the ES, it may be necessary to revise and revisit the scope of the EIA as further detail on the Proposed Development, and the baseline environment emerges. Should additional information identify a need to include, or justify the removal, of topics from the scope of the ES, the justification for doing so will be clearly presented along with any supporting information.

APPROACH TO ELECTRIC AND MAGNETIC FIELDS

- 6.4. All equipment that generates, distributes or uses electricity produces Electric and Magnetic Fields (EMFs) which vary depending on the operating voltage of the equipment (which is measured in V/m, or volts per metre). The Proposed Development will operate at 132 kV with very little variation and therefore the strength of the electric field at any point near or under the line will remain largely constant³⁵.
- 6.5. The strength of a magnetic field that is generated by an OHL is dependent on the electrical currents flowing, which vary according to the electrical power requirements at any given time and are measured in microteslas (μT). EMFs are present in all areas where electricity is in use (e.g. offices and homes), as they arise from all electric cabling and equipment. EMFs diminish rapidly with distance from the source and during a normal day, EMFs reduce to background levels approximately 45 m from an OHL (background levels being typical to those in an average home in the UK).
- 6.6. The routing of the OHL will continue to seek to avoid or minimise potential effects where possible, and to aid the identification of further generic and site-specific measures as required.
- 6.7. During construction and prior to energisation, the Proposed Development will not produce any discernible EMFs, as fields depend on the electrical currents flowing. Without

³⁵ Ena (2025) Electric and Magnetic Fields (EMFs), The Facts. Issue 2. Available at: https://www.emfs.info/sites/g/files/atxybb296/files/2025-08/ENA%20EMFs%20THE%20FACTS_V07%202025.pdf Accessed 30/10/2025.



energisation, no fields will be produced. Therefore, construction effects will be scoped out of the EMF assessment.

- 6.8. Subsequently as part of the EMF assessment of the operational phase of the Proposed Development, possible EMF field strengths will be calculated for a range of distances from the EMF sources (electrical conductors). EMF strengths at locations in proximity to these EMF sources will be evaluated against the International Commission on Non-Ionizing Radiation Protection (ICNIRP) guidelines³⁶ and other relevant legislation / guidance and the findings presented in a standalone technical report.
- 6.9. The Proposed Development will comply with the relevant exposure guidelines as specified by the Government and with other precautionary policies. It is therefore concluded that there will be no likely significant effects from EMFs, and they are accordingly scoped out of the ES.
- 6.10. However, Green GEN Cymru recognise the public interest and concern regarding EMFs and will provide all the relevant information in relation to EMFs as part of the application for infrastructure consent. Comprehensive information on EMFs as they relate to the Proposed Development will be prepared provided as a separate document alongside the ES and other ICO application documents. The information provided will include details and information on how the Proposed Development will comply with relevant guidelines and codes of practice.

CONSTRUCTION

- 6.11. Construction effects will be scoped out of the EMF assessment.

OPERATION

- 6.12. All OHLs produce EMFs, with EMFs tending to be highest directly under the OHL. EMFs decrease to the sides of the OHLs and at increasing distance, with substations and cable sealing end compounds not producing significant EMFs outside their boundaries.
- 6.13. The ICNIRP has developed health protection guidelines for both public and occupational exposure to EMF. The ICNIRP 2020 guidelines has set limits to ensure public protection from EMFs, and it is the UK Government's policy that public exposure should comply with the ICNIRP guidelines and the electricity industry, including Green GEN Cymru has agreed to adopt this policy. As the siting of the OHL will therefore be undertaken to ensure that the ICNIRP guidelines are met, as is consistent with UK policy, it is accordingly concluded that the assessment of EMFs can be scoped out of the ES.

APPROACH TO CLIMATE

- 6.14. An assessment of Climate has two factors (as defined within the EIA Regulations):
- GHG emissions; and

³⁶ International Commission on Non-Ionizing Radiation Protection (2020) ICNIRP Guidelines for limiting Exposure to Electromagnetic fields (100 kHz to 300 GHz). Published in: Health Phy 118(5): 483-524. Available at: <https://www.icnirp.org/cms/upload/publications/ICNIRPrfgdl2020.pdf> Accessed 4/11/2025



- Impacts relevant to adaptation.

GHG EMISSIONS

- 6.15. The Proposed Development will have some inherent carbon cost associated with the extraction of materials, transportation of construction materials to site and use of machinery on site for construction purposes. An OHL constructed of wood poles has significantly lower embodied carbon compared to other materials such as steel. The following sequence of construction activities including transporting and installing the poles will be negligible, particularly compared to the indirect enabling benefit of the Proposed Development in supporting the delivery of low carbon energy. There is potential for GHG emissions from peat disturbance. Peat has been a key consideration in the routing of the Proposed Development, and interactions have been avoided as far as practicably possible.
- 6.16. It is expected emissions from operation and associated maintenance will be negligible.
- 6.17. The Welsh Government has set carbon budgets for 2030, 2040 and 2050 in PPW¹⁰ with the overall aim of achieving net zero in 2050. The development of renewable low carbon energy will be an important contributor to that objective.
- 6.18. Onshore wind development will play a critical role in assisting the Welsh Government to meet its renewable energy targets including achieving net zero in 2050. The adversity of significance of the Proposed Development to GHG emissions is deemed minor and therefore of insignificant impact, particularly compared to the significant positive impact associated with the purpose of the Proposed Development; to provide key infrastructure to enable renewable energy generation from Bryn Gilwern Energy Park to be connected into the electricity network.
- 6.19. Therefore, the GHG emissions impact assessment is scoped out, and consideration will be given within individual environmental topic chapters in the ES where applicable.

IMPACTS RELEVANT TO CLIMATE ADAPTATION

- 6.20. The Proposed Development will be designed to withstand the extremes of the UK climate (including climate change predictions), and so external impacts upon the OHL infrastructure are not considered likely to be significant.
- 6.21. An individual assessment of impacts relevant to climate adaptation has been scoped out and consideration will be given within individual environmental topic chapters in the ES where applicable. This includes the identification of the likely consequences on the following:
- Consequences of climate change for baseline conditions / assessment findings; and
 - The resilience of mitigation measures to any projected changes in extreme weather, including heavy rainfall events.

APPROACH TO HEALTH AND WELLBEING

- 6.22. The EIA Regulations² Schedule 4 state that an EIA development needs to consider whether human health is a suitable factor for assessment within the ES. An assessment of effects on



health and wellbeing is to be scoped into the ES; the findings of the assessment will be presented within individual topics chapters in the ES namely Chapters 7 and 10. Chapter 7 will assess likely visual amenity effects. Chapter 10 will consider impacts on ground conditions, hydrology, geology, and hydrogeology (including peat), analysing the impacts on the health of people through any potential pollution of soil and water. As set out above, effects associated with EMF will be assessed and the findings presented within a standalone report.

- 6.23. Where there are intra-project effects (where a single receptor is potentially affected by more than one source of environmental impact), this will be considered in the intra-project cumulative effects assessment (**Chapter 11 – Cumulative Effects**).
- 6.24. Due to the type and scale of the Proposed Development, impacts on health and wellbeing are unlikely to extend beyond the construction phase, no significant effects during the operation of the Proposed Development are likely. The impacts of the operational phase of the Proposed Development upon human health and wellbeing are therefore proposed to be scoped out of the assessment.

APPROACH TO MAJOR ACCIDENTS AND DISASTERS

- 6.25. The EIA Regulations², Regulation 4(3b) states that an EIA needs to consider the vulnerability of the Proposed Development to Major Accidents and Disasters as well as any consequential significant environmental effects. For the purposes of this Scoping Report a major accident is defined as an occurrence that threatens immediate or delayed serious environmental effects to human health, welfare and / or the environment and requires the resources beyond those of the Applicant or its contractors to manage.
- 6.26. Potential major accidents and disasters that could arise due to the Proposed Development have been appraised following the definition of man-made and natural hazards within the Major Accidents and Disaster in EIA IEMA Primer³⁷:
- Physical accidents during the construction of the Proposed Development
 - Electrical accidents associated with the commissioning of the infrastructure;
 - Fire / explosion during construction;
 - Security threats;
 - External interference; and
 - Adverse weather.
- 6.27. Green GEN Cymru will apply a comprehensive risk management framework both during construction and operation of the Proposed Development to manage risks and to ensure that the risk of significant effects is as low as reasonably practicable (ALARP). The Proposed Development will also be designed to withstand the extremes of the UK climate (including

³⁷ IEMA (2020) Major Accidents and Disasters in EIA: A Primer. Available at: https://www.iema.net/media/brbdeibt/j27374_iema_major_accidents__disasters_final-1.pdf Accessed 30/10/2025.



climate change predictions), therefore external impacts upon the OHL infrastructure are not considered likely to be significant.

- 6.28. Following the process in the flow chart provided in Figure 1 of the IEMA Primer³⁷ it is not considered that any of the risks listed above cannot be mitigated through good working and construction practices and the implementation of contingency and emergency plans to a level that is ALARP.
- 6.29. Therefore, the likelihood of a major accident and disaster even is considered low, and the risks are considered to be not significant as such it is appropriate to scope this topic area out of the ES.

APPROACH TO SOCIO-ECONOMICS

- 6.30. The Applicant considers that the most appropriate way to present all relevant socio-economic aspects for consideration within the ICO process is to submit a separate socio-economic report that accompanies the application. This information will present as a minimum the following, and the Applicant will engage with stakeholders to draw upon any relevant information and data that they have:
- Construction investment;
 - Construction employment demands;
 - Temporary impact upon farming operations; and
 - Temporary accommodation requirements.
- 6.31. This is considered the most appropriate approach as the EIA Regulations² state in Schedule 4, the 'environmental factors' that are to be considered within the EIA process if they are likely to be significantly affected by a development. These environmental factors do not include socioeconomics and are listed in paragraph 4 of the Schedule as *"population, human health, biodiversity (for example fauna and flora), land (for example land take), soil (for example organic matter, erosion, compaction, sealing), water (for example hydromorphological changes, quantity and quality), air, climate (for example GHG emissions, impacts relevant to adaptation), material assets, cultural heritage, including architectural and archaeological aspects, and landscape."*
- 6.32. Given the scale of the Proposed Development, it is proposed to scope out socio economics to ensure a proportionate ES in line with guidance which focuses only upon likely significant effects.
- 6.33. The ES will, however, by the nature of other factors that are scoped into the assessment, consider aspects relevant to potential socio-economic impacts on people in relevant ES chapters including the view from footpaths / PRoW and tourist attractions.

DECOMMISSIONING

- 6.34. **Chapter 3 – Proposed Development Description** sets out the process for decommissioning. It is proposed that decommissioning is scoped out of the ES as these



activities are not likely to have significant effects over and above those of the construction, operational and maintenance phases of the Proposed Development and therefore there is proposed that inclusion within the ES is not warranted.

APPROACH TO TRAFFIC AND TRANSPORT, NOISE AND AIR QUALITY

TRAFFIC AND TRANSPORT

- 6.35. Construction traffic will access the local area via the existing A road network primarily the A481, a single carriageway in PCC that connects the A483 leading into the A44. The local road sections that will be most commonly used by construction traffic for the Proposed Development generally operate without the occurrence of significant traffic congestion. There are no major settlements located along the A481 however there are several small settlements / villages including Franks Bridge and Hundred House.
- 6.36. There are four PRoW which cross the proposed OHL between the A481 and Bryn Gilwern Energy Park site boundary, and the northern section of the OHL route within Bryn Gilwern Energy Park site boundary crosses an area of common land.
- 6.37. Any potential traffic and transport effects will occur during the construction phase of the Proposed Development, with operational traffic expected to be limited to occasional vehicle movements associated with monitoring and maintenance activities. As such it is proposed to scope out operational traffic effects from consideration.
- 6.38. Construction traffic will be generated from:
- site preparation works (creation of temporary access and construction infrastructure / areas, including but not limited to, access tracks, bell mouths, working areas and construction compounds);
 - material deliveries;
 - pole erection;
 - post construction reinstatement works; and
 - personnel movements during these stages.
- 6.39. Vehicles and plant involved in pole construction will likely include: 4x4s / pick-ups; crew bus; welfare vans; security vehicles; low loaders; hiab wagons; pole wagons; excavators; and cranes.
- 6.40. Personnel movements are expected to and from site, and to and from staff parking at the compound to site locations using work vehicles.
- 6.41. It is estimated that the Proposed Development will take approximately 6-8 months to construct.
- 6.42. An outline Construction Traffic Management Plan (CTMP) will also form part of the mitigation for the Proposed Development. This will outline construction vehicle routing for access and egress to test and establish that the local infrastructure can absorb the construction traffic and minimise traffic congestion.



6.43. Traffic and transport are proposed to be scoped out of the ES.

NOISE

6.44. Due to the short term and localised nature of the construction phase, any temporary noise created is likely to be minimal. The construction of the OHL is therefore unlikely to be associated with any significant effects due to the limited extent in terms of duration.

6.45. Under dry weather conditions, 132 kV OHLs generally do not produce any audible noise. However, in wet weather, the presence of protrusions on the conductor surface (such as water droplets) can cause electric fields to propagate in the air (so-called 'corona discharge') which can be a source of noise, albeit at relatively low level. The generation of this noise is minimised as part of modern overhead transmission line design.

6.46. Based on professional experience and evidence from construction of other wood pole connections, levels of noise from this type of line, even during worst-case conditions (wet weather), are very low (less than 20 decibel (dB)(A)) which is unlikely to be perceptible and not significant.

6.47. Good practice measures will be implemented during the construction phase to manage construction noise; this will include the following as appropriate:

- Restricted hours of construction work to avoid sensitive periods;
- Implementation of a Construction Environmental Management Plan (CEMP);
- The use of equipment with appropriated noise control measures (e.g. silencers, mufflers, and acoustic hoods); and
- Additional good practice measures as set out in British Standard (BS) 5228:2009 (Amendment, 2014) Code of practice for noise and vibration control on construction and open sites. Noise. Part 1: Noise (BS 5228-1) and Part 2: Vibration (BS 5228-2)³⁸.

6.48. In line with the above noise is proposed to be scoped out of the ES.

AIR QUALITY

6.49. Local air quality at the location of the Proposed Development is expected to be good due to the rural location and the limited presence of pollution sources.

6.50. As a requirement of the Environment Act 2021³⁹ local authorities are required to report to Defra on local air quality and local air quality management schemes. If compliance with the objectives is not predicted to be met, the local authorities are required to declare the area as an Air Quality Management Area (AQMA). There are no AQMAs within the county of Powys.

6.51. The main source of air pollution is likely to be restricted to construction activities associated with the Proposed Development. This may include dust generated from earth works, and

³⁸ British Standards Institute, BS 5228:2009-A:2014 'Code of practice for noise and vibration control on construction and open sites – Part 1: Noise' and Part 2: Vibration'.

³⁹ Environment Act 2021. Available at: <https://www.legislation.gov.uk/ukpga/2021/30/contents> Accessed 4/11/2025.



vehicle movements over unsurfaced ground, as well as exhaust emissions from construction plant and vehicles.

- 6.52. Considering the scale and nature of the construction works, distance to nearby residential properties, and the short term, intermittent nature of construction, air emissions are unlikely to cause any significant effects upon local air quality and have been scoped out.

PROPOSED SCOPE OF THE EIA

- 6.53. **Table 6.1** provides a summary of the proposed topics to be included in the EIA. Further detail in relation to the proposed assessment scope of each individual topic is provided within the topic **Chapters 7-11**.

Table 6.1: Proposed Scope.

TOPIC	SCOPED IN / OUT
Landscape and Visual Amenity	Scoped in
Biodiversity (including Ornithology)	Scoped in
Historic Environment	Scoped in
Ground conditions / hydrology / geology / hydrogeology (including Peat)	Scoped in
Cumulative Effects	Scoped In
Health and Wellbeing	Scoped out as an individual topic chapter with information contained in appropriate chapters
Climate Change	Scoped out
Major Accidents and Disasters	Scoped out
Traffic and Transport	Scoped out
Noise	Scoped out
Air Quality	Scoped out
Decommissioning	Scoped out



TOPIC	SCOPED IN / OUT
EMFs	Scoped out: Information to be prepared and submitted as a separate document with the application but scoped out of the EIA
Socio Economics	Scoped out



CHAPTER 7 – LANDSCAPE AND VISUAL AMENITY

INTRODUCTION

- 7.1. This chapter sets out the proposed approach to the assessment of the likely significant effects of the Proposed Development on landscape and visual receptors.
- 7.2. The purpose of Landscape and Visual Impact Assessment (LVIA) is to consider effects on:
- The landscape as a resource in its own right (caused by changes to the constituent elements of the landscape, its specific aesthetic or perceptual qualities and the character of the landscape); and
 - Views and visual amenity as experienced by people (caused by changes in the appearance of the landscape).
- 7.3. The LVIA will identify, predict and evaluate potential landscape and visual effects arising from the construction and operation of the Proposed Development. The scale and location of the Proposed Development is such that there is potential for effects on the landscape character of the local area, and on the visual amenity experienced by people. The LVIA will assess the likely significant effects on landscape receptors (character areas and landscape designations) and visual receptors (people) within the Study Area.
- 7.4. There are interrelationships related to the potential effects on landscape and visual amenity. Therefore, please also refer to the following chapters:
- **Chapter 9 – Historic Environment.**

STUDY AREA

- 7.5. Informed by the type and scale of the proposed wood poles (typically 14–16 m in height), the LVIA Study Area for the purposes of the EIA comprises 2 km either side of the nominal centre line ('the alignment') of the final OHL alignment, in line with Natural Resources Wales (NRW) guidance note GN46: Guidelines for LVIA of OHLs (2021). At this Scoping stage, the final alignment of the OHL is not yet confirmed, though it is likely to closely follow the alignment shown in **Figure 3.1**.
- 7.6. The 2 km buffer has been applied to the Proposed Development, resulting in the LVIA Study Area shown in **Figure 7.1: Provisional LVIA Study Area**.
- 7.7. Based on professional judgement and experience of assessing OHL infrastructure, significant effects on landscape character and visual amenity are unlikely to occur beyond the LVIA Study Area. The location of these viewpoints will be informed by Zone of Theoretical Visibility (ZTV) mapping, which indicates the areas from which the OHL will be theoretically visible, supplemented by field work and will be agreed with consultees.

EXISTING CONDITIONS

- 7.8. During the routeing stage, a desk-based review of existing information was undertaken, including Ordnance Survey (OS) maps, the relevant LDPs, LANDMAP, the National



Landscape Character Assessment for Wales and the Powys Landscape Character Assessment. This was supplemented by field work.

- 7.9. The Proposed Development is located within PCC, comprising a rural landscape with small settlements and dispersed farmsteads. The LVIA Study Area extends south from the upland landscapes of Gilwern Hill, following the east-facing slopes of Castle Bank and Carneddau, and continues towards the north-west-facing slopes of Aberedw Hill.
- 7.10. The LVIA Study Area encompasses the eastern slopes of Carneddau to the east and the western slopes of Hirllwyn Bank to the west towards the River Edw valley. It passes adjacent to the small settlement of Franks Bridge, continuing over the undulating upland terrain and the crossing the A481 before ascending the south and south-west facing slopes of Aberedw Hill to the south and just north-east of Builth Wells.

INFORMATION SOURCES

- 7.11. The following information and data sources will be used to inform the LVIA:
- OS Maps;
 - Aerial photography, Google Earth and Google Maps Street View;
 - NRW National Landscape Character Areas (NLCAs);
 - PCC (2022) Landscape Character Assessment⁴⁰;
 - NRW's LANDMAP maps and surveys (and associated guidance notes); and
 - Powys LDP (2011-2026)³⁴.

BASELINE CONDITIONS

- 7.12. The LVIA Study Area extends across Landscape Character Areas (LCAs), identified at national and regional level.
- 7.13. NRW's National Landscape Character Assessment defines LCAs across Wales⁴¹. The LVIA Study Area is entirely within the Bryniau Sir Faesyfed / Radnorshire Hills NLCA 20.
- 7.14. The PCC Landscape Character Assessment⁴² provides a more detailed classification of the landscape within the LVIA Study Area. The LVIA Study Area lies within the following Powys LCAs, as shown on **Figure 7.2 Landscape Character**:
- Llanbister – Penybont Uplands LCA 40; and
 - Aberedw Uplands LCA 50.

⁴⁰ Powys County Council (2022) Landscape Character Assessment Profiles. Available at: <https://en.powys.gov.uk/article/13413/Landscape-Character-Assessment-Profiles> Accessed 4/11/2025.

⁴¹ Natural Resources Wales (2014) National Landscape Character Areas (NLCA). Available at: <https://naturalresources.wales/evidence-and-data/maps/nlca/?lang=en> Accessed 16.09.2025.

⁴² Powys County Council (2022). Local Landscape Character Assessment for the Powys Local Development Plan Area. Available at: <https://en.powys.gov.uk/article/13408/Replacement-Local-Development-Plan-Latest-Evidence> Accessed 16/09/25.



- 7.15. LANDMAP is an online resource which provides detailed information about the landscape, as well as detailed information about geology, habitats, historical and cultural elements. It comprises five themed datasets, known as ‘aspect layers’, comprising the following:
- Geological Landscape;
 - Landscape Habitat;
 - Visual and Sensory;
 - Historic Landscape; and
 - Cultural Landscape Services.
- 7.16. The LANDMAP aspect area citations note an ‘overall evaluation’ for each aspect area, which is based on a scale ranging from ‘low’ (‘little or no importance’) to ‘outstanding’ (‘nationally important’)⁴³. The criteria which inform the overall evaluation judgement for each aspect layer are noted in the respective NRW LANDMAP methodologies⁴⁴. LANDMAP aspect areas and their respective ‘overall evaluations’ within the LVIA Study Area are shown on **Figures 7.3-7.6**.
- 7.17. The published national and regional landscape character assessments and LANDMAP provide a broad picture of the landscape character of the LVIA Study Area. With consideration to the size and scale of the Proposed Development, the Powys Landscape Character Assessment (LCA), augmented by LANDMAP units, forms a suitable scale and grain for landscape impact assessment. The Powys LCA is the primary reference for defining local landscape character, supplemented by relevant LANDMAP aspect areas. A filtering process, as advocated in the NRW guidance, will be undertaken to determine the relevant LANDMAP aspect areas to be considered within the LVIA, although the ‘reporting units’⁴⁵ used within the LVIA will be based on the Powys LCAs.

NATIONALLY DESIGNATED LANDSCAPES

- 7.18. The Proposed Development is located over 17 km from Bannau Brycheiniog National Park. Due to intervening distance, and the scale and nature of the Proposed Development, no effects are anticipated on the special qualities of the National Park.
- 7.19. There are no National Landscapes within the vicinity of the LVIA Study Area. Consequently, no effects on nationally designated landscapes are anticipated.

LOCALLY DESIGNATED LANDSCAPES

- 7.20. The nearest Special Landscape Areas (SLAs) are in Ceredigion County Council area, over 27 km from the Proposed Development and over 25 km from the LVIA Study Area. Therefore, due to factors including intervening distance, intervening topography, and the

⁴³ Natural Resources Wales (2017) LANDMAP Methodology Overview. Available at: <https://naturalresources.wales/media/681752/landmap-methodology-overview-2017-eng.pdf> Accessed 16/09/2025.

⁴⁴ Natural Resources Wales (2016) Cultural Landscape, Geological Landscape, Historic Landscape, Landscape Habitats, Visual and Sensory LANDMAP Methodology. Available at: <https://naturalresources.wales/guidance-and-advice/business-sectors/planning-and-development/evidence-to-inform-development-planning/landmap-the-welsh-landscape-baseline/?lang=en> Accessed 16/09/2025.

⁴⁵ Terminology as identified in NRW guidance.



scale and nature of the Proposed Development, no effects are anticipated on the special qualities of these SLAs. There are no SLAs in the PCC area.

VISUAL BASELINE

- 7.21. A ZTV has been generated for the wood poles, and this is shown in **Figure 7.7: Proposed Viewpoints** and **Figure 7.8: Visual Receptors**.
- 7.22. There are potentially sensitive visual receptors in the LVIA Study Area including those listed below (refer to **Figure 7.8: Visual Receptors**):
- Residents of houses throughout the LVIA Study Area, which are clustered mainly along the A481 and in the rural settlement of Llansantffraed-in-Elwel;
 - People engaged in outdoor recreation such as those using PRoW, including those at hill summits and promoted viewpoints;
 - People staying at campsites, caravan parks and other holiday accommodation; and
 - People travelling along the road network within the LVIA Study Area, including the A481, B roads, and other major and minor routes.
- 7.23. **Table 7.1** and **Figure 7.7** set out a preliminary list of proposed representative viewpoints to be assessed in the LVIA. The viewpoint list will be agreed through further engagement with consultees (including PCC and NRW).

Table 7.1: Proposed Viewpoint Locations.

VP No.	Viewpoint Title	X (Easting)	Y (Northing)	Reason for selection
1	Minor Road near The Court	308748	256654	Representative of views experienced by users of the rural lane network that crosses the LVIA Study Area.
2	Castle Bank	308753	256178	Representative of views experienced by recreational users of the public footpath network on elevated high ground.
3	Perthi Common	309507	254674	Representative of views experienced by visual receptors at nearby residential properties at Llansantffraed-in-Elwel, and recreational users of Perthi Common.
4	A481	308425	253363	Representative of views experienced by visual receptors at nearby residential properties and users of the A481 (the main road leading to the A44 which connects Builth to Leominster and Hereford across the border with England).



VP No.	Viewpoint Title	X (Easting)	Y (Northing)	Reason for selection
5	Aberedw Hill PRoW	308559	252617	Representative of views experienced by recreational receptors using the public footpath network at the northern extent of Aberedw Hill.

FUTURE BASELINE

- 7.24. The future baseline relates to known or anticipated changes to the current baseline in the future which should be assessed as part of the Proposed Development. Anticipated changes in the landscape will be limited, as current agricultural practices are likely to be maintained at least in the medium-term. Where changes arise from other future developments these will be considered in the cumulative assessment of the ES, as set out in **Chapter 11**.

DATA COLLATION AND ASSESSMENT METHODOLOGY

- 7.25. Landscape and visual assessments are distinct, but interconnected, processes and the assessment will describe potential landscape and visual effects separately.

LEGISLATION, POLICY AND GUIDANCE

- 7.26. The LVIA will be carried out in line with the following guidelines:
- Landscape Institute and the Institute of Environmental Assessment (2013) Guidelines for LVIA, 3rd Edition (GLVIA3)⁴⁶;
 - Landscape Institute (2019) Photography and photomontage in LVIA Advice Note 01/11⁴⁷;
 - Landscape Institute (2019) Visual Representation of Development Proposals Technical Guidance Note 06/19⁴⁸;
 - Landscape Institute (2019) Residential Visual Amenity Assessment (RVAA) Technical Guidance Note 2/19⁴⁹;
 - NatureScot (2021) Assessing the cumulative impact of onshore wind energy developments^{50 51};

⁴⁶ Landscape Institute & IEMA (2013) Guidelines for Landscape and Visual Impact Assessment (3rd edition). Oxen: Routledge.

⁴⁷ Landscape Institute (2019) Photography and Photomontage in landscape and visual impact assessment. Advice Note 01/11. Available at: <https://landscapewpstorage01.blob.core.windows.net/www-landscapeinstitute-org/2019/01/LIPhotographyAdviceNote01-11.pdf> Accessed 4/11/2025.

⁴⁸ Landscape Institute (2019) Visual Representation of Development Proposals. Technical Guidance Note 06/19. Available at: https://landscapewpstorage01.blob.core.windows.net/www-landscapeinstitute-org/2019/09/LI_TGN-06-19_Visual_Representation.pdf Accessed 4/11/2025.

⁴⁹ Landscape Institute (2019) Residential Visual Amenity Assessment. Technical Guidance Note 2/19. Available at: <https://landscapewpstorage01.blob.core.windows.net/www-landscapeinstitute-org/2019/03/tgn-02-2019-rvaa.pdf> Accessed 4/11/2025.

⁵⁰ As no guidance exists for assessing cumulative impact of overhead grid connections, this guidance is considered applicable given the similar nature of tall vertical infrastructure introduced by wind farms (wind turbines).

⁵¹ Nature Scot (2021) Assessing the cumulative landscape and visual impact of onshore wind energy developments. Available at: <https://www.nature.scot/doc/guidance-assessing-cumulative-landscape-and-visual-impact-onshore-wind-energy-developments> Accessed 4/11/2025.



- NRW (undated) Using LANDMAP in LVIA's GN46⁵²;
- Scottish Natural Heritage (2017) Visual Representation of Wind Farms, Version 2.2⁵³; and
- The Holford Rules: Guidelines for the Routeing of New High Voltage Overhead Transmission Lines (with National Grid Company plc (NGC) 1992 and Scottish Hydro-Electric Transmission plc (SHETL) 2003 Notes)¹⁷.

DATA COLLECTION – DESK-BASED

- 7.27. The sources listed under the Information Sources section above will also be used for desk-based data collection to inform the LVIA.

DATA COLLECTION – FIELD STUDIES

- 7.28. Further to the extensive field work undertaken to inform the routeing stage, surveys will be undertaken during summer and winter months to inform the design and fully understand the maximum level of visibility as part of the landscape and visual baseline. Visual site surveys will be undertaken for agreed viewpoints, which represent a variety of receptor types and at a range of distances from the Proposed Development. Surveys will include viewpoint photography to assist in the creation of wireframes and photomontages. Where possible all viewpoint photography will be captured when trees are not in leaf (i.e., a worst case). A list of indicative preliminary viewpoints can be found in **Table 7.1** and on **Figure 7.7**.

ASSESSMENT METHOD

JUDGING LEVELS OF EFFECT AND SIGNIFICANCE LEVELS OF EFFECT AND SIGNIFICANCE

- 7.29. Judging the significance of landscape and visual effects requires consideration of the nature of the receptor and the nature of the effect on the receptor. GLVIA3 states that the nature of receptors, commonly referred to as their sensitivity, should be assessed in terms of the susceptibility of the receptor to the type of change proposed, and the value attached to the receptor or resource. Sensitivity judgements will be recorded as high, medium or low. The nature of the impact on each receptor, commonly referred to as its magnitude, should be assessed in terms of size and scale; geographical extent; duration and reversibility. Magnitude of change will be recorded as high, medium, low or negligible.
- 7.30. Judgements of sensitivity and magnitude are then combined to form a judgement regarding the overall significance of effect. Levels of landscape or visual effect will be categorised as **major**, **moderate**, minor or negligible / no effect. '**Moderate**' and '**major**' effects are considered significant in the context of the EIA Regulations. The nature of effects will be

⁵² Natural Resources Wales. Using LANDMAP in Landscape and Visual Impact Assessment GN46. Available at: <https://naturalresources.wales/guidance-and-advice/business-sectors/planning-and-development/evidence-to-inform-development-planning/using-landmap-in-landscape-and-visual-impact-assessments-gn46/?lang=en> Accessed 4/11/2025.

⁵³ Scottish Natural Heritage (2017) Visual Representation of Wind Farms. Available at: <https://www.nature.scot/sites/default/files/2019-09/Guidance%20-%20Visual%20representation%20of%20wind%20farms%20-%20Feb%202017.pdf> Accessed 4/11/2025.



described as positive (beneficial), neutral or negative (adverse) will be described as positive (beneficial), neutral or negative (adverse).

- 7.31. This determination requires the application of professional judgement and experience to balance the many different variables which need to be considered, and which are given different weight according to site-specific and location-specific considerations. Judgements of the potential landscape and visual effects which may arise from the Proposed Development, either individually or cumulatively when considered in combination with other existing, consented or proposed developments, are made on a case-by-case basis.

VIEWPOINTS AND VISUALISATIONS

- 7.32. **Table 7.1** and **Figure 7.7** set out a list of indicative preliminary viewpoints to be used in the LVIA. These have been selected based on the route and will be the subject of further consultation with PCC and NRW. The selection of the viewpoints was informed by the ZTV analysis, field work, desk-based research on access and recreation, tourism including popular vantage points (VPs), and by the distribution of the different groups of visual receptors.
- 7.33. Wireframes and photomontages will be used to consider and illustrate changes to views during operation of the Proposed Development. Visualisations will be prepared in accordance with the Landscape Institute's TGN 06/19 Visual Representation of Development Proposals. Each of the viewpoint locations will be illustrated with photomontages.

LIKELY SIGNIFICANT EFFECTS

- 7.34. Sources of effects during the construction of the Proposed Development include:
- Introduction of construction activity and vehicular / personnel movements along the route and on local roads;
 - Construction work associated with track upgrades and construction of temporary tracks (where required);
 - Construction of compounds;
 - Construction of pole foundations and erection of wood poles;
 - Conductor stringing; and
 - Forestry, woodland and individual tree felling (where required).
- 7.35. Sources of effects during the operation of the Proposed Development include:
- New 132 kV OHL with associated wood poles;
 - Long-term presence of open easements through woodland and tree belts (where required); and
 - Cumulative effects of the new 132 kV OHL with other relevant projects.



EMBEDDED MITIGATION MEASURES

- 7.36. Reflecting IEMA guidance on delivering proportionate EIA (IEMA 2017)⁵⁴, the scope and assessment assumes that relevant embedded, standard and additional measures are in place.
- 7.37. The mitigation of potential landscape and visual effects has been approached through the routing, and design of the proposed route. The Holford Rules: Guidelines for the Routeing of New High Voltage Overhead Transmission Lines (with NGC 1992 and SHETL 2003 Notes)¹⁷ were used to inform the design process to minimise potential landscape and visual effects. Route design sought to adhere to the following objectives, where possible:
- Maximise separation distance between the OHL and residential properties;
 - Maximise separation distance between the OHL and settlements;
 - Avoid impacts on woodland that would require felling;
 - Avoid placing the OHL on prominent skylines or visually prominent landforms;
 - Follow the contours of the landscape, avoiding steep slopes; and
 - Reduce visibility of the OHL from important viewpoints, such as the Castle Bank.

POTENTIAL EFFECTS SCOPED INTO THE ASSESSMENT

- 7.38. Potentially significant landscape and visual effects that may arise during the construction and operation of the Proposed Development, and therefore scoped into the LVIA, are noted below.

LANDSCAPE EFFECTS

- Effects during construction on landscape character;
- Effects during operation on landscape character; and
- Cumulative landscape effects during operation with other existing or proposed developments.

VISUAL EFFECTS

- Effects on the views and visual amenity of people within settlements and communities;
- Effects on views experienced by walkers and cyclists using PRoWs, promoted tourist and / or recreational routes, hill summits, visitors to tourist destinations and recreation areas;
- Effects on people travelling along the road network; and

⁵⁴ Institute of Environmental Management and Assessment (March 2025) Delivering Proportionality in Impact Assessment. Impact Assessment Outlook Journal Volume 24. Available at: https://www.iema.net/media/b1hohuhv/iema_iaoj_vol_24.pdf
Accessed 30/10/2025



- Cumulative visual effects associated with the Proposed Development seen in combined, successive or sequential views with other existing, consented or proposed developments within the LVIA Study Area.

POTENTIAL EFFECTS SCOPED OUT OF THE ASSESSMENT

7.39. The following effects are considered unlikely to be significant during construction and operation and are therefore proposed to be scoped out of the LVIA:

- Effects on nationally and locally designated landscapes;
- Effects on receptors beyond 2 km of the Proposed Development; and
- Receptors that lie outside the ZTV of the Proposed Development.

APPROACH TO ADDITIONAL MITIGATION

7.40. The LVIA will inform modifications and refinements to the detailed design of the Proposed Development, including further consideration of individual pole locations during the design and assessment process, and the identification of any further appropriate mitigation measures to reduce potential residual effects.

7.41. Due to the nature of OHLs, the Proposed Development is likely to give rise to effects on landscape and visual receptors that cannot be fully mitigated. In consultation with stakeholders, landscape enhancement measures will be developed where practicable to help to offset the effects of the Proposed Development.

CONSULTEE LIST

7.42. It is proposed that the following stakeholders will be consulted in relation to the assessment:

- NRW; and
- PCC.

PROPOSED SCOPE OF THE EIA

7.43. **Table 7.2** provides a summary of the proposed scope of the LVIA.

Table 7.2: Proposed Scope of LVIA.

MATTER	SCOPED IN / OUT	JUSTIFICATION
Landscape character (comprising Powys local LCAs, which is based on NLCAs and LANDMAP aspect areas)	Construction - Scoped in Operation – Scoped in	Direct effects on LCAs that intersect with Proposed Development and indirect effects upon LCAs in the LVIA Study Area from which potential visibility is indicated by ZTV maps will be considered.



MATTER	SCOPED IN / OUT	JUSTIFICATION
Bannau Brycheiniog National Park	Construction - Scoped out Operation – Scoped out	Given intervening distance significant effects are considered unlikely. Not considered further.
Visual receptors within the 2 km LVIA Study Area	Construction - Scoped in Operation – Scoped in	Effects upon visual receptors within the LVIA Study Area (i.e., the people which may be affected by changes in views resulting from the Proposed Development will be considered). Theoretical inter-visibility with the Proposed Development will be described in the assessment and used as a means of identifying which visual receptors require assessment if significant effects are deemed likely. A list of indicative preliminary viewpoints can be found in Table 7.1. Further consultation will be sought to agree viewpoint locations and visualisation types.
Residential Visual Amenity	Construction - Scoped out Operation – Scoped out	The nature of the OHL, supported by wood poles, is unlikely to give rise to effects on views that will be so great as to potentially breach the 'residential visual amenity threshold' at any dwelling ⁵⁵ . Although significant effects on residents will be assessed, a RVAA is not required.
Cumulative landscape and visual effects	Construction - Scoped in Operation – Scoped in	The likelihood for significant cumulative landscape and / or visual effects with other operational, consented and proposed developments will be considered. A list of developments to be considered in the CLVIA will be agreed with consultees through the EIA process.

⁵⁵ As defined in Landscape Institute (2019) Residential Visual Amenity Assessment (RVAA) Technical Guidance Note 2/19.⁴⁹



CHAPTER 8 – BIODIVERSITY (INCLUDING ORNITHOLOGY)

INTRODUCTION

- 8.1. This chapter considers the likely significant effects on ecology and ornithology during the construction and operation phases of the Proposed Development and sets out the proposed approach to the surveys and assessment of effects.
- 8.2. The assessment of effects on ecology and ornithology will be undertaken by competent experts.
- 8.3. Key terrestrial species, habitats and birds of relevance to the Proposed Development are identified with respect to a framework of international and national habitat and species legislation and conservation status as follows:
- Annex I Habitat and Annex II Species: Habitats listed in Annex I and Annex II of the EC Habitats Directive are those most in need of protection at a European level and for which Special Areas of Conservation (SAC) are designated. A sub-set identifies those which are considered to be 'priority' because they are particularly vulnerable.
 - Annex IV Species: Species listed in Annex IV of the EC Habitats Directive afforded strict protection independently of their designation under a SAC. These species are referred to as European Protected Species (EPS).
 - Schedule 5 Species: Species listed in Schedule 5 of the Wildlife and Countryside Act (WCA) 1981 are notified as receiving protection under Section 9 of the WCA.
 - Schedule 7 Habitats and Species: Habitats or species listed under Section 7 of the Environment (Wales) Act 2016⁸ as being of principal importance in Wales.
 - Schedule 8 Species: Plant species listed in Schedule 8 are protected from picking, uprooting or destruction, and from sale.
 - Annex 1 Birds: Bird species listed in Annex 1 of the EC Birds Directive, which are in most need of protection at a European level and for which Special Protection Areas (SPAs) are designated to provide a network of protected areas.
 - Schedule 1 Birds: Bird species listed on Schedule 1 of the WCA, which are afforded special protection in the breeding season to safeguard nesting attempts, breeding adults and their dependant young.
 - Red-listed Birds: Birds listed on the red lists of Birds of Conservation Concern (BoCC)^{56 57} and Birds of Conservation Concern in Wales (BoCCW)⁵⁸, which list bird populations that have declined in number or geographic range to the extent that conservation action is deemed to be a priority.

⁵⁶ Stanbury, A.J., Eaton, M.A., Aebischer, N.J., Balmer, D., Brown, A.F., Douse, A., Lindley, P., McCulloch, N., Noble, D.G. & Win, I. (2021) The status of our bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain.

⁵⁷ Stanbury, A.J., Burns, F., Aebischer, N.J., Baker, H., Balmer, D., Brown, A.F., Dunn, T., Lindley, P., Murphy, M., Noble, D.G., Owens, R. & Quinn, L. (2024) The status of the UK's breeding seabirds. *British Birds* **117**: 471–487.

⁵⁸ Johnstone, I.G., Hughes, J., Balmer, D.E., Brenchley, A., Facey, R.J. Lindley, P.J., Noble, D.G. & Taylor, R.C. (2022) Birds of Conservation Concern Wales 4: the population status of birds in Wales. *Milvus*, 2: 1-34.



- 8.4. This chapter also provides an outline of how mitigation requirements will be identified and delivered, and how the Proposed Development will provide Net Biodiversity Benefits via an Outline Habitat Management Plan (HMP).
- 8.5. There are interrelationships related to the potential effects on biodiversity (including ornithology). Therefore, please also refer to the following chapters:
- **Chapter 10 – Ground Conditions, Hydrology, Geology and Hydrogeology (Including Peat)**

STUDY AREA

ECOLOGY

- 8.6. The Proposed Scoping Study Areas for ecology include a series of buffers (calculated from the OHL alignment), in line with best practice guidelines. Distances reflect approaches accepted in Ecological Impact Assessment and Habitat Regulation Assessment (HRA) terms as well as species-specific best practice guidelines (as referenced below) and the circumstances of the Proposed Development.

DESK-BASED

- Internationally designated areas: 5 km for SAC⁵⁹ (buffer generally accepted in HRA terms), extended to 10 km for SACs where bats are a feature.
- Nationally designated areas, Non-statutory designated sites, Priority Habitats, Ancient Woodland: 1 km.
- Records of extant protected species (from 2002 onwards): 1 km.
- Areas of potentially nationally important peatland along the alignment up to 250 m: based on NatureScot / Scottish Environment Protection Agency (SEPA) guidance on Ground Water Dependent Terrestrial Ecosystems (GWDTEs)⁶⁰ (adopted by Welsh Government), which correlate with avoidance distances and actual baseline survey methods.

FIELD STUDIES

- Extended Phase 1 Habitat Surveys⁶¹, with any habitats of Conservation Concern subject to National Vegetation Classification (NVC) surveys⁶²: up to 100 m for the OHL (50 m for ancillary infrastructure).
- Surveys of potential GWDTE: up to 250 m.
- Great crested newt (GCN) *Triturus cristatus* Habitat Suitability Index surveys and environmental DNA surveys of ponds: within 500 m⁶³.

⁵⁹ JNCC (2010) Handbook for Phase 1 Habitat Survey. A technique for technical audit. Joint Nature Conservation Committee. Peterborough: JNCC.

⁶⁰ SEPA (2017) Land Use Planning System SEPA Guidance Note 31. Guidance on Assessing the Impacts of Development Proposals on Groundwater Abstractions and Groundwater Dependent Terrestrial Ecosystems.

⁶¹ Joint Nature Conservation Committee (1990). Handbook for Phase 1 Habitat Survey. Peterborough: JNCC.

⁶² Rodwell JS (2006). NVC Users' Handbook. Peterborough: JNCC.

⁶³ Oldham, R.S., Keeble, J., Swan, M.J.S. and Jeffcote, M. (2000) Evaluating the suitability of habitat for the great crested newt (*Triturus cristatus*). Herpetological Journal, 10: 143-155



- Otter and water vole surveys: 250 m upstream and downstream of any impacts to watercourses with suitability for otter or water vole. This will also include woodland adjacent to watercourses and a check for fossorial water voles away from watercourses.
- Other protected species, such as dormouse, badger and common species of bats: up to 200 m or wider in exceptional circumstances should survey data suggest that this is necessary.

8.7. For the purpose of this Scoping Report the Proposed Scoping Study Area for ecology is presented in **Figure 8.1: Statutory Designated Sites within 5 km and 10 km** and **Figure 8.2: Priority Habitats**.

ORNITHOLOGY

8.8. The Scoping Study Areas for ornithology include a series of buffers (calculated from the OHL alignment), in line with species specific best practice guidelines. Distances reflect approaches accepted in Habitat Regulation Assessment (HRA) terms as well as the circumstances of the Proposed Development.

DESK-BASED

- 8.9. The Study Areas for desk-based studies are:
- Internationally designated areas: 10 km for SPAs and Ramsar Sites, to capture connectivity between the Proposed Development and these sites where qualifying bird species may range beyond the Scoping Corridor;
 - Nationally designated areas where birds are a qualifying feature and non-statutory designated sites: 1 km; and
 - Records of extant Schedule 1 species (from 2012 onwards): 1 km.

FIELD STUDIES

- 8.10. The Study Areas for field surveys are:
- Bird flight activity from VPs: within 500 m;
 - Breeding Schedule 1 raptors: within 2 km; and
 - Breeding birds: 250 m for lowland enclosed agricultural land; up to 500 m for upland and unenclosed land.
- 8.11. For the purposes of this Scoping Report the Scoping Study Area for ornithology is presented on **Figure 8.3: Ornithology Study Area for breeding and wintering birds**.

EXISTING CONDITIONS

INFORMATION SOURCES

8.12. An extended Phase 1 Habitat Survey and NVC survey of the OHL alignment has been completed and informs this report. An ecological and ornithological desk study was



undertaken in 2020 and 2021 for the proposed neighbouring Bryn Gilwern Energy Park. Around 2.4 km of the OHL alignment falls within the red line boundary of the proposed Energy Park, and the remainder of the OHL is within 2 km of the Energy Park red line boundary. Therefore, data from these desk studies provided by Bryn Gilwern Energy Park Limited to Green GEN Cymru has been used to inform this Scoping Report. An updated data search and desk study will be undertaken as part of the EIA.

8.13. Data from the following sources and has been used to inform this section of the Scoping Report:

- Biodiversity Information Service (BIS) for Powys and Bannau Brycheiniog National Park⁶⁴.
- Multi-Agency Geographic Information for the Countryside (MAGIC): Nature on the Map⁶⁵.
- NRW: Designated Sites Search⁶⁶.
- National Biodiversity Network Atlas⁶⁷.
- NRW Ancient Woodland Inventory (AWI)⁶⁸.
- SPAs and Ramsar sites where birds are a qualifying feature within 10 km of the Proposed Development and Sites of Special Scientific Interest (SSSIs) where birds are a special feature within 2 km of the Proposed Development.
- Other international designations focusing on non-avian ecology features (i.e. any SACs were identified within 5 km of the alignment (extended to 10 km for SACs where bats were a designating features)). SSSIs, National Parks, and National Nature Reserves (NNRs), Local Nature Reserves (LNRs) as well as non-statutory nature conservation designations, such as Local Wildlife Sites (LWSs), Sites of Interest for Nature Conservation (SINCs), Section 7 Welsh Priority Habitats or woodland areas included on the AWI, were identified within 1 km of the Site. Only designations with ecological qualifying features were considered relevant in the study. See **Figure 8.1** and **Figure 8.2**.
- Existing records for protected or otherwise notable species (e.g. Environment (Wales) Act 2016⁸ / Local Biodiversity Action Plan (LBAP) priority species) were identified within 2 km of the Proposed Development. The search buffer was extended

⁶⁴ BIS. Biodiversity Information Service for Powys & Brecon Beacons National Park. Available at: <https://www.bis.org.uk/> Accessed 4/11/2025.

⁶⁵ MAGIC: Nature on the Map (2021). Interactive Map. Available at: <https://magic.defra.gov.uk/magicmap.aspx> Accessed 30/10/2025.

⁶⁶ Natural Resources Wales (2021). Designated Sites Search. Available at: <https://naturalresources.wales/guidance-andadvice/environmental-topics/wildlife-and-biodiversity/protected-areas-of-land-and-seas/find-protected-areas-of-land-and-sea/?lang=en> Accessed 30/10/2025.

⁶⁷ National Biodiversity Network (NBN) Atlas (2021). NBN Atlas. Available at: <https://nbnatlas.org/> Accessed 30/10/2025

⁶⁸ Natural Resources Wales (2025) Ancient Woodland Inventory 2021. Available at: https://datamap.gov.wales/layers/inspire-nrw:NRW_ANCIENT_WOODLAND_INVENTORY_2021 Accessed 30/10/2025



to 10 km for bat roost records. Only records from within the last 10 years were considered relevant in the study.

BASELINE CONDITIONS - ECOLOGICAL

THE SITE

- 8.14. The Proposed Development is approximately 5.24 km in length, from the Bryn Gilwern Energy Park substation located approximately 3 km south-east of Llandrindod Wells to the point of connection to the proposed Towy Usk Grid Connection (see **Figure 1.1**).

DESIGNATED SITES

- 8.15. **Table 8.1** lists designated nature conservation sites of international or national importance within 5 km of the Proposed Development.

Table 8.1: Nature Conservation Designations.

NAME	DISTANCE AND DIRECTION FROM ALIGNMENT	DESIGNATION	NON-AVIAN BIOLOGICAL REASONS FOR DESIGNATION
Statutory designations within 5 km (10 km if designated for roosting bats)			
River Wye / Afon Gwy (SSSI: River Ithon)	Crosses the OHL	SAC	Annex I habitats that are a primary reason for selection of this site: • Watercourses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitricho-Batrachion</i> vegetation • Annex II species that are a primary reason for selection of this site: • Atlantic stream crayfish (<i>Austropotamobius pallipes</i>); • Sea lamprey (<i>Petromyzon marinus</i>) • Brook lamprey (<i>Lampetra planeri</i>); • River lamprey (<i>Lampetra fluviatilis</i>);



NAME	DISTANCE AND DIRECTION FROM ALIGNMENT	DESIGNATION	NON-AVIAN BIOLOGICAL REASONS FOR DESIGNATION
			• Twait shad (<i>Alosa fallax</i>) • Atlantic salmon (<i>Salmo salar</i>); • Bullhead (<i>Cottus gobio</i>); and • Otter (<i>Lutra lutra</i>). Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site: • Transition mires and quaking bogs Annex II species present as a qualifying feature, but not a primary reason for site selection: • Allis shad <i>Alosa alosa</i>
		SSSI	Designated for the following habitats and species: • Moderate nutrient status river communities • Otter • Fish (Atlantic salmon, bullhead, river lamprey and brook lamprey)
River Wye (Tributaries) / Afon Gwy (Isafonydd)	Crosses OHL	SSSI	Designated for the following habitats and species: • Streams with moderate nutrient status • Otter • Atlantic salmon • Brook lamprey • River lamprey



NAME	DISTANCE AND DIRECTION FROM ALIGNMENT	DESIGNATION	NON-AVIAN BIOLOGICAL REASONS FOR DESIGNATION
			• Bullhead • Atlantic stream crayfish
Banc Hirllwyn	1 km east of OHL	SSSI	Banc Hirllwyn is of special interest for its areas of acid grassland vegetation and the nationally scarce maiden pink (<i>Dianthus deltoides</i>).
Newcastle Meadows	285 m to east of OHL	SSSI	The OHL alignment area is a good example of species-rich pasture and hay meadow.
Colwyn Brook Marshes (North and South)	760 m to west of OHL	SSSI	The wetland areas situated at the foot of the Carneddau Hills support an unusually diverse mixture of swamp fen meadow and damp grassland plant communities and together comprise one of the largest areas of fen remaining in Powys. The wetlands are an important refuge for otter and support a range of scarce invertebrate species including gnat (<i>Anatella damfi</i>) and grass wave moth (<i>Perconia strigillaria</i>).
Non-statutory designations within 1 km			
Franksbridge	Within 1 km to east of OHL	Roadside Verge Nature Reserve	Length of road verge identified as having particular value to biodiversity and managed to conserve the range of plants growing there

8.16. In addition, a number of blocks of Ancient Woodland have been identified within the 1 km Study Area. The OHL route avoids Ancient Woodland but crosses two linear wooded extensions connecting to nearby Ancient Woodlands.



HABITATS

- 8.17. The northern 2.4 km of the route is upland in character and passes through a range of habitats including improved grassland, continuous bracken, acid flush / acid grassland, dry and wet heath and some running water. The southern 2.8 km portion of the route passes through a landscape dominated by habitats of lower ecological value, such as agricultural fields supporting improved and semi-improved grassland with hedgerows and linear tree belts.
- 8.18. These Phase 1 habitat surveys identified that the route passes through or close to several areas of Section 7 Priority Habitats including upland flushes and swamps; upland heathland; broad-leaved woodland; purple moor grass and rush pastures; rivers; and hedgerows.

PROTECTED SPECIES

- 8.19. The extended Phase 1 Habitat survey identified potential for a number of protected species, including bats, hazel dormouse, badger, GCN and otter. In addition, the desk study shows that the Study Area is known to support a range of protected or otherwise notable species, such as badger (*Meles meles*), otter (known to be present within the River Wye and its tributaries) and GCN (*Triturus cristatus*).
- 8.20. Much of the Study Area habitat is suitable for badger, which will opportunistically exploit free-draining soils for sett excavation and foraging in a broad range of habitat types.
- 8.21. The desk study shows the closest bat roost as a *Pipistrelle* *agg* roost around 2 km to the south-west. There are no designations for roosting bats within 10 km of the Proposed Development.
- 8.22. Ground Level Tree Assessment (GLTA) of trees and Preliminary Roost Assessment (PRA) of buildings within 100 m of the Proposed Development have been undertaken. These surveys identified trees with features suitable for supporting bat roosts, though the number of these trees that were in close proximity to the Proposed Development was low and it is likely that all or most can be avoided. The characteristics and locations of these features were consistent with those used by common and widespread species of bats. These features are common and widespread in the surrounding landscape.
- 8.23. Habitats and linear features suitable for supporting bat foraging and commuting were identified, within the Proposed Development and the 100 m buffer. These include hedgerows, treelines, woodland, watercourses and marshy grassland. However, the majority of the Study Area comprises open and exposed improved grassland fields and upland habitats, which are of limited suitability to bats due to lack of shelter and limited plant species diversity (likely corresponding to a low abundance and diversity of insect prey).
- 8.24. The majority of hedgerows and woodland within the Study Area were either fragmented and / or had limited connectivity with the wider landscape. The structural diversity and plant species diversity of these features was also very variable. This reduces the likelihood that dormouse is present, and no records were identified within the desk study. However, the presence of this species cannot be ruled out without further survey.



- 8.25. A small number of ponds with suitability to support GCN (as identified by Habitat Suitability Assessments) were identified within the Study Area. GCNs are known to be present in some of these ponds and in the wider area.

BASELINE CONDITIONS - ORNITHOLOGICAL

- 8.26. A comprehensive ornithological baseline to inform the design and assessment of the Proposed Development will be established through desk study and field surveys. Full details will be presented within the ES.
- 8.27. The Study Area for ornithology relative to the location of the Proposed Development extends to 10 km for internationally designated sites, 2 km for nationally designated sites, and up to 2 km for breeding and wintering birds (see **Figure 8.1** and **Figure 8.3**).
- 8.28. An initial desk study has been undertaken to identify any designated sites relevant to ornithology. There are no SPAs or Ramsar Sites within 10 km of the Proposed Development and no SSSIs where birds are a special feature within 2 km of the Proposed Development.
- 8.29. Desk studies undertaken in 2021 for the proposed Bryn Gilwern Energy Park, which has a Study Area that partially overlaps the Proposed Development (data supplied by Bute Energy Limited) identified the presence of a number of sensitive bird species within 5 km of that project.
- 8.30. Habitats adjacent to the Proposed Development are potentially suitable for a number of sensitive, threatened or specially protected bird species including curlew and other upland waders, and Schedule 1 raptors including red kite and hobby.
- 8.31. Ongoing or planned field surveys will continue to collate information on the baseline bird community. Surveys will collect information to allow an assessment of effects on bird populations, and to inform potential mitigation in the form of bird diverters (if required) to reduce the likelihood of bird collisions and construction-phase measures to safeguard breeding birds. The following surveys have been completed for the Bryn Gilwern Energy Park, and overlap with the Proposed Development's Study Area for ornithology (all data supplied by Bute Energy Limited):
- Flight activity surveys to collect information on bird flight behaviour – September 2020 to August 2022 and October 2024 to August 2025 covering the northern-most 2 km of the OHL alignment;
 - Breeding bird surveys (BBSs) within up to 500 m of the northern-most 2.5 km of the OHL alignment of the Proposed Development during the 2021, 2022 and 2025 breeding seasons; and
 - Breeding raptor surveys in the majority of the area within 2 km of the OHL alignment in 2021, 2022 and 2025.
- 8.32. In addition to the above, the following targeted field surveys will be undertaken for the Proposed Development:
- Flight activity survey of un-surveyed areas of the OHL alignment; and



- BBS of un-surveyed areas within up to 500 m of the OHL alignment.

- 8.33. Initial field surveys have confirmed the presence of several sensitive bird species of Nature Conservation Importance (NCI) adjacent to the Proposed Development.
- 8.34. Bird flight activity by raptors in the breeding season has been identified through initial VP watches, including flights by red kite. Breeding waders, including curlew, have been identified adjacent to the northern section of the Proposed Development.

FUTURE BASELINE

- 8.35. The future baseline relates to known or anticipated changes to the current baseline in the future which should be assessed as part of the Proposed Development. Large sections of land adjacent to the Proposed Development are enclosed agricultural fields. The ecological conditions are unlikely to change materially in the short term as current agricultural practices are likely to be maintained, therefore the future baseline is likely to be the similar to the current baseline. Where changes arise from other future developments these will be considered in the cumulative assessment of the ES, as appropriate.

DATA COLLATION AND ASSESSMENT METHODOLOGY - ECOLOGY

LEGISLATION, POLICY AND GUIDANCE

- 8.36. The following will inform the approach to the design and assessment of the Proposed Development:
- The WCA 1981⁶⁹;
 - The Environment (Wales) Act 2016⁸;
 - The Conservation of Habitats and Species Regulations 2017 (SI 2017/1012), as amended by The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (SI 2019/579) (i.e. the 'Habitats Regulations')⁷⁰;
 - The Nature Recovery Plan 2020⁷¹;
 - PPW 12¹⁰; and
 - The PCC LBAP 2002⁷².

⁶⁹ Wildlife and Countryside Act 1981. Available at: <https://www.legislation.gov.uk/ukpga/1981/69> Accessed 4/11/2025.

⁷⁰ The Conservation of Habitats and Species Regulations 2017. Available at: <https://www.legislation.gov.uk/uksi/2017/1012/contents> Accessed 4/11/2025.

⁷¹ Welsh Government (2020) The Nature Recovery Action Plan for Wales. Available at: <https://gov.wales/sites/default/files/publications/2020-10/nature-recovery-action-plan-wales-2020-2021.pdf> Accessed 30/10/2025.

⁷² Powys County Council. Local Biodiversity Action Plan. Available at: <https://en.powys.gov.uk/article/2553/Local-Biodiversity-Action-Plan> Accessed 30/10/2025.



DATA COLLECTION – DESK-BASED

- 8.37. An updated desk study is being undertaken to inform the EIA for the Proposed Development, using the approach and search buffers outlined in the Information Sources section above.

DATA COLLECTION - FIELD STUDIES

HABITAT SURVEY

- 8.38. As described above, an initial extended Phase 1 habitat survey was undertaken in July 2024 and updated in May and October 2025.
- 8.39. The survey was based on industry standard Joint Nature Conservation Committee (JNCC) guidance^{Error! Bookmark not defined.}, and involved identifying habitats in the field based on descriptions and indicator species.
- 8.40. Where required, a Phase 2 botanical survey to NVC standard was undertaken to the accepted methodology¹⁰ to provide more detailed information on plant communities and to identify areas of potential GWDTEs, which will be assessed under Ground Conditions, Hydrology, Geology and Hydrogeology (including peat) (see **Chapter 10**). The Study Area comprises the alignment plus a 250 m buffer, where there is potential for GWDTEs to occur.

PROTECTED SPECIES SURVEYS

- 8.41. In line with guidance, survey buffers are typically feature specific. For example, assessments for GCNs were undertaken within 500 m of potential breeding ponds and otter surveys will be conducted along watercourse habitats within 250 m of potential works areas (up and downstream).

BADGER SURVEYS

- 8.42. A badger survey was carried out during the extended Phase 1 Habitat Survey, following good practice guidance⁷³, in July 2025. This comprised an inspection of all habitat types suitable for badger (for example woodland, hedgerows, treelines, grassland, banks, slopes and bare earth) and was undertaken within the Proposed Development and a 100 m buffer, where accessible. All signs of activity were mapped including setts, footprints, paths, dung pits, latrines, snuffle holes and hairs. Any setts located were classified by the number of entrance holes and level of activity (the latter based on the 'openness' of the hole⁷⁴). Depending on the nature of any evidence recorded and the location relative to the emerging layout of the Proposed Development, if potential badger setts are recorded, further targeted survey work may be undertaken (e.g. camera trapping).

⁷³ Harris, S., Cresswell, P. & Jefferies, D. (1989) Surveying Badgers. An occasional publication by the Mammal Society. No. 9. Mammal Society, London.

⁷⁴ Andrews R. (2013) The classification of badger *Meles meles* setts in the UK: A review and Guidance for surveyors. In Practice [82] 27- 31. Winchester: Chartered Institute of Ecology and Environmental Management (CIEEM).



BAT ACTIVITY SURVEYS

- 8.43. Where accessible, bat activity surveys are being conducted at key locations within the Study Area, focussing on the small number of linear features which have the potential to be fragmented by the Proposed Development. These surveys comprise automated surveys using full-spectrum bat recorders, deployed for a minimum of ten consecutive nights in autumn (September–October), spring (April–May) and summer (June–August), during suitable weather conditions. Current best practice guidelines will be followed, as defined by NatureScot⁷⁵ and the Bat Conservation Trust⁷⁶. On completion of the surveys, data will be analysed using proprietary software of the bat detectors. All calls will be classified to species or species group levels.

HAZEL DORMOUSE SURVEYS

- 8.44. Habitats with potential to support hazel dormouse are restricted to a small number of intact hedgerows with sufficient connectivity to the surrounding landscape. Where accessible, dormouse surveys will be undertaken for any of these features suitable for supporting dormouse, where they are likely to be subject to fragmentation or significant loss, damage or disturbance, due to the Proposed Development. These surveys are not proposed for the OHL itself, because impacts can be avoided by coppicing any suitable hedgerows in winter to a height of one metre to enable the stringing of conductors. However, these surveys may be required within areas proposed for ancillary infrastructure, in order to facilitate access for construction and operational activities.
- 8.45. Surveys will comprise footprint tunnel surveys or nest tube surveys, to identify presence / likely absence, in line with the recently published updated guidance^{77, 78}. If it is not possible to use these methods (for example land access limitations and / or a significant risk of survey equipment being removed / damaged which could put dormouse welfare at risk) a nut hunt will be conducted as an alternative method, which is recognised in the guidance as having a success rate in determining presence / likely absence of over 99% if the correct method is followed.

GREAT CRESTED NEWT SURVEYS

- 8.46. A small number of ponds are present within 500 m of the Proposed Development, and these have been subject to Habitat Suitability Assessments, where accessible. Where these ponds have been identified as suitable for supporting this species and where there is potential for impacts to occur as a result of the Proposed Development, environmental DNA tests on the pond water will be carried out to determine presence / likely absence, in line with best

⁷⁵ NatureScot (2021) Bats and onshore wind turbines - survey, assessment and mitigation. Available at:

<https://www.nature.scot/doc/bats-and-onshore-wind-turbines-survey-assessment-and-mitigation> Accessed 30/10/2025

⁷⁶ Collins, J. (ed.) (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition) London: The Bat Conservation Trust.

⁷⁷ Wells, D., Chanin, P. & Gubert, L. (2025) Hazel Dormouse Mitigation Handbook. The Mammal Society.

⁷⁸ Bullion, S., Wolton, R. & White, I. (2025) Hazel Dormouse Conservation Handbook (3rd edition). The Mammal Society.



practice guidance⁷⁹. All of these ponds are located over 250 m away from the Proposed Development and habitat connectivity is limited due to the presence of exposed habitats such as heavily grazed improved grassland and hardstanding. Given the relatively minor nature of the pole construction, any potential impact to GCN is considered minimal and micro-sighting can be employed to avoid or minimise these impacts (if required). It is therefore considered that population surveys are not required in order to draw robust conclusions to inform the EIA.

OTTER AND WATER VOLE SURVEYS

- 8.47. Surveys for otter and water vole will be carried out within suitable habitat for these species (watercourses and adjoining woodland and scrub, reedbed, marshy grassland, marginal vegetation, riverbanks). Where accessible, these surveys will be conducted 250 m upstream and downstream of any potential impacts to watercourses (the maximum distance at which potential disturbance impacts on otter and water vole are generally considered likely to occur). The survey will involve searching for field evidence, such as feeding signs, droppings, holts / resting places, burrows, footprints and obvious runways in vegetation and sightings of the animals themselves. The surveys will follow the best practice survey methodologies for otter⁸⁰ and water vole⁸¹. Depending on the nature of any evidence recorded and the location relative to the emerging layout of the Proposed Development, if potential otter holts are recorded, further targeted survey work may be undertaken (e.g. camera trapping).

ASSESSMENT METHOD

- 8.48. The impact assessment will be undertaken following the Chartered Institute for Ecology and Environmental Management (CIEEM) guidelines⁸². Only ecological receptors which are considered to be important at the local or higher level (denoted Important Ecological Features (IEFs)), and / or which are subject to legal protection, will be assessed if they are considered potentially vulnerable to effects. Both negative effects and positive (from habitat management) will be assessed. Ecological receptors will be assessed according to their geographic context as follows:

- International;
- National (Wales);
- Regional (Powys County area);
- Local (The Study Area and appropriate buffers as per survey methods); and

⁷⁹ Biggs J. et al (2014) Analytical and methodological development for improved surveillance of the Great Crested Newt. Appendix 5. Technical advice note for field and laboratory sampling of great crested newt (*Triturus cristatus*) environmental DNA. Oxford: Freshwater Habitats Trust.

⁸⁰ Chanin P (2003) Monitoring the Otter *Lutra*. Conserving Natura 2000 Rivers Monitoring Series No.10, English Nature, Peterborough

⁸¹ Dean, M., Strachan, R., Gow, D. and Andrews, R. (2016) The Water Vole Mitigation Handbook (The Mammal Society Mitigation Guidance Series). Eds Fiona Mathews and Paul Chanin. The Mammal Society, London.

⁸² CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal and Marine. Chartered Institute for Ecology and Environmental Management, Winchester.



- Less than local.

8.49. The impact assessment incorporates the following:

- Identifying and characterising impacts;
- Including mitigation measures to avoid and reduce impacts;
- Assessing the significance of any residual effects (after mitigation);
- Detailing appropriate compensation to offset residual effects as required; and
- Incorporating opportunities for ecological enhancement and net biodiversity benefit.

8.50. The following will be considered when describing potential impacts:

- Positive impacts and negative impacts;
- Extent;
- Magnitude;
- Timing;
- Duration;
- Frequency; and
- Reversibility.

8.51. According to the CIEEM guidelines, a 'significant effect' is an effect that either supports or undermines conservation objectives for IEFs. Conservation objectives may be specific (e.g. for a designated site) or broad (e.g. national / local nature conservation policy). Effects can be considered significant at a wide range of scales from international to local. For example, a significant effect on a regionally important population of a species is likely to be of regional significance.

CUMULATIVE EFFECTS

8.52. As discussed in **Chapter 11**, an assessment will be made of the likely significant cumulative effects of the Proposed Development in combination with other developments. The ecological cumulative effects will be assessed in line with methods described in the CIEEM guidelines.

8.53. Cumulative effects may be experienced through a variety of pathways, for example, schemes sharing hydrological connectivity with an aquatic feature or through populations of mobile species, such as bats, experiencing impacts from more than one development site. Other developments within the Study Area of the Proposed Development will be identified. For protected species, the radius will vary between IEFs in line with the typical extent of range, up to 10 km for bats.

HABITAT REGULATIONS ASSESSMENT

8.54. Any proposal which is directly connected with a Natura 2000 site (SACs and SPAs, as well as Ramsar sites) will require a Habitat Regulations Assessment (HRA). HRA is formally the



responsibility of the Competent Authority, but in line with standard practice the planning submission will be accompanied by a ‘shadow’ HRA for the Proposed Development and any sites of relevance within 5 km, including the River Wye SAC.

DATA COLLATION AND ASSESSMENT METHODOLOGY - ORNITHOLOGY

LEGISLATION, POLICY AND GUIDANCE

8.55. The ornithological assessment will be carried out in cognisance of the following relevant legislation and standards:

- The WCA 1981⁶⁹;
- The Environment (Wales) Act 2016⁸;
- The Conservation of Habitats and Species Regulations 2017(i.e. the “Habitats Regulations”)⁷⁰;
- The Nature Recovery Plan 2020⁷¹;
- PPW: TAN 5: Nature Conservation and Planning²⁰;
- The PCC LBAP⁷²; and
- Priority Habitats and Species in Carmarthenshire.

8.56. The assessment will also have regard to the following guidance:

- CIEEM, Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Marine⁸²;
- Guidance on bird survey methods to inform impact assessment⁸³; and
- Guidance on assessment and mitigation of impacts of OHLs on birds⁸⁴.

ORNITHOLOGICAL RECEPTORS

8.57. The ornithological receptors that will be considered as part of the assessment are:

- Statutory designated sites where ornithology forms part of the qualifying interest;
- Bird species whose populations are likely to form part of the qualifying interest of statutory designated sites;
- Birds listed on Annex 1 of the EC Birds Directive and on Schedule 1 of the WCA; and
- Birds listed on the Red list of BoCC^{56 57} or the Red list BoCCW⁵⁸.

⁸³ SNH (2017) Recommended bird survey methods to inform impact assessment of onshore wind farms. Battleby: SNH.

⁸⁴ SNH (2016) Assessment and mitigation of impacts of power lines and guyed meteorological masts on birds. Battleby: SNH.



DATA COLLECTION – DESK-BASED

- 8.58. Desk-based studies will continue to inform the collation of baseline information. Data requests will be made to local biological records centres, and organisations likely to hold import bird records including the RSPB and the British Trust for Ornithology (BTO).
- 8.59. The following key information sources have been consulted to inform Scoping:
- MAGIC (2023)⁸⁵ online application and NRW webpages⁸⁶ for information on designated sites; and
 - NatureScot guidance⁸⁴ on bird survey, assessment and mitigation methods in relation to OHLs.

DATA COLLECTION – FIELD STUDIES

- 8.60. In accordance with NatureScot guidance adopted by NRW⁸⁴, at least one full year of targeted ornithological surveys will be completed. They will include field survey information collected for the proposed Bryn Gilwern Energy Park (data supplied by Bute Energy Limited) and additional targeted field surveys for the Proposed Development to compile a comprehensive baseline.
- 8.61. The following field surveys will be undertaken, as described above:
- Flight Activity Surveys (data from up to three VP locations will be used); and
 - BBS comprising up to four visits to open ground habitats within 250-500 m of the route of the Proposed Development, where habitats are likely to support populations of NCI.
- 8.62. Field surveys will use standard survey methodologies. Flight activity surveys will comprise timed watches from VPs, based on the methods described by Band et al. (2007)⁸⁷. BBS will use a modified version of the Brown and Shepherd (1993) method⁸⁸ for upland wader surveys.

ASSESSMENT METHOD

- 8.63. The ES will provide a detailed description of the existing baseline ornithological features, along with an assessment of the potential effects of the Proposed Development on the sensitive ornithological features present, taking account of mitigating measures to avoid and reduce significant effects where appropriate.
- 8.64. Impact assessments presented within the ES will be undertaken in accordance with CIEEM guidance (2019)⁴². The approach to assessment will take account of existing guidance and

⁸⁵ Defra. Magic Map. Available at: <https://magic.defra.gov.uk/MagicMap.aspx> Accessed 30/10/2025.

⁸⁶ Natural Resources Wales. Protected areas of land and seas. Available at: <https://naturalresources.wales/guidance-and-advice/environmental-topics/wildlife-and-biodiversity/protected-areas-of-land-and-seas/?lang=en> Accessed 30/10/2025.

⁸⁷ Band, W., Madders, M. & Whitfield, D.P. (2007) Developing field and analytical methods to assess avian collision risk at wind farms. In de Lucas, M, Janss, G.F.E. and Ferrer, M. (Eds.) Birds and Wind Farms: Risk assessment and Mitigation, pp. 259 - 275. Quercus, Madrid.

⁸⁸ Brown, A.F. & Shepherd, K.B. (1993) A method for censusing upland breeding waders. Bird Study, 40: 189-195.



published scientific literature in relation to avian ecology and bird-powerline interactions, alongside professional judgement and experience of OHL EIA.

- 8.65. Effects will be considered during the construction and operational phases and will be assessed on the basis that a clearly defined range of appropriate avoidance buffers and standard good practice measures are implemented (see section below). Effects on birds could arise because of habitat loss, disturbance, displacement, collision mortality and electrocution.

DETERMINING IMPORTANCE

- 8.66. Relevant international and national legislation, policy and guidance will be referenced to determine the NCI of ornithological features. In addition, species' sensitivity to potential effects from OHL developments will be taken into account by considering aspects like their behaviour and capacity for habituating to the presence of OHL infrastructure.

IDENTIFICATION AND CHARACTERISATION OF EFFECTS

- 8.67. The identification and characterisation of effects on important ornithological features will be undertaken in accordance with the CIEEM guidelines (2018, amended 2022)⁸² with reference to effect magnitude (e.g. proportion of a population effected), extent, duration and reversibility as appropriate. Effect magnitude will be considered alongside the likelihood of its occurrence to help make a judgement on the significance of effects. Where appropriate and where supporting information is available, this approach may be supported by population models which will explore a range of scenarios to help understand the likely response of populations to potential effects arising from the Proposed Development.
- 8.68. Professional judgement will be used to consider effect significance on each ornithological feature, with effects on species' populations evaluated with reference to appropriate regional or national spatial units.

SIGNIFICANT EFFECTS

- 8.69. The evaluation of effects will consider how the conservation status of each species may be affected by the predicted magnitude and direction of effects arising from the Proposed Development. The maintenance of existing favourable conservation status for affected species, at the appropriate geographic scale, will be a key judgement for evaluating effect significance.

PRESENTATION OF SENSITIVE INFORMATION

- 8.70. Sensitive information as it relates to ornithology will be presented within a confidential appendix to the ES.



LIKELY SIGNIFICANT EFFECTS

EMBEDDED MITIGATION MEASURES

ECOLOGICAL

- 8.71. With the exception of oversailing the River Wye SAC / SSSI, the route has otherwise avoided sensitive ecological features. Standard mitigation will be employed in a CEMP which will include:
- Standard pollution prevention measures, for example, silt and pollution traps to prevent any sediment or pollution entering watercourses;
 - Vegetation removal undertaken at certain times of the year to avoid impact to nesting birds and hibernating reptiles and amphibians (where relevant and possible);
 - Ecological supervision where required;
 - Covering excavations at night and ensuring means of escape for mammals;
 - No night working and sensitive construction lighting scheme (unless required in emergency or exceptional circumstances); and
 - Management and reinstatement of turfs / vegetation where appropriate.

ORNITHOLOGICAL

- 8.72. The adoption of embedded mitigation measures to avoid or minimise adverse effects upon ornithological features resulting from the Proposed Development will continue to form part of the iterative design process.
- 8.73. Where required, suitable species-specific buffers around sensitive ornithological sites may be incorporated in the design process. Full details of scheme design and embedded mitigation measures in relation to ornithology will be detailed within the ES.
- 8.74. A Bird Protection Plan (BPP) will be prepared to ensure legislative compliance and accordance with current good practice guidance. This will be incorporated into any CEMP and overseen by an Ecological Clerk of Works (ECoW).
- 8.75. The assumption is that the clearance of vegetation likely to support breeding birds will aim to be avoided during the bird breeding season (March to August inclusive). Where this is required, an ECoW will undertake a disturbance risk-assessment as part of the BPP and will supervise the work to ensure that disturbance is avoided or minimised. Where active nests are discovered, suitable 'no-disturbance' buffers will be maintained until chicks have fledged. Where possible, scheduling construction and maintenance activities outside certain periods will be proposed for seasonally sensitive species.

POTENTIAL EFFECTS SCOPED INTO THE ASSESSMENT

ECOLOGICAL

- 8.76. The following potential effects will be assessed during construction:



- Damage / modification and loss of habitat IEFs, such as wet heath, and important plant species unless these can be avoided altogether. Note that potential effects on GWDTEs will be assessed under Ground Conditions, Hydrology, Geology and Hydrogeology (including peat) (see **Chapter 10**).
- Habitat fragmentation and disturbance / displacement of faunal species IEFs.
- Pollution events and sedimentation, including on the River Wye SAC and SSSI.
- Death, injury and / or disturbance to species IEFs, including destruction / removal of habitat.
- Cumulative Effects.

8.77. The following potential effects will be assessed during operation:

- Death, injury and / or disturbance to species IEFs, including destruction / removal of habitat, during maintenance works; and
- Cumulative Effects.

ORNITHOLOGICAL

8.78. The Proposed Development has the potential to cause significant effects on birds.

8.79. The following potential effects will be assessed during construction:

- Direct loss of habitat arising from temporary land take to accommodate construction infrastructure of the Proposed Development; and
- Indirect habitat loss arising from disturbance if birds are displaced from nesting, foraging or roosting habitats.

8.80. The following potential effects will be assessed during operation:

- Mortality from collision with the wires of the OHL;
- Indirect habitat loss arising from disturbance if birds are displaced from nesting, foraging or roosting habitats; and
- Cumulative effects arising from any of the above combined with effects from other proposed or existing developments in the same geographic area which act on the same regional bird populations.

8.81. The potential for each effect varies between species and species-groups and, therefore, a species-specific assessment will take place using information from baseline studies and knowledge of how different species may be affected. For example, the risk of collision varies for different species due to their biometrics and flight behaviour and is further modified by habitat and topography.

8.82. The assessment will only assess in detail effects upon important ornithological features, where these features, principally species, are known to be susceptible to the effects likely to arise from the construction and operation of the Proposed Development. This will include species defined as having high or moderate nature conservation interest, where individuals



of these species make substantial use of airspace and habitats surrounding the Proposed Development for breeding, roosting, or foraging.

POTENTIAL EFFECTS SCOPED OUT OF THE ASSESSMENT

ECOLOGICAL

- 8.83. Due to most of the designated sites in proximity to the OHL alignment being designated for habitats and floral species and being sufficiently distant, it is considered unlikely there will be any negative effects as a result of construction, or operation activities. Therefore, with the exception of the River Wye SAC and SSSI (which overlaps the OHL route), designated sites will be scoped out of the assessment.
- 8.84. Due to the small footprint of the Proposed Development a targeted survey for reptiles is not considered pragmatic, as extensive reptile habitat will be retained. Significant effects on these species are therefore not anticipated.
- 8.85. Red squirrel surveys have been scoped out as data from NRW shows the Proposed Development is outside of both the red squirrel focal site (where red squirrel are known to occur) and also outside of any squirrel buffer zones. Pine marten surveys have been scoped out due to the lack of suitable habitat within the Study Area and the small footprint of the Proposed Development. Due to the small footprint of the development
- 8.86. Surveys for aquatic invertebrates and fish will not be completed as these species will be protected from effect via good construction methods embedded in project design and delivered through an outline CEMP. Population data are not required to inform this process. The footprint of the Proposed Development is small and therefore significant effects on these species can be avoided.
- 8.87. While the above species will be excluded from survey, and subsequently assessment, the outline CEMP will make provision for their protection.

ORNITHOLOGICAL

- 8.88. The following potential effects are proposed to be scoped out of full assessment:
- Electrocutation - electrocution on OHLs is possible either where a bird can touch a conductor while it is perched on an earthed tower, touch a conductor and the earth wire simultaneously or touch two conductor wires simultaneously. The design and configuration of the wires and wood poles of modern OHLs means that none of these scenarios are possible the gaps between the conductors and the perch points will be greater than the wingspan of perching bird species likely to be encountered in this area, or the configuration of OHL elements otherwise rules out the possibility of electrocution.
 - Operational disturbance - the OHL will require only occasional site visits either on foot or in vehicles for maintenance activities. While the Proposed Development may also result in disturbance arising from low-level noise and visual effects associated



with the wires and wood poles, the magnitude of these potential impacts is considered too low to cause significant effects on bird populations.

- Effects on non-sensitive populations - a detailed assessment of bird populations that are present but sufficiently widespread, unthreatened and resilient to the potential effects arising from the Proposed Development will not be undertaken. Full justification for Scoping out certain populations will be provided in the ES, where relevant.

APPROACH TO ADDITIONAL MITIGATION

ECOLOGICAL

- 8.89. The design of the Proposed Development will continue to factor in the mitigation hierarchy, whereby ecological features of high ecological importance and sensitivity are avoided, where possible, or impacts are minimised. Specifically for bats, impacts will be minimised by avoiding fragmentation of linear habitat features (watercourses, woodland edges, treelines and hedges), where possible.
- 8.90. The assessment will identify and set out mitigation required in relation to IEFs and / or protected habitats and species, where the assessment concludes likely significant effects could occur. For the construction phase, these are likely to include, but are not limited to the following:
- Retain habitat IEFs wherever possible and protect trees according to British Standard (BS) 5837: 2012 – Trees in relation to design, demolition and construction;
 - Pre-works checks for protected and / or notable species ahead of activities such as ground and vegetation clearance;
 - Temporary lights used during construction should be fitted with shades to prevent light spillage outside the working area;
 - Temporary lights should not illuminate habitats favoured by nocturnal or crepuscular species such as bats and otter; and
 - The capping of ends of any pipeline when unattended, to prevent animal access.
- 8.91. An outline CEMP will be submitted with the ES which will cover standard best practice construction techniques and compliance with relevant regulations. If the assessment identifies that additional protection and mitigation measures, as well as monitoring programmes, are required to reduce or minimise a significant effect, these will be clearly identified in the ecology ES chapter. The mitigation measures will be audited by a suitably qualified ecologist or ECoW.
- 8.92. The risk of pollution from surface runoff to watercourses and aquatic habitats will be prevented by ensuring that runoff control measures, such as appropriate buffers as determined within the CEMP, interceptor drains and silt traps to assist in maintaining water quality, are in place.



- 8.93. An outline HMP will be developed to outline mitigation and enhancement / compensation for biodiversity. In June 2021, the Senedd declared a nature emergency, stating “*we now have an obligation to reset biodiversity targets and to back those up with investment, with plans for nature-based solutions, projects to centre on species recovery and changes that will prioritise healthy green and blue habitats across Wales.*” The outline HMP will therefore highlight ways in which the Proposed Development can offer ecological enhancement, and Net Biodiversity Benefit will be delivered. Habitat loss as a result of infrastructure construction will be compensated. This may include, but is not limited to, restoration of native habitats within the Study Area that are currently of limited ecological value, compensatory planting, increasing the connectivity of habitats and consultation with local and / or regional stakeholders on land use and appropriate management for biodiversity.
- 8.94. Areas of temporary infrastructure required during construction of the Proposed Development will be reinstated during operation to allow the natural recolonisation of habitats. Habitat management described in the outline HMP will form the basis of a more detailed HMP, which will be in place during the operational phase of the Proposed Development.

ORNITHOLOGICAL

- 8.95. Mitigation measures may include location- or species-specific buffers or timing restrictions to avoid disturbance to sensitive bird species during the construction phase and installing line markers or ‘bird diverters’ as appropriate to reduce collision risk during the operational phase.

CONSULTEE LIST

- 8.96. It is proposed that the following stakeholders will be consulted in relation to the assessment:
- PCC; and
 - NRW.

PROPOSED SCOPE OF THE EIA

- 8.97. **Table 8.2** provides a summary of ecology and ornithology elements proposed to be scoped in / out of the EIA.

Table 8.2: Proposed EIA Scope.

MATTER	SCOPED IN / OUT	JUSTIFICATION
ECOLOGY		
International and national sites designated for biodiversity	Construction - River Wye SAC, SSSI and its tributaries scoped in. Remainder scoped out. Operation - River Wye SAC, SSSI and its tributaries scoped in. Remainder scoped out.	The Proposed Development crosses this designated site. Potential impact from silt and pollution run off and impact to otter habitat.



MATTER	SCOPED IN / OUT	JUSTIFICATION
Local (statutory) sites designated for biodiversity and Ancient Woodlands	Construction - Ancient Woodland scoped out. Other LWSs scoped out. Operation - Ancient Woodland scoped out. Other LWSs scoped out.	The Proposed Development passes close to but avoids direct impact to Ancient woodland and no Woodland is planned to be felled.
Section 7 Priority Habitats on Welsh list, GWDTEs	Construction - Scoped in Operation - Scoped out	The Proposed Development passes through or close to upland flushes and swamps; upland heathland; broad-leaved woodland; purple moor grass and rush pastures; rivers; hedgerows.
Hazel dormouse, otter, GCN, water vole, badger, vascular and non-vascular plants, and invasive non-native species	Construction – Scoped in Operation – Scoped out	Suitable habitat / potential exists on or near the Proposed Development which could be impacted during the works, and / or local records identified in data search.
Reptiles, red squirrel, pine marten	Construction - Scoped out Operation – Scoped out	Reptiles scoped out due to accepted practice of habitat manipulation to avoid impact. No suitable red squirrel or pine marten habitat being affected and small footprint of the Proposed Development. The Study Area is not within any known range of red squirrel population.
Aquatic invertebrates and fish	Construction - Scoped out Operation – Scoped out	These species will be protected from effect via good construction methods embedded in project design and delivered through an outline CEMP. Population data are not required to inform this process. The footprint of the Proposed Development is small and therefore avoiding significant effects on these species will be straightforward.



MATTER	SCOPED IN / OUT	JUSTIFICATION
Bats - roosting	Construction - Scoped out Operation – Scoped out	The number of trees with potential to be impacted by the Proposed Development, which support features suitable for roosting bats is low. The features and their locations are characteristic of those used by common and widespread species of bats. These features are widespread within the surrounding landscape and so the Proposed Development will not result in a significant loss of roosting opportunities. However, static bat detectors will be deployed in suitable habitat within the Study Area, and these will be supplemented by data search information and habitat assessment for bats. Therefore, an understanding of the bat species and activity levels will be gained for the Proposed Development. This is considered sufficient baseline data to inform the ES, and appropriate surveys will be undertaken prior to construction, where required.
Bats – commuting and foraging	Construction - Scoped in Operation – Scoped out	Where works to tree lines and hedgerows may impact foraging and commuting habitat and habitat connectivity.
ORNITHOLOGY		
International and national sites designated for birds.	Construction - Scoped out Operation – Scoped out	There are no ornithological designated sites within the relevant Study Area.
Breeding, wintering / passage birds	Construction - Scoped in Operation – Scoped in	Effects on breeding and wintering / passage bird populations could occur because of disturbance and / or



MATTER	SCOPED IN / OUT	JUSTIFICATION
		displacement during construction and as a result of collision mortality during the operational phase of the Proposed Development.



CHAPTER 9 – HISTORIC ENVIRONMENT

INTRODUCTION

- 9.1. This chapter sets out the proposed approach to the assessment of likely significant effects on the historic environment⁸⁹ during construction and operation of the Proposed Development.
- 9.2. The historic environment is defined in PPW Edition 12 (2024) as comprising all surviving physical elements of past human activity, the individual elements of which constitute historic assets. These historic assets can include historic buildings, places, landscapes, as well as archaeological remains that provide physical evidence of past human activity and hold of sufficient value (i.e. heritage significance) to this and future generations to merit consideration in the planning system.
- 9.3. There are interrelationships related to the potential effects on the historic environment. Therefore, please also refer to the following chapters:
- **Chapter 7 – Landscape And Visual Amenity.**

STUDY AREA

- 9.4. The Study Area for the historic environment topic at Scoping comprises an area extending 2 km from the centre line of the Proposed Development and was chosen as it enables the identification of historic assets likely to experience direct effects, including those resulting from setting change. The Study Area is shown on **Figure 9.1: Historic Assets within 2 km Study Area.**

EXISTING CONDITIONS

INFORMATION SOURCES

- 9.5. The following sources of information have been reviewed during desk-based research to inform this Scoping Report:
- Data on designated historic assets in the Study Area⁹⁰; and
 - Heneb Historic Environment Record (HER) data for the Study Area (Received May 2025).

BASELINE CONDITIONS

- 9.6. There are 33 designated historic assets within the Study Area (see **Figure 9.1**). These comprise:
- 26 scheduled monuments:

⁸⁹ The Welsh policy terminology 'historic environment' equates to the EIA Regulations terminology 'archaeology and cultural heritage'.

⁹⁰ Spatial data for these has been sourced from MapDataWales, Available at: <https://datamap.gov.wales/search/?limit=20&offset=0>. With the exception of Conservation Areas, which are maintained by the LPA, all designated asset data originates from Cadw. Accessed 08/08/2023.



- 17 prehistoric funerary and ritual assets comprising Cillberllan and Castle Bank ring cairns (Cadw Refs. RD226; RD228), seven round cairns (Cadw Refs. RD223; RD239; RD240; RD122; RD222; RD221; RD227), Gelli Hill Round Barrow (Cadw Ref. RD034), Cwm, Court and Ffrwd standing stones (Cadw Refs. RD229; RD225; RD238), Bryntwppa and Court stone rows (Cadw Refs. RD236; RD224) and Gelli Hill Stone Circle (Cadw Ref. RD028);
 - Three later prehistoric hillforts at Castle Bank, The Gaer and Cwm Berwyn (Cadw Refs. RD149; RD237; RD123);
 - Carreg-Wiber Bank Earthwork (Cadw Ref. RD031);
 - Medieval settlement remains at Pant y Rhiw and Garnfawr and a platform house at Upper House (Cadw Refs. RD158; RD184; RD175); and
 - Colwyn and Fforest Wood motte and bailey castles (Cadw Refs. RD035; RD075).
 - Seven grade II listed buildings comprising:
 - Hope Chapel, house and vestry (Cadw Ref. 23028); and
 - Farmhouses and traditional farm buildings located to the west and south-west of the Proposed Development (Cadw Refs. 83722; 83714; 83709; 83485; 83708; 83487).
- 9.7. A further 552 non-designated historic assets are recorded on the Henneb HER within the Study Area. These are characterised by possible prehistoric funerary monuments, medieval building platforms, evidence of cultivation, clearance cairns and earthen banks that may represent relict field boundaries; most non-designated assets are post-medieval and include houses, traditional farm buildings, field systems, fords and wells.
- 9.8. Of the 552 non-designated assets, seven are recorded within 50 m of the centre line of the Proposed Development. These comprise evidence of agricultural cultivation (Henneb Refs. Primary Record Number (PRN) 213183; PRN213182), and post-medieval domestic and agricultural features (Henneb Refs. PRN213320; PRN213421; PRN213365; PRN143633; PRN143635). These assets may be susceptible to direct physical effects during construction. In addition, there is potential for previously unrecorded historic assets, including buried archaeological remains to be present within the construction footprint of the Proposed Development.
- 9.9. Designated assets forming the baseline are not predicted to experience direct physical effects during construction; however, there is the potential for previously unrecorded buried archaeological remains to be present in close proximity to prehistoric funerary and ritual monuments. The defined scheduled area for the Court Stone Row (Cadw Refs. RD224) is approximately 60 m from the centre line of the Proposed Development.
- 9.10. Of the 26 scheduled monuments within the Study Area the putatively contemporary Court Standing Stone and Court Stone Row (Cadw Refs. RD225; RD224) have the potential to experience setting change that could affect the contribution their setting makes to their



heritage significance. Understanding these setting relationships will be a key consideration of the assessment.

- 9.11. Castle Bank Hillfort (Cadw Ref. RD149), Castle Bank Ring Cairn (Cadw Ref. RD228), The Gaer Hillfort (Cadw Refs. RD237) and Cillberllan Ring Cairn (Cadw Ref. RD226) have the potential to experience some degree of setting change during operation. Due to the nature and scale of the Proposed Development, the distance from these assets from the Proposed Development and the contribution their setting makes to their heritage significance, the presence of Proposed Development is not predicted to affect their overall heritage significance.
- 9.12. The remaining 20 scheduled monuments are not predicted to have intervisibility with the Proposed Development, or to experience setting change during the operation of the Proposed Development.
- 9.13. Designated for its special architectural interest as a well-preserved chapel showing the mid-19th transition in Wales, the setting of Hope Chapel Listed Building (Cadw Ref. 23028) includes its rural surroundings, roadside location and relationship with the community it served.
- 9.14. The remaining listed buildings within the Study Area are of evidential and historic illustrative value as good examples of local agricultural farm buildings and farmhouses. The contribution their setting makes to their heritage significance is primarily derived from their functional relationships and the agricultural surroundings.
- 9.15. Given the nature, scale and location of the Proposed Development, direct effects resulting from setting change to all seven listed buildings are not predicted.

FUTURE BASELINE

- 9.16. Future baseline relates to likely changes to the baseline between now and construction of the Proposed Development which will be considered in the assessment for this topic.
- 9.17. Whilst no significant changes to the historic environment baseline are anticipated, the following may occur:
 - Further historic assets are discovered;
 - The status of some historic assets may change (i.e. assets currently non-designated may become designated and vice versa);
 - Historic assets may become better understood due to advances in knowledge and / or technology;
 - The condition of assets may change due to climate change and / or changes in rural land management regimes in the post-Brexit subsidy environment; and
 - Some assets may be damaged or destroyed by forces related to climate change (e.g. peatland wildfires, erosion associated with increased frequency and severity of cloudburst events).



- 9.18. The ES will address this uncertainty over baseline with appropriate post-Scoping consultation with relevant consultees to establish cut-off dates for baseline data gathering and realistic future baseline scenarios to be assessed.

DATA COLLATION AND ASSESSMENT METHODOLOGY

LEGISLATION, POLICY, AND GUIDANCE

- 9.19. The assessment of effects of the Proposed Development on the historic environment will be carried out in accordance with the principles contained within the following documents:
- Welsh Government (2021) PPW⁹¹;
 - Welsh Government (2017) TAN 24: the historic environment²⁹;
 - Cadw (2011) Conservation Principles for the sustainable management of the historic environment in Wales⁹²;
 - Cadw (2017) Setting of Historic Assets in Wales⁹³;
 - Cadw (2017) Heritage Impact Assessment in Wales⁹⁴;
 - Chartered Institute for Archaeologists (CIfA) (2017) Standard and guidance for historic environment desk-based assessment⁹⁵; and
 - Institute of Environmental Management and Assessment (IEMA), CIfA and Institute of Historic Building Conservation (IHBC) (2021) Principles of Cultural Heritage Impact Assessment in the UK⁹⁶.

PROPOSED STUDY AREA

- 9.20. The 2 km Study Area will be retained for the historic environment baseline for the ES.
- 9.21. In addition, designated historic assets beyond the 2 km Study Area will be screened, and any asset with the potential to experience significant effects due to setting change will be included in the baseline for the assessment.

⁹¹ Welsh Government (2021) Planning Policy Wales. Available at: <https://www.gov.wales/planning-policy-wales> Accessed 17/09/2025.

⁹² Cadw (2011) Conservation Principles for the sustainable management of the historic environment in Wales. Available at: <https://cadw.gov.wales/advice-support/historic-assets/conservation-principles> Accessed 17/09/2025.

⁹³ Cadw (2017) Setting of Historic Assets in Wales. Available at: <https://cadw.gov.wales/sites/default/files/2019-05/Setting%20of%20Historic%20Assets%20in%20Wales%20EN.pdf> Accessed 17/09/2025.

⁹⁴ Cadw (2017) Heritage Impact Assessment in Wales. Available at: <https://cadw.gov.wales/sites/default/files/2019-05/20170531Heritage%20Impact%20Assessment%20in%20Wales%2026917%20EN.pdf> Accessed 17/09/2025.

⁹⁵ CIfA (2017) Standard and guidance for historic environment desk-based assessment Available at: https://www.archaeologists.net/sites/default/files/CIfAS%26GDBA_4.pdf Accessed 17/09/2025.

⁹⁶ Institute of Environmental Management and Assessment, CIfA and Institute of Historic Building Conservation (IHBC) (2021) Principles of Cultural Heritage Impact Assessment in the UK Available at: https://www.archaeologists.net/sites/default/files/j30361_iema_principlesofchia_v8.pdf Accessed 17/09/2025.



DATA COLLECTION – DESK-BASED

- 9.22. A further desk-based study will identify the key characteristics of the Study Area and will collate baseline information from available sources to inform the subsequent field survey. The desk-based study will involve review of but not be restricted to:
- Updated data on historic assets identified in the Information Sources section above;
 - Published sources on the archaeological and historical background of the area;
 - Historic mapping, including archival sources such as tithe maps;
 - Aerial photography – both recent digital and historic coverage (historic aerial coverage is held by RCAHMW and Welsh Government);
 - Publicly accessible LiDAR data;
 - ZTVs and visualisations (if required); and
 - Findings of other relevant topics (Landscape and Visual Amenity, Hydrology, Hydrogeology and Geology).

DATA COLLECTION – FIELD STUDIES

- 9.23. Field survey comprising a targeted walkover survey and site visits has been undertaken to inform the assessment prior to Scoping. The walkover focused on the preferred route option and site visits to historic assets with the potential to experience significant effects related to setting change. A selection of photographic images will be utilised in the baseline reporting.
- 9.24. The results of the assessment process will be reported as a supporting appendix to the ES. The ES chapter will include an appropriate summary of the conclusions, plus any other supporting surveys / studies, and detail the likely significant effects of the Proposed Development upon the historic environment.
- 9.25. Given the nature of the Proposed Development, archaeological field survey, such as targeted geophysical survey, are not anticipated to be required to inform the ES.

ASSESSMENT METHOD

- 9.26. In historic environment policy and guidance, the significance, hereafter referred to as 'heritage significance' to separate from the EIA concept of 'significance,' of a historic asset which comprises a series of qualities, known as 'heritage values'. The heritage significance of assets will be articulated using the heritage values in Conservation Principles⁹². Explanation of heritage significance will include assessment and discussion of whether and how an asset's setting contributes to its heritage significance and allows this to be appreciated.

IMPORTANCE

- 9.27. Whilst heritage values help describe the heritage significance of assets, they do not articulate the relative importance of assets. For the purposes of the ES, the 'importance' of



assets will be ascribed using the following criteria, informed by the designation criteria and the Research Framework for the Archaeology of Wales⁹⁷:

- **High** – historic assets of national significance. This will comprise designated historic assets and non-designated assets of demonstrably equivalent significance;
- **Medium** – historic assets of regional significance. Identified with reference to regional priorities from the Research Framework for the Archaeology of Wales; and
- **Low** – historic assets of local significance.

- 9.28. All effects will be assessed in terms of the way in which the Proposed Development will, either physically or through change in setting, affect the heritage significance of the historic asset. This will be articulated with reference to the Conservation Principles heritage values. In articulating effects, a judgement will be made on the level of harm or benefit a historic asset will experience as a result of the Proposed Development, supported by an appropriate narrative linking this to how the asset will have its heritage significance changed. Assessment of effects related to setting change will be undertaken using the staged approach laid out in the Cadw setting guidance. In articulating effects, a clear statement will be made as to whether the effect is considered to be significant in EIA terms (i.e. constitutes a significant environmental effect). As there is currently no relevant sector guidance covering what constitutes significant environmental effect, this judgment will be made based on the level of direct physical and other effects to each asset. Although this will be evaluated on an asset-by-asset basis it is expected that an effect to an asset of at least regional significance which results in either its total removal or very much reduces its heritage significance will be a significant effect. This does not rule out significant effects arising as a result of other levels of effect to assets of lower levels of importance. The potential for such effects to be significant effects will be kept under review during the course of the EIA.
- 9.29. The assessment of cumulative effects will review the agreed list of cumulative schemes for the Proposed Development and identify whether any further effects (i.e. effects that will not be caused solely by the Proposed Development itself) will arise. This assessment will be undertaken and articulated in the same terms as the assessment of the effects of the Proposed Development in its own right.

LIKELY SIGNIFICANT EFFECTS

EMBEDDED MITIGATION MEASURES

- 9.30. In the first instance the Proposed Development will continue to seek to avoid and minimise effects by design. This will primarily be achieved by close involvement of historic environment specialists in the design process so issues are highlighted at an early stage and design interventions can be made to avoid or minimise harm to assets. The historic environment specialist will also input to the CEMP to design realistic control measures to avoid accidental damage to historic assets during the construction period.

⁹⁷ The Research Framework for the Archaeology of Wales is available at: <https://archaeoleg.org.uk> Accessed 17/09/2025.



- 9.31. Where interaction of the Proposed Development and historic assets cannot be completely avoided, good practice and additional mitigation measures to prevent, reduce, and / or where possible offset these effects will be proposed.

POTENTIAL EFFECTS SCOPED INTO THE ASSESSMENT

- 9.32. At this stage, the following potential effects, including cumulative effects, appear to have potential to arise as a result of the Proposed Development so are scoped in:
- Direct physical effects to historic assets arising during the construction period;
 - Direct effects resulting from setting change to assets during the operational period; and
 - Cumulative effects.

POTENTIAL EFFECTS SCOPED OUT OF THE ASSESSMENT

- 9.33. On the basis of the work undertaken to date, the professional judgement of the assessment team and experience from other similar Proposed Developments and consultation responses, it is proposed that the following effects can be scoped out due to the design evolution process and implementation of the above standard good practice construction measures:
- Direct physical effects to historic assets during operation and maintenance (since direct physical effects will only occur during construction);
 - Direct physical effects to assets beyond the land required for construction;
 - Effects resulting from setting change during construction due to the temporary nature of construction activities; and
 - Indirect physical effects resulting from construction.

APPROACH TO ADDITIONAL MITIGATION

- 9.34. Owing to the nature of the Proposed Development, it is envisaged that additional mitigation is likely to focus on addressing direct physical effects to historic assets. The approach to mitigation will be guided by industry common practice and appropriate procedures as laid out in the relevant ClfA standards and guidance documents and consultation with the relevant historic environment advisory body.

CONSULTEE LIST

- 9.35. It is proposed that the following stakeholders will be consulted in relation to the assessment:
- Cadw;
 - PCC; and
 - Heneb: The Trust for Welsh Archaeology.



PROPOSED SCOPE OF THE EIA

9.36. **Table 9.1** provides a summary of the proposed scope of the ES.

Table 9.1: Proposed EIA Scope.

MATTER	SCOPED IN / OUT	JUSTIFICATION
Direct physical effects to historic assets within the Proposed Development	Construction - Scoped in Operation – Scoped out	Potential for Likely Significant Effects during construction to historic assets.
Effects related to setting change for assets within the Study Area	Construction – Scoped out Operation - Scoped in	Potential for Likely Significant Effects during operation to historic assets resulting from setting change.
Direct physical effects	Construction – Scoped in Operation - Scoped out	Direct physical effects will only occur during construction
Direct physical effects to assets beyond the Proposed Development footprint	Construction - Scoped out Operation – Scoped out	There will be no direct physical effects to historic assets beyond the land required for construction as direct physical effects can only occur within the areas where construction will take place.
Effects related to setting change for assets	Construction - Scoped out Operation – Scoped out	Direct effects resulting from setting change during construction due to the temporary nature of construction activities.



CHAPTER 10 – GROUND CONDITIONS, HYDROLOGY, GEOLOGY AND HYDROGEOLOGY (INCLUDING PEAT)

INTRODUCTION

- 10.1. This chapter presents the proposed scope of work for the assessment of the likely significant effects of the Proposed Development upon the ground conditions, hydrology, geology and hydrogeology (including peat). This chapter includes an assessment of flooding, water quality including consideration of spring lines, flushes and GWDTEs. The geological assessment includes soils, strata, geoconservation and geodiversity.
- 10.2. There are interrelationships related to the potential effects on ground conditions, hydrology, geology and hydrogeology (including peat). Therefore, please also refer to the following chapters:
- **Chapter 8 – Biodiversity (Including Ornithology)**

STUDY AREA

- 10.3. The Study Area comprises the area that could be directly affected by the Proposed Development with a 250 m buffer within which potential effects may occur. Specific features of interest that lie outside of the buffer zone may be included where required for example, if there is a particular hydraulic catchment of interest. The Study Area is shown on **Figure 10.1: Hydrological and Geological Study Area**.

EXISTING CONDITIONS

INFORMATION SOURCES

- 10.4. The following sources of information have been reviewed during the desk-based research for this Scoping Report and will be considered in the assessment as part of the ES:
- Topographical information for the alignment is provided by OS mapping and LiDAR data:
 - Designated nature and conservation sites identified using information from NRW's mapping database⁹⁸;
 - Solid and superficial geological information is provided by British Geological Survey (BGS) mapping⁹⁹ and the UK Soil Observatory Map viewer¹⁰⁰;
 - Information relating to aquifers provided by BGS Geoindex⁹⁹;

⁹⁸ Natural Resources Wales. Find protected areas of land and sea. Available at: <https://naturalresources.wales/guidance-and-advice/environmental-topics/wildlife-and-biodiversity/protected-areas-of-land-and-seas/find-protected-areas-of-land-and-sea/?lang=en> Accessed 30/10/2025.

⁹⁹ British Geological Survey. GeoIndex Onshore. Available at: <https://mapapps2.bgs.ac.uk/geoindex/home.html> Accessed 30/10/2025.

¹⁰⁰ UKSO. UK Soil Observatory. Available at: <https://mapapps2.bgs.ac.uk/ukso/home.html> Accessed 30/10/2025.



- Flood risk across the Study Area indicated by NRW online flood mapping¹⁰¹;
- Information pertaining to water quality at and near the Study Area is provided by NRW river basin management plans¹⁰², NRW Water Watch Wales map gallery¹⁰³ and Cycle 3 rivers and waterbodies mapping¹⁰⁴; and
- Bryn Gilwern and Aberedw Grid Connection: Geotechnical Desk Study¹⁰⁵.

BASELINE CONDITIONS

GEOLOGY AND SOILS

- 10.5. The Study Area lies within the area covered by the 1:50,000 scale BGS Sheet 197 (Hay-on-Wye). Bedrock across the alignment (shown in **Figure 10.2: Bedrock Geology**) is mapped as a complex series of mudstones and volcanic rocks of the Ordovician age. The northernmost section of the alignment is mapped as Camnant Mudstone Formation and an unnamed microgabbro igneous intrusion of Ordovician age. The southern area of alignment comprises the Gilwern Volcanic Formation (Lapilli Tuff) and Builth Mudstones Formation and Laminated Hemipelagic Mudstone interbedded.
- 10.6. Superficial deposits of Glacial Till are mapped across the majority of the Study Area (shown in **Figure 10.3: Superficial Geology**), with a small area of Alluvium mapped around Colwyn Brook in the southern section of the alignment. Head Deposits are also present in very small, discrete areas.
- 10.7. No peat is mapped along the alignment and a previous Stage 1 survey did not identify peat, with only few areas of organic soils (less than 30 cm) identified within the Study Area (shown in **Figure 10.5: Phase 1 Peat Depth Survey**).
- 10.8. BGS mineral resource map for Wales indicates the large igneous intrusions of tuffs, microgabbros and small dolerite intrusions are designated as potential igneous rock mineral resources.
- 10.9. Cranfield Soilscape have categorised the majority of soils along the alignment as Soilscape 17, slowly permeable seasonally wet acid loamy and clayey soils, these soils have impeded drainage, so water drains to stream networks. The northern section of the alignment is mapped as Soilscape 19 described as slowly permeable wet very acid upland soils with a peaty surface, these soils have impeded drainage, so water drains to stream networks. The central area of the alignment is mapped as Soilscape 13, which is described as freely draining acid loamy soils over rock, this soil type drains freely to groundwater and the river network.

¹⁰¹ Natural Resources Wales. Flood and Coastal Erosion Risk Maps. Available at: <https://flood-risk-maps.naturalresources.wales/> Accessed 30/10/2025.

¹⁰² Natural Resources Wales. River basin management plans. Available at: <https://naturalresourceswales.gov.uk/evidence-and-data/research-and-reports/water-reports/river-basin-management-plans/?lang=en> Accessed 30/10/2025.

¹⁰³ Natural Resources Wales. Water Watch Wales. Available at: <https://waterwatchwales-nrw.hub.arcgis.com/> Accessed 30/10/2025.

¹⁰⁴ Natural Resources Wales (2023) Water Framework Directive (WFD) River Waterbodies Cycle 3. Available at: https://datamap.gov.wales/layers/geonode:nrw_wfd_river_waterbodies_c3_baseline_classification Accessed 30/10/2025.

¹⁰⁵ LSTC Group. 20_231078_16, August 2024



- 10.10. The BGS mapping does not record areas of land instability within the Study Area, and no visual signs were recorded during a walkover survey.
- 10.11. A designated SSSI, Colwyn Brook Marshes (north and south) lies in close proximity (less than 50 m) to the alignment (**see Figure 10.4: Flood Risk**). Whilst this SSSI is not directly affected by the alignment, its protected status includes potential peat deposits, and the wetlands are designated for otter and scarce invertebrate species.
- 10.12. Whilst the Unified Peat Map of Wales shows no peat mapped across the Study Area, the later Data Map Wales 'Peatlands of Wales Thickness' layer¹⁰⁶ shows potential peat deposits in the northern extent.
- 10.13. A Phase 1 peat depth survey was undertaken in January 2025 to support Scoping and the proposed alignment layout. No peat deposits more than 30 cm were encountered with some areas of shallow organic soils encountered in three sections close to the proposed alignment. The organic soil depths ranged from 6-20 cm and was encountered in constrained areas in the northern extent as shown in **Figure 10.5: Phase 1 Peat Depth Survey**.

HYDROLOGY

- 10.14. The Study Area drains via Camnant Brook and Colwyn Brook to the River Edw in the south-east. The River Edw is a tributary of the River Wye which is designated as a SAC and SSSI.
- 10.15. Several small watercourses, man-made drains, springs and flushes lie across or within close proximity to the alignment.

FLOODING

- 10.16. Data available from NRW indicates that the majority of the alignment is within Flood Zone 1 (low risk). Several small watercourses flowing across the alignment in the northern section are classified as at high risk of flooding however, these are within their defined channels / valleys. There is a high risk of flooding (Flood Zone 3) from rivers associated with the Camnant Brook crossing in the southern section of the alignment as shown on **Figure 10.4**.

HYDROGEOLOGY

- 10.17. The bedrock across the Study Area is predominantly classified by NRW as a Secondary B Aquifer with a very small area classified as a Secondary A Aquifer. These are defined as 'predominantly lower permeability layers which may store and yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering.'
- 10.18. The superficial Glacial Till deposits across the Study Area are classified by NRW as a Secondary Undifferentiated Aquifer. These are aquifers where it is not possible to apply either a Secondary A or B definition because of the variable characteristics of the rock type, and they have only a minor value.

¹⁰⁶ Welsh Government (2022) Peatlands of Wales Thickness. Available at: https://datamap.gov.wales/layers/geonode:peatlands_of_wales_thickness Accessed 30/10/2025.



- 10.19. The small areas containing Alluvium deposits are classified as Secondary A aquifers. These are defined as ‘permeable layers that can support local water supplies and may form an important source of base flow to rivers.’
- 10.20. Several springs are present within the Study Area, forming headwaters to the streams that drain into Camnant Brook. These springs are likely formed via a combination of groundwater seepage and soil throughflow.
- 10.21. According to the BGS, groundwater vulnerability across the Study Area is classified as medium to high.
- 10.22. PCC has provided information relating to Private Water Supplies (PWS) on and near to the Proposed Development. There are no identified PWS within 250 m of the Proposed Development.

FUTURE BASELINE

- 10.23. The future baseline relates to known or anticipated changes to the current baseline in the future which should be assessed in the ES.
- 10.24. With regard to flood risk and drainage, future baseline conditions are forecast by NRW, drawing on current best practice guidelines taking into account the likely impacts of climate change on rainfall intensities and, where applicable, peak river flows.
- 10.25. The assessment in the ES will consider the future scenario with respect to climate change resilience in regard to flood risk and managing surface water runoff.
- 10.26. The implementation of future cycles of Water Framework Directive (WFD) management plans driving future improvements in the ecological and chemical quality of water bodies will also be considered. However, under the ‘do nothing scenario’ based on current and future predicted agricultural practices together with future development, there is a likelihood that water quality in the identified watercourses will continue to deteriorate due to the influx of nutrients (phosphate) from farming activities.
- 10.27. In relation to geology and soils, there are no foreseeable notable changes anticipated either prior to, or during, the construction and operational phases.

DATA COLLATION AND ASSESSMENT METHODOLOGY

LEGISLATION, POLICY AND GUIDANCE

- 10.28. The following will inform the approach to the design and assessment of the Proposed Development:

LEGISLATION

- Control of Pollution Act 1974¹⁰⁷;

¹⁰⁷ Control of Pollution Act 1974. Available at: <https://www.legislation.gov.uk/ukpga/1974/40> Accessed 30/10/2025.



- Environmental Protection Act 1990¹⁰⁸;
- Environment Act 1995¹⁰⁹;
- Flood and Water Management Act (2010)¹¹⁰;
- Water Environment (WFD) (England and Wales) Regulations 2017¹¹¹;
- The Groundwater (England and Wales) Regulations (2009)¹¹²;
- UK Water Quality (Water Supply) Regulations 2010¹¹³;
- The Water Framework Directive¹¹¹; and,
- The Contaminated Land (Wales) (Amendment) Regulations 2012 and associated Contaminated Land Statutory Guidance for Wales (2012)¹¹⁴.

POLICY

- PPW TAN 15 Development and Flood Risk (2004, updated March 2025)²⁶; and
- PCC LDP (2011 – 2026)³⁴.

GUIDANCE

- PCC Strategic Flood Consequence Assessment (FCA) (2012)¹¹⁵;
- PCC Preliminary Flood Risk Assessment (2017 addendum)¹¹⁶;
- Land Use Planning System SEPA Guidance Note 31 Version 3 Guidance on Assessing the Impacts of Development Proposals on Groundwater Abstractions and Ground Water Dependent Terrestrial Ecosystems (2017)¹¹⁷;
- Statutory standards for Sustainable Drainage Systems (SuDs) – designing, constructing, operating and maintaining surface water drainage systems (Welsh Government 2018)¹¹⁸;

¹⁰⁸ Environment Protection Act 1990. Available at: <https://www.legislation.gov.uk/ukpga/1990/43/contents> Accessed 30/10/2025

¹⁰⁹ Environment Act 1995. Available at: <https://www.legislation.gov.uk/ukpga/1995/25/contents> Accessed 30/10/2025

¹¹⁰ Flood and Water Management Act 2010. Available at: <https://www.legislation.gov.uk/ukpga/2010/29/contents> Accessed 30/10/2025.

¹¹¹ The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017. Available at: <https://www.legislation.gov.uk/uksi/2017/407/contents/made> Accessed 30/10/2025.

¹¹² The Groundwater (England and Wales) Regulations 2009. Available at: <https://www.legislation.gov.uk/uksi/2009/2902/contents/made> Accessed 30/10/2025.

¹¹³ The Water Supply (Water Quality) Regulations 2010. Available at: <https://www.legislation.gov.uk/ksi/2010/994/contents/made> Accessed 30/10/2025

¹¹⁴ The Contaminated Land (Wales) (Amendment) Regulations 2012. Available at: <https://www.legislation.gov.uk/ksi/2012/283/made> Accessed 30/10/2025.

¹¹⁵ Powys County Council (2012) Strategic Flood Consequence Assessment Stage 1. Available at: https://en.powys.gov.uk/media/5851/Strategic-Flood-Consequence-Assessment---Stage-1-2012/pdf/ngStrategic_Flood_Consequence_Assessment_-_Stage_1_2012.pdf?m=1538146037010 Accessed 30/10/2025.

¹¹⁶ Powys County Council. Flood Risk Management. Available at: <https://en.powys.gov.uk/article/5575/Flood-Risk-Management>

¹¹⁷ <https://www.sepa.org.uk/media/144266/lups-gu31-guidance-on-assessing-the-impacts-of-development-proposals-on-groundwater-abstractions.pdf> Accessed 30/10/2025.

¹¹⁸ Welsh Government (2018) Statutory standards for sustainable drainage systems. Available at: <https://www.gov.wales/sites/default/files/publications/2019-06/statutory-national-standards-for-sustainable-drainage-systems.pdf> Accessed 30/10/2025.



- PCC Guidance for Pre-Application Approval and Full Application Approval of Sustainable Drainage (SuDS) on new developments (2018)¹¹⁹;
- SuDS Statutory Guidance (Welsh Government 2019)¹²⁰;
- Land Contamination Risk Management Guidance pages, the Land Contamination Technical Guidance pages and on the Land Affected by Contamination Pages of gov.uk¹²¹; and
- Contaminated land risk assessment. A guide to good practice. CIRIA C552, 2001¹²².

DATA COLLECTION – DESK-BASED

10.29. The desk-based assessment has been undertaken to establish the baseline hydrological, hydrogeological, geological and peat conditions of the Study Area which comprised the following:

- The determination of Study Area hydrogeology, geology and hydrology from maps and data published by BGS, Soilsdapes, Defra and NRW (already progressed and findings summarised in this Scoping Report);
- A review of existing sources of data, including NRW water quality and flood risk, abstraction licences and identification of other water uses;
- A review of data from PCC and NRW on PWS, consultation with NRW with respect to water resource issues within the catchments and, a PWS assessment; and
- A review of the Proposed Development and reports from other technical studies being undertaken, including ecological surveys which may identify areas of GWDTEs.

10.30. The above information will be used to support the application and summarised within key technical reports including:

- A Preliminary Risk Assessment (Desk Study) will be undertaken for the Study Area including consideration of all topics covered in this chapter including:
 - Geology (including RIGS / GCR sites);
 - Mineral reserves, mining and landfills;
 - Contaminated land; and
 - Land instability.

¹¹⁹ Powys County Council. Flood & Water Management Act 2010. Available at: https://en.powys.gov.uk/media/9045/Powys-CC-Pre-App-Form-FINAL-Version-05-11-18-eng/pdf/s0Powys_CC_Pre-App_Form_FINAL_Version_05_11_18_eng.pdf?m=1646060234673 Accessed 30/10/2025.

¹²⁰ Welsh Government (2019) Sustainable Drainage (SuDS) Statutory Guidance. Available at: <https://www.gov.wales/sites/default/files/publications/2019-06/statutory-guidance.pdf> Accessed 30/10/2025.

¹²¹ Gov.uk (2019) Land affected by contamination. Available at: <https://www.gov.uk/guidance/land-affected-by-contamination> Accessed 30/10/2025.

¹²² Rudland, D.J, Lancefield, R.M. and Mayell, P.N. (2001) CIRIA C552. Contaminated Land Risk Assessment: A Guide to Good Practice. London: CIRIA.



- The Desk Study will utilise all existing and proposed available data and consider potential risks to sensitive receptors in accordance with the methodology outline in CIRIA C552. The report will be appended to the ES.
- A FCA and outline drainage considerations which will include:
 - Obtaining NRW flood risk and model data for the Study Area which will include information on the risks associated with surface water run-off and groundwater flood risk;
 - A review of all data in the context of the Study Area topography and Proposed Development;
 - Consideration of the effects of Climate Change in accordance with current guidance;
 - Undertaking a review of the local Strategic Flood Risk Assessment (SFRA) to understand any local flooding issues, including evidence of flooding from sewers; and
 - Consideration of potential drainage implications from the alignment (A Drainage Assessment which will identify drainage mitigation measures to be included in the red line boundary (associated with the alignment and access and construction works)).
 - The FCA will consider potential risks to the Proposed Development arising from all sources of flooding. Advice will be given on the impact of flooding on the Proposed Development, where relevant. The main focus of the FCA will be demonstrating lack of detrimental impact to the catchment however, it is not envisaged that flooding will be a constraint to the Proposed Development's infrastructure itself. Therefore, it is not intended to undertake any detailed modelling to inform the FCA.

DATA COLLECTION – FIELD STUDIES

10.31. To inform the baseline surveys, a programme of field surveys has been undertaken comprising:

- Preliminary Site Walkover undertaken in August 2024;
- Mapping the Study Area for Phase 1 peat identification and soil logging in January 2025 as shown on **Figure 10.5** involving a regular grid (maximum spacing of 100 m) along the proposed alignment. All locations were cored / gouged such that a complete record of the soil profile (including presence of peat) was recorded for further assessment;
- A water features survey, mapping springs, flushes, watercourses, potential GWDTEs and other relevant salient water features (January 2025); and
- Preliminary estimations of stream water flows based on visual inspection only (no stream gauging) - January 2025.



10.32. If required following baseline surveys, the following detailed assessments will be undertaken:

- An assessment of the hydrological regime at the Study Area to assess potential impacts on GWDTEs.

ASSESSMENT METHOD

ASSESSING SIGNIFICANCE

10.33. The following criteria have been defined for use in assessing the sensitivity of receptors, the magnitude of anticipated change to receptors in the context of ground conditions caused by the Proposed Development, and the resulting magnitude of effect that is created.

SENSITIVITY

10.34. **Table 10.1** provides the framework for defining the sensitivity of receptors. There is no negligible sensitivity classification as this is not considered appropriate in the context of hydrological, geological and hydrogeological receptors.

Table 10.1: Classification of sensitivity.

CLASSIFICATION	DEFINITION	RECEPTORS
High	The receptor has little ability to absorb change without fundamentally altering its character, is of high environmental value, or of international importance.	• River Wye SSSI and SAC • Colwyn Brook Marshes SSSI • GWDTEs that are highly dependent on groundwater and local infiltration • PWSs or private abstractions that supply more than 25 people or 100 livestock • Principal aquifers • Active floodplain that protects residential properties • Peat
Medium	The receptor has moderate capacity to absorb change without significantly altering its character, has some environmental value, or is of regional or national importance.	• Active floodplain protecting industrial properties • Construction workers • GWDTEs which are moderately dependent on



CLASSIFICATION	DEFINITION	RECEPTORS
		groundwater and local infiltration. • Private water abstractions supplying less than 25 people or 100 livestock. • Secondary aquifers • Wider catchment area of a SSSI or SAC
Low	The receptor has high capacity to absorb change without significantly altering its character, has low environmental value, or is of local importance.	• Active floodplain in a low-risk flood zone • GWDTEs that are moderately dependent on groundwater but independent of local infiltration • Soils which are suitable only for grazing. • Groundwater that is of low quality or permeability and unexploited.

MAGNITUDE OF CHANGE

10.35. The potential changes brought about by the Proposed Development are identified and classified according to their magnitude of change. These changes are adverse unless specifically labelled as being beneficial. The categories of the magnitude of change are defined in **Table 10.2** with example definitions provided.

Table 10.2: Classification of magnitude of change.

CLASSIFICATION	EXAMPLE DEFINITIONS
Large	Activities result in a major pollution release (Category 1) or create / remove a pollutant linkage with a substantial pollutant source. The Proposed Development could result in a significant change in terms of flooding, surface water drainage, hydrology, hydromorphology, water quality or hydrogeology which will cause irreversible or long term (over 10 years) changes to the receptor.



CLASSIFICATION	EXAMPLE DEFINITIONS
Medium	Activities result in a moderate pollution release (Category 2) or create / remove a pollutant linkage with moderate pollutant source. The proposals could result in moderate changes to flooding, surface water drainage, hydrology, hydromorphology, water quality or hydrogeology, which will recover over a medium period of time (5 to 10 years).
Small	Activities result in a minor pollution release (Category 3) or create / remove a pollutant linkage with a minor pollutant source. Temporary pathway or receptor is introduced or removed during construction phase. A slight change where the proposals could occasionally cause minor flooding, surface water drainage, hydrology, hydromorphology, water quality or hydrogeology change in the short term (1 to 5 years)
Negligible	There will be no perceptible changes.

SIGNIFICANCE

- 10.36. The predicted significance of the effect was determined through a standard method of assessment based on professional judgement, considering both sensitivity and magnitude of change as detailed in **Table 10.3**. **Major** and **moderate** effects are considered significant in the context of the EIA Regulations.

Table 10.3: Matrix for assessment of significance of effects.

		MAGNITUDE OF CHANGE			
		Large	Medium	Small	Negligible
SENSITIVITY	High	Major	Major	Moderate	Minor
	Medium	Major	Moderate	Minor	Negligible
	Low	Moderate	Minor	Negligible	Negligible



POTENTIAL SENSITIVE RECEPTORS

10.37. The predicted following sensitive receptors have been identified and will be considered within the ES:

- Colwyn Brook Marshes SSSI;
- Shallow peat deposits;
- Controlled waters namely Secondary B Aquifer (bedrock), Secondary Undifferentiated Aquifer (Glacial Till) and Secondary A Aquifer (Alluvium);
- Surface water bodies and watercourses;
- GWDTEs;
- PWS;
- Igneous rock mineral resource across Site;
- River Wye SSSI and SAC; and
- Offsite residential properties.

LIKELY SIGNIFICANT EFFECTS

10.38. Reflecting IEMA guidance on delivering proportionate EIA (IEMA 2017)⁵⁴, the scope and assessment assumes that relevant embedded and standard good practice applied measures will be in place. The overriding design principle for the Proposed Development will be to seek to avoid or minimise impacts on sensitive soil and water resources receptors.

EMBEDDED MITIGATION MEASURES

10.39. Embedded mitigation measures will include:

- The FCA and Outline Sustainable Drainage Strategy;
- The construction of the Proposed Development will be managed by use of the CEMP. This document will set out the requirements of all contractors working on the Proposed Development in adhering to environmental statutory requirements, guidance and best practice. The requirements of the CEMP will be assumed as applied mitigation within the assessment of effects during the construction phase. The CEMP will include the following measures:
 - Management of surface water during the construction phase, including attenuation and settlement of surface water to reduce silt loads entering waterbodies;
 - Proper storage and use of oils, fuels and construction chemicals;
 - Provision of Site-worker accommodation and sanitation facilities;
 - A construction phase surface water management plan; and
 - Management and removal of waste materials.



- 10.40. Works in close proximity to watercourses will be undertaken in accordance with relevant consents / permits including Ordinary Watercourse Consent / Flood Risk Activity Permit.

POTENTIAL EFFECTS SCOPED INTO THE ASSESSMENT

MINERAL RESERVES

- 10.41. The Study Area includes areas of possible mineral reserves for igneous rock mineral resources. At present, sufficient information has not been received from the mineral planning authority to assess if any part of the Study Area may be safeguarded. As a result, this will be covered in further detail within the desk study for the Proposed Development. At present, there is the potential to sterilise important mineral resources and therefore it is proposed to scope mineral reserves into the ES.

SOIL RESOURCE

- 10.42. The desk and field-based assessments have considered the presence of all sensitive surficial soils within the Study Area including peat. This information has informed the draft design of the Proposed Development and, where possible, infrastructure has been designed to avoid such areas. However, where this is not possible, suitable mitigation will be utilised. Whilst the alignment avoids the Colwyn Brook Marshes SSSI, it is in close proximity and therefore potential impacts to sensitive soils including peat within this SSSI may be recognised. Therefore, it is proposed to scope construction effects upon soils into the ES.

POTENTIAL EFFECTS SCOPED OUT OF THE ASSESSMENT

DRAINAGE AND FLOOD RISK

- 10.43. During the construction phase there is the potential for the alignment to increase surface water run off which may increase the flood risk outside the bounds of the Proposed Development through the formation of compounds, storage of materials, removal of vegetation and other temporary works (e.g. temporary watercourse crossings and tracks).
- 10.44. The application will be accompanied by a FCA which is considered to be standard mitigation and best practice on a project of this scale. The FCA will assess potential flood risk from all sources and provide suitable mitigation where required. In addition, the application shall consider the presence of flood zones in relation to the siting of infrastructure and will be undertaken with the conditions set out within consents and permits from the relevant authorities (e.g. Flood Risk Activity Permit or Ordinary Watercourse Consent), where required.
- 10.45. Furthermore, during the construction phase, the control of surface water runoff for the Proposed Development will be in accordance with an approved CEMP.
- 10.46. Therefore, it is proposed to scope Flood Risk and Drainage out of the ES.



WATERCOURSE POLLUTION

- 10.47. During the construction phase, a range of potential contaminants may be present within the Study Area to facilitate civil engineering activities. These include hydrocarbons (e.g., oils, fuels, creosote), chemical substances (e.g., construction additives and solvents), alkaline materials (e.g., unset cement and concrete), and construction-related wastes and wastewater. Good practice standard mitigation measures within the outline CEMP will minimise as far as reasonably practical the risk of pollution to hydrology, hydrogeology (including PWSs) and land drainage receptors during construction by removing the pathway between the source and the receptors for most of the working environment.
- 10.48. The most sensitive sites regarding pollution risk are where works involve watercourse crossings and / or where ground-based infrastructure are located in close proximity to watercourses. Works within watercourses, if required, and the construction of access tracks across watercourses, will be undertaken with the conditions set out within the consents and permits from the relevant authorities (e.g. Flood Risk Activity Permit or Ordinary Watercourse Consent). With the implementation of standard mitigation measures, no likely significant effects are anticipated and therefore it is proposed to scope drainage and water quality out of the ES during the construction phase.

HYDROLOGY

- 10.49. Based on the nature of the Proposed Development, during its construction there will be no large-scale consumptive water uses and no effects on the downstream continuity of flow in watercourses. Similarly, potential ancillary infrastructure such as temporary tracks will be surficial and, where required, include cross track drainage which will be determined and undertaken in accordance with the approved CEMP. The potential for likely significant effects on existing water interests including PWSs is therefore considered to be negligible and no significant effects on hydrology are anticipated. Therefore, it is proposed to scope this aspect out of the ES.

HYDROGEOLOGY (INCLUDING PWS AND GWTEs)

- 10.50. During the construction phase, the potential for alteration of groundwater flow regimes or aquifer properties is considered to be minimal, arising primarily from localised excavation and the installation of pole foundations. Such effects will be confined to the immediate area surrounding each structure and are anticipated to be negligible in scale and duration.
- 10.51. Consequently, no significant effects upon groundwater receptors, including GWTEs and PWS, are expected. Therefore, it is proposed to scope construction effects upon hydrogeology and water abstractions out of the ES.

LAND INSTABILITY AND MINING

- 10.52. Ground stability in relation to Study Area specific ground conditions and geohazards including mining will be considered within the engineering design of the Proposed Development. The design of all infrastructure will include (in accordance with best practice and industry guidance) suitable consideration of site-specific ground conditions, potential



ground instability and geohazard risks such that new infrastructure will not be adversely affected and will not generate any significant effects. This will include a Site-specific ground investigation undertaken post consent to inform the detailed design. Therefore, Land Instability and Mining is proposed to be scoped out of the ES.

CONTAMINATED LAND INCLUDING LANDFILLS

10.53. There are no recorded landfills present on or within the Study Area and the Study Area has remained in greenfield / agricultural use throughout its history. Therefore, it is proposed to be scoped out of the ES.

CUMULATIVE EFFECTS

10.54. Based on the discrete nature of the Proposed Development (isolated wood poles), no potential cumulative effects have been identified. Therefore, it is proposed to scope cumulative effects out of the ES.

OPERATIONAL EFFECTS

10.55. All maintenance activities will be undertaken in accordance with best practice and manufacturer's requirements. Therefore, no likely significant effects on any identified sensitive receptors are anticipated, and it is proposed that this aspect is scoped out of the ES.

APPROACH TO ADDITIONAL MITIGATION

10.56. No additional mitigation is proposed at this stage. Where significant effects on Water and Soil have not been avoided during design and the implementation of standard good practice measures, additional geographic / receptor specific measures will be identified to avoid / reduce likely significant effects.

CONSULTEE LIST

10.57. It is proposed that the following stakeholders will be consulted in relation to the assessment:

- PCC;
- NRW; and
- Welsh Government (LQAS).

PROPOSED SCOPE OF THE EIA

10.58. **Table 10.4** provides a summary of the proposed scope of the ES.



Table 10.4: Proposed EIA Scope.

MATTER	SCOPED IN / OUT	JUSTIFICATION
Watercourse pollution	Construction – Scoped out Operation – Out	Embedded mitigation and design will avoid significant effects to sensitive receptors.
Hydrology	Construction – Scoped out Operation – Scoped out	No works are proposed to Main Rivers. Where works are required within close proximity to ordinary watercourses (e.g. track crossings) additional surveys will be undertaken to obtain the necessary consents / permits.
Flood risk and drainage	Construction – Scoped out Operation – Scoped out	Significant effects covered by mitigation measures set out in the FCA and Outline Drainage Strategy for the Proposed Development and ground-based infrastructure. Significant effects during the construction phase including increased run-off from temporary compounds and interaction with flood zones where present which may increase flood risk offsite are covered in the FCA and CEMP.
Hydrogeology and water abstractions	Construction – Scoped out Operation – Scoped out	Significant effects covered by mitigation measures set out in the CEMP and Outline Drainage Strategy for the Proposed Development and ground-based infrastructure. Effects on sensitive receptors will be localised and minimal.
Land instability and mining	Construction – Scoped out Operation – Scoped out	Significant effects covered by standard / embedded mitigation including desk-based surveys and geomorphological Study Area walkover. Preconstruction ground investigations are to be undertaken, as deemed



MATTER	SCOPED IN / OUT	JUSTIFICATION
		necessary, to confirm the ground conditions and to support the foundation design for the wood poles.
Mineral reserves	Construction – Scoped in Operation – Scoped out	Further consideration required on potential impacts of mineral resource sterilisation.
Soil resource	Construction – Scoped in Operation – Scoped out	Embedded mitigation in the form of general good practice and an appropriate SMP will prevent significant effects. However potential significant effects may remain with loss of organic and mineral soils as a result of construction and possible impact to peat deposits within Colwyn Brook Marshes SSSI. Therefore, the ES will consider potential impacts on soils as a resource and how these may be managed throughout the construction phase to ensure that they remain suitable for reinstatement.
Contaminated land including landfills	Construction – Scoped out Operation – Scoped out	There is no evidence of recorded landfills across the Proposed Development.



CHAPTER 11 – CUMULATIVE EFFECTS

INTRODUCTION

- 11.1. This chapter sets out the proposed approach to the assessment of likely significant cumulative effects of the Proposed Development. **Chapters 7-10** include a brief description of the interrelationships between the standalone environmental topics.
- 11.2. Cumulative effects defined in the Design Manual for Roads and Bridges (DMRB)¹²³ guidance (LA104) as *“Impacts that result from incremental changes caused by other present or reasonably foreseeable actions together with the project”*.
- 11.3. There are two types of cumulative effects; intra-project and inter-project effects defined as follows:
- Intra-project effects: relate to effects to a receptor from within the Proposed Development only, for example, the impact of visual amenity changes alongside the impact of noise from the construction and operation of the Proposed Development on a residential property.
 - Inter-project effects: relate to the effects of the Proposed Development alongside the effects of other developments within the Study Area. For example, the construction traffic of the Proposed Development in combination with the construction traffic of wind farms and OHLs in the Study Area may lead to a temporary increase in traffic on the local road network.

STUDY AREA

- 11.4. The Study Area for the assessment of both intra and inter-project effects is defined by the Study Areas of each of the individual environmental topics covered in **Chapters 7-10**.

DATA COLLATION AND ASSESSMENT METHOD

LEGISLATION, POLICY AND GUIDANCE

- 11.5. The EIA Regulations require that an EIA *“must identify, describe and assess in an appropriate manner, in light of the circumstances relating to the proposed development, the direct and indirect significant effects of the proposed development (including, where the proposed development will have operational effects) on the factors specified in paragraph (3) and the interaction between those factors”*¹²⁴.
- 11.6. The EIA Regulations² (Schedule 4, Paragraph 5) require that the ES should consider the *“direct effects and any indirect secondary, cumulative, transboundary, short-term, medium-term and long-term, permanent and temporary, positive and negative effects of the development.”*

¹²³ National Highways (2020) LA 104 Environmental assessment and monitoring.

¹²⁴ The factors listed in paragraph 3 are human beings, fauna and flora, soil, water, air, climate and the landscape, material assets, and cultural heritage.



DATA COLLECTION – DESK-BASED

- 11.7. To identify cumulative developments within the Study Area the following data sources will be used:
- Large development projects (i.e. those that are listed on the Welsh Government Planning Casework portal and the DNS Applications website);
 - Nationally Significant Infrastructure Projects (NSIPs) listed on the Planning Inspectorate's Programme of Projects;
 - Committed development data will be obtained from PCC;
 - LDP data will be obtained from PCC; and
 - OS mapping will be used to inform the baseline and confirm the status of consented developments.
- 11.8. The final list of developments for inclusion within the inter-project cumulative assessment will be agreed with PCC and PEDW.

ASSESSMENT METHOD

INTRA-PROJECT EFFECTS

- 11.9. Following analysis of the likely receptors identified within the environmental topic Study Areas (see **Chapters 6 – 10**) and having regard to the likely interactions between separate effects on a receptor, the key receptors are considered by be residents living within nearby residential properties. Potential intra-project effects relate to effects associated with:
- Visual amenity during construction and operation (see **Chapter 7 – Landscape and Visual Amenity**);
 - Effects on private water supplies during construction (see **Chapter 10 – Ground Conditions, Hydrology, Geology and Hydrogeology (including Peat)**);
 - Construction traffic disturbance (see **Chapter 6**);
 - Construction noise (see **Chapter 6**); and
 - Dust from construction activities (see **Chapter 6**).
- 11.10. There are a limited number of residential properties within the vicinity of the Proposed Development, and these are geographically sparsely distributed and have been avoided during the routeing and design process. No private water supplies have been identified within 250 m of the Proposed Development, no significant effects on residential visual amenity are considered likely and noise, traffic and dust effects have been scoped out as these are also considered unlikely to be significant due to the nature of the Proposed Development.
- 11.11. On this basis, significant intra-project effects are considered unlikely, and it is proposed to scope out these effects from detailed assessment.



INTER-PROJECT EFFECTS

- 11.12. The assessment will consider the cumulative effects arising from the construction and operation of the Proposed Development in combination with other developments within the Study Area.
- 11.13. To ensure a robust assessment, a 'cut-off' date will be agreed with PEDW at which time only those developments will fall within the following list will be included in the cumulative assessment:
- Existing projects will be included as part of the baseline (and already assessed through each topic primary assessment);
 - Projects that are under construction;
 - Consented projects that have not yet been built but that have been granted consent within the last 5 years (or shorter should their planning permission expire before 5 years);
 - Projects submitted to planning within the 12 months prior to the ES being written that have not yet been determined;
 - Other projects that have been submitted for Scoping to PEDW where the design is sufficiently progressed to inform a robust assessment (to be agreed with the LPA and PEDW); and
 - Sites allocated within the relevant local authority's development plan within the Study Area.
- 11.14. Following the collation of a list of cumulative projects in the Study Area, the projects will be assessed relative to a threshold criteria to determine if the development has the potential to give rise to significant effects in combination with the Proposed Development.
- 11.15. Professional judgement will be used to apply the threshold criteria to determine if the development should be scoped in or scoped out of the assessment. The criteria for including development projects will review temporal scope, the scale and nature of the development and the sensitivity of the receiving environment.
- 11.16. The developments that are considered to potentially give rise to significant effects when in combination with the Proposed Development will then be assessed. The assessment will evaluate and outline the likely significant inter-project effects that may arise from the Proposed Development. The significance and magnitude of impact will be determined according to the criteria set out within the environmental topic chapters.

PROPOSED SCOPE OF THE EIA

- 11.17. **Table 11.1** provides a summary of the proposed scope of the ES in relation to cumulative effects.



Table 11.1: Proposed EIA Scope.

MATTER	SCOPED IN / OUT	JUSTIFICATION
Intra-project effects	Construction - Scoped out Operation – Scoped out	It is considered unlikely that multiple effects on the same receptor will be experienced due to the nature of the Proposed Development and the sparse geographic location of sensitive receptors for significant effects arising between environmental topics on the same receptors.
Inter-project effects	Construction - Scoped in Operation – Scoped in	There is the potential for significant effects to arise due to the development of multiple projects within the Study Area.



CHAPTER 12 – SUMMARY

PROPOSED SCOPE OF THE EIA

- 12.1. **Table 12.1** provides a summary of the full proposed scope of the topics proposed to be assessed in the ES; this has been further explained within the topic **Chapters 7-11**.

Table 12.1: Proposed Scope of individual topics.

TOPIC	SCOPED IN / OUT
LANDSCAPE AND VISUAL AMENITY	SCOPED IN
Landscape character (comprising Powys local LCAs, which is based on NLCAs and LANDMAP aspect areas)	Construction – Scoped in Operation – Scoped in
Bannau Brycheiniog National Park	Construction – Scoped out Operation – Scoped out
Visual receptors within the 2 km LVIA Study Area	Construction – Scoped in Operation – Scoped in
Residential Visual Amenity	Construction – Scoped out Operation – Scoped out
Cumulative landscape and visual effects	Construction – Scoped in Operation – Scoped in
BIODIVERSITY (INCLUDING ORNITHOLOGY)	SCOPED IN
ECOLOGY	
International and national sites designated for biodiversity.	Construction – River Wye SAC, SSSI and its tributaries scoped in. Remainder scoped out. Operation – River Wye SAC, SSSI and its tributaries scoped in. Remainder scoped out.
Local (statutory) sites designated for biodiversity and Ancient Woodlands.	Construction – Ancient Woodlands scoped out. Other LWSs scoped out. Operation – Ancient Woodlands scoped out. Other LWSs scoped out.



TOPIC	SCOPED IN / OUT
Section 7 Priority Habitats on Welsh list, GWDTEs	Construction – Scoped in Operation – Scoped out
Hazel dormouse, otter, GCN, water vole, badger, vascular and non-vascular plants, and invasive non-native species.	Construction – Scoped in Operation – Scoped out
Reptiles, red squirrel, pine marten	Construction – Scoped out Operation – Scoped out
Aquatic invertebrates and fish	Construction – Scoped out Operation – Scoped out
Bats - roosting	Construction – Scoped out Operation – Scoped out
Bats – commuting and foraging	Construction – Scoped in Operation – Scoped out
ORNITHOLOGY	
International and national sites designated for birds.	Construction – Scoped out Operation – Scoped out
Breeding, wintering / passage birds	Construction – Scoped in Operation – Scoped in
CULTURAL HERITAGE	SCOPED IN
Direct physical effects to historic assets within the Proposed Development	Construction - Scoped in Operation – Scoped out
Effects related to setting change for assets within the Study Area	Construction – Scoped out Operation - Scoped in
Direct physical effects	Construction – Scoped in Operation - Scoped out



TOPIC	SCOPED IN / OUT
Direct physical effects to assets beyond the Proposed Development footprint	Construction - Scoped out Operation – Scoped out
Effects related to setting change for assets	Construction - Scoped out Operation – Scoped out
GROUND CONDITIONS / HYDROLOGY / GEOLOGY / HYDROGEOLOGY (INCLUDING PEAT)	SCOPED IN
Watercourse pollution	Construction – Scoped out Operation – Scoped out
Hydrology	Construction – Scoped out Operation – Scoped out
Flood risk and drainage	Construction – Scoped out Operation – Scoped out
Hydrogeology and water abstractions	Construction – Scoped out Operation – Scoped out
Land instability and mining	Construction – Scoped out Operation – Scoped out
Mineral reserves	Construction – Scoped in Operation – Scoped out
Soil resource	Construction – Scoped in Operation – Scoped out
Contaminated land including landfills	Construction - Scoped out Operation – Scoped out
CUMULATIVE EFFECTS	SCOPED IN
Intra-project effects	Construction - Scoped out Operation – Scoped out



TOPIC	SCOPED IN / OUT
Inter-project effects	Construction - Scoped in Operation – Scoped in



APPENDIX

APPENDIX A - COMPETENT EXPERTS INFORMATION



APPENDIX A - COMPETENT EXPERTS INFORMATION

Table A.1: Competent Expert Details.

CHAPTER	QUALIFICATION / EXPERTISE OF PERSON RESPONSIBLE
Chapters 1-6: Introductory Chapters (prepared by LUC)	The Scoping Report was overseen by Kate Wigley BSc (Hons) MA MISEP CEnv . Kate is a Director of Environmental Planning and has over 20 years of professional EIA experience, specialising in integrated environmental design and EIA of major infrastructure projects, including overhead transmission lines. Kate has extensive experience of the routeing, Scoping and EIA stages of grid connection projects as well as being able to deliver high quality Environmental Statements. Her recent grid experience involves over 12 OHL transmission projects for SP Energy Networks and the SP Manweb Mid Wales Connections project in Powys, Wales. Kate has been involved in the Bryn Gilwern Proposed Development since its inception, overseeing the routeing stage. Kate has also recently provided expert EIA witness services at an inquiry for a transmission project.
Chapter 7: Landscape and Visual Amenity (prepared by LUC)	Paul Macrae MA Hon CMLI is a Chartered Landscape Architect with 20 years of experience in a range of landscape planning and assessment projects. Paul's work has included a wide range of LVIAs for major infrastructure projects and renewable energy developments, from initial feasibility through to evidence at Examination. He has undertaken routeing studies for overhead power lines and for underground pipelines. His recent work includes the routeing for the Towy Usk project, as well as routeing work for National Grid's Humber Trent GREEN project, and SSEN's Tealing to Kintore Reinforcement. Paul has also led LVIA for a number of DCO schemes for major offshore wind farms, including onshore grid connections and substations. Paul has extensive knowledge of landscape character assessment, and of the application of character assessment to issues including green belt, landscape protection, and development planning. Paul has prepared strategic landscape sensitivity studies for a range of purposes, and at a range of scales, across the United Kingdom.
Chapter 8: Biodiversity (including Ornithology)	Niall Machin is Director of Ecology at LUC with over 30 years of experience in ecology, ornithology and sustainability. He has worked on large scale infrastructure projects including energy, rail and port



CHAPTER	QUALIFICATION / EXPERTISE OF PERSON RESPONSIBLE
(prepared by LUC)	developments, including Welsh wind farm schemes for LUC. He has particular expertise in ecological assessment, ornithology and Habitat Regulations Assessment. He has appeared as expert ecology witness at a number of public inquiries, most recently for the Transpennine Route Upgrade for Network Rail. Niall sits on the CIEEM England Policy Board. Iain MacKenzie BSc MSc MCIEEM is an Associate Director of Ecology. Iain has over 20 years of professional ecological experience and has managed the ornithological components of more than 25 wind farm developments and eight OHL projects. A recognised ornithological expert, Iain is regularly called upon on to design and oversee complex ornithological surveys and undertake Ornithology Impact Assessments for large-scale projects. He is particularly adept in identifying key issues and managing consultation with stakeholders.
Chapter 9: Historic Environment (prepared by LUC)	David Bull BA (Hons) MCIfA is a Principal Historic Environment Consultant and has over 22 years of experience as a historic environment professional. He has worked on major infrastructure projects across the UK, including Wales. David is an experienced archaeologist and heritage consultant specialising in historic environmental assessment. David joined LUC's historic environment team in 2022 focusing on renewable energy projects. Previously he has worked on heritage assessments for road and rail transport, new nuclear and energy grid projects for a leading engineering consultancy. David benefits from his previous experience working in Wales as a heritage specialist with the Clwyd-Powys Archaeological Trust (now Heneb), as well as Historic England and local government planning services as a development control archaeologist.
Chapter 10: Ground conditions, hydrology, Geology and Hydrogeology (including peat) (prepared by Aquaterra)	The Scoping Report was overseen by James Mortimer B.Eng. James is Director of Aqua Terra Consultants Ltd and has 20 years of experience helping to deliver successful land regeneration and development schemes across the UK with a breadth of expertise knowledge which spans the environmental, geotechnical, flood risk and drainage industries. He holds a B. Eng in Engineering Geology and Geotechnics and is a Fellow of the Geological Society of London.



CHAPTER	QUALIFICATION / EXPERTISE OF PERSON RESPONSIBLE
Chapter 11: Cumulative Effects (prepared by LUC)	Kate Wigley BSc (Hons) MA MISEP CEnv as above.



APPENDIX B – PROPOSED STRUCTURE OF THE ES



APPENDIX B – PROPOSED STRUCTURE OF THE ES

Non-Technical Summary

Chapter 1: Introduction

- Purpose of the ES
- The Applicant
- Background and Needs Case
- Legislative Requirements for EIA
- Responsibilities for the ES
- Structure of the ES

Chapter 2: Alternatives Considered

- Overview of Routeing Methodology and Proposed Route
- Consideration of Alternatives
- Modifications During EIA

Chapter 3: Proposed Development Description

- Description of the Proposed Route
- OHL Infrastructure
- Construction Methods
- Operation and Maintenance
- Embedded Mitigation Measures

Chapter 4: The EIA Approach and Method

- Introduction
- The EIA Process
- Scope of the EIA

Chapter 5: Planning Policy Context

- Introduction
- Planning Policy Context

Chapter 6-10: Landscape and Visual Amenity; Biodiversity (including Ornithology); Historic Environment; Ground Conditions, Hydrology, Geology and Hydrogeology (including Peat); Cumulative Effects

Each chapter will include (where relevant):



- Introduction
- Assessment Methodology
- Existing Conditions
- Modification to Development Design
- Embedded Mitigation and Good Practice Measures
- Assessment of Construction Effects
- Assessment of Operational Effects
- Mitigation and Future Monitoring
- Residual Effects
- Summary of Significant Effects

Chapter 11: Summary of Significant Effects

Figures

Appendices



APPENDIX C – LIST OF PROPOSED CONSULTEES



APPENDIX C – LIST OF PROPOSED CONSULTEES

The following consultees will be contacted by PEDW in relation to the scope of the EIA and provision of information to inform the EIA:

- Welsh Government (Soil Policy and Agricultural Land Use Planning Unit / Department for Climate Change (LQAS))
- Natural Resources Wales (NRW)
- Powys County Council (PCC)
- Transport Directorate of the Welsh Government
- Hafren Dyfrydwy
- Dŵr Cymru (Welsh Water)
- Mid and West Wales Fire and Rescue Service
- Bannau Brycheiniog National Park Authority
- Cadw

The following additional consultees will be contacted in relation to the provision of information to inform the EIA:

- Heneb: The Trust for Welsh Archaeology



APPENDIX D - FIGURES