

Alignment Stage Consultation Document
Glendye Wind Farm Overhead Line Grid
Connection
October 2024

REF: LT468/469



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GLOSSARY

Term	Definition
Alignment	A centre line of an overhead line, along with location of key angle structures.
Alignment Option	A distinct alignment option through an identified proposed route.
Alignment (proposed)	An alignment taken forward to consent application following stakeholder consultation. It comprises a defined centre line for the overhead line and includes an indicative support structure (tower or pole) schedule, also specifying access arrangements and any associated construction facilities.
Alignment Variant	An alternative section of an alignment where there are different ways to avoid a localised constraint(s).
Amenity	The natural environment, cultural heritage, landscape and visual quality. Also includes the impact of SSEN Transmission's works on communities, such as the effects of noise and disturbance from construction activities.
Ancient Woodland Inventory (AWI)	The Ancient Woodland Inventory (AWI) is a provisional guide to the location of Ancient Woodland. It contains three main categories of woodland: Ancient Woodland (1a and 2a); Long-established woodlands of plantation origin (LEPO) (1b and 2b); and other woodlands on 'Roy' woodland sites (3).
Biodiversity Net Gain (BNG)	Biodiversity Net Gain (BNG) is an approach to development that aims to leave the natural environment in a measurably better state than it was pre-development. It focuses on the change in the biodiversity value of a site, comparing the pre and post construction biodiversity values to ensure a positive impact overall.
Conductor	A metallic wire strung from structure to structure, to carry electric current.
DNO Crossings	The crossing of low voltage distribution lines, also known as Distribution Network Operators (DNO) crossings.
Consultation	The dynamic process of dialogue between individuals or groups, based on a genuine exchange of views and, normally, with the objective of influencing decisions, policies or programmes of action.
Corridor	A linear area which allows a continuous connection between the defined connection points. The Corridor may vary in width along its length; in unconstrained areas it may be many kilometres wide.
Environmental Appraisal (EA)	When a Proposed Development is unlikely to give rise to significant environmental effects and is not considered an EIA development it would not be subject to an EIA and the preparation of an EIA Report. In this circumstance, an optional Environmental Appraisal (EA) detailing the results of surveys, and any appropriate mitigation, can accompany a consent application.
Environmental Impact Assessment (EIA)	Environmental Impact Assessment. A formal process codified by EU directive 2011/92/EU, and subsequently amended by Directive 2014/52/EU. The national regulations for applications requiring consent under the Electricity Act 1989 are set out in The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017. The EIA process is set out in Regulation 4(1) of the regulations and includes the preparation of an EIA Report by the developer to systematically identify, predict, assess, and report on the likely significant environmental effects of a proposed project or development.
Habitat	Term most accurately meaning the place in which a species lives, but also used to describe plant communities or agglomerations of plant communities.
Kilovolt (kV)	One thousand volts.

Term	Definition
Listed Building	Building included on the list of buildings of special architectural or historic interest and afforded statutory protection under the 'Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997' and other planning legislation. Classified categories A – C(s).
Micrositing	The process of positioning infrastructure to avoid localised environmental or technical constraints.
Mitigation	Term used to indicate avoidance, remediation, or alleviation of adverse impacts.
Overhead line (OHL)	An electric line installed above ground, supported by steel lattice towers, steel or wood poles.
Plantation Woodland	Woodland of any age that obviously originated from planting.
Route	A linear area of approximately 1 km width (although this may be narrower/wider in specific locations in response to identified pinch points / constraints), which provides a continuous connection between defined connection points.
Route (proposed)	A route taken forward following stakeholder consultation to the alignment selection stage of the overhead line routeing process.
Routeing	The work undertaken which leads to the selection of a proposed alignment, capable of being taken forward into the consenting process under Section 37 of the Electricity Act 1989.
Scheduled Monument	A monument which has been scheduled by the Scottish Ministers as being of national importance under the terms of the 'Ancient Monuments and Archaeological Areas Act 1979'.
Semi-natural Woodland	Woodland that does not obviously originate from planting. The distribution of species will generally reflect the variations in the site and the soil. Planted trees must account for less than 30% of the canopy composition.
Sites of Special Scientific Interest (SSSI)	Areas of national importance. The aim of the SSSI network is to maintain an adequate representation of all natural and semi-natural habitats and native species across Britain.
Span	The section of overhead line between two structures.
Special Area of Conservation (SAC)	An area designated under the EC Habitats Directive to ensure that rare, endangered, or vulnerable habitats or species of community interest are either maintained at or restored to a favourable conservation status.
Special Landscape Area (SLA)	Landscapes designated by Aberdeenshire Council which are considered to be of regional/local importance for their scenic qualities.
Special Protection Area (SPA)	An area designated under the Wild Birds Directive (Directive 2009/147/EC) to protect important bird habitats.
Stakeholders	Organisations and individuals who can affect or are affected by SSEN Transmission works.
The National Grid	The electricity transmission network in the Great Britain.
Underground Cable (UGC)	An electric cable installed below ground, protected by insulating layers and marked closer to the surface to prevent accidental damage through later earthworks.
Volts	The international unit of electric potential and electromotive force.
Wayleave	An agreement entered into between SSEN Transmission and a landowner upon whose land an overhead line is to be constructed.

PREFACE

This Consultation Document has been prepared by ASH design+assessment Ltd. (ASH) on behalf of Scottish and Southern Electricity Networks Transmission (SSEN Transmission). SSEN Transmission, operating under licence held by Scottish Hydro Electric Transmission plc, owns, operates and develops the high voltage electricity transmission system in the north of Scotland and remote islands. This document invites comments from all interested parties on the alignment options considered for a new 132 kV Overhead Line (OHL) supported by steel trident pole structures to connect the consented Glendye Wind Farm to the National Grid at the operational Fetteresso substation.

This Consultation Document is available online at the project website –

<https://www.ssen-transmission.co.uk/projects/project-map/glendye-windfarm-connection/>

Public consultation events detailing the proposals described in this document will be held at the following times and locations:

- Monday 7th October 2024 – Drumlithie – Drumlithie Village Hall
- Tuesday 8th October 2024 – Stonehaven – Stonehaven Town Hall
- Wednesday 9th October 2024 – Strachan Village Hall
- Thursday 10th October 2024 - Auchenblae Village Hall

Comments on this Consultation Document should be sent to:

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All comments are requested by **Thursday 21st November 2024**.

EXECUTIVE SUMMARY

Scottish and Southern Electricity Networks Transmission (SSEN Transmission) operating under licence held by Scottish Hydro Electric Transmission plc, are proposing to construct a new 132 kV Overhead Line (OHL) from the on-site substation at the consented Glendye Wind Farm, approximately 5 km northwest of Fettercairn, to the existing Fetteresso substation. The proposal is a single circuit 132 kV steel trident pole arrangement, with a nominal height of approximately 13 m, supporting the OHL over a distance of approximately 20 kilometres in length. Short sections of underground cable would be required at either end of the OHL to facilitate connection to the Glendye Wind Farm onsite substation and Fetteresso substation, given the presence of wind turbines and electrical infrastructure at these points. New permanent and temporary access tracks would also be required. The project is recognised as National Development under National Planning Framework 4.

This Consultation Document describes the alignment selection process undertaken and the alignment options (and variants) appraised for the purposes of consultation. It forms part of a consultation exercise to provide information on the alignment selection stage of the project and seek comment from stakeholders and members of the public on the proposals. Further information in relation to public consultation events can be accessed on the project website: <https://www.ssen-transmission.co.uk/projects/project-map/glendye-windfarm-connection/>

In October 2023, Scottish Ministers granted consent under Section 36 of the Electricity Act 1989 for the construction and operation of Glendye Wind Farm. SSEN Transmission has a statutory duty under Schedule 9 of the Electricity Act 1989 to develop and maintain an efficient, co-ordinated and economical transmission system in its licenced areas. SSEN Transmission has obligations to offer non-discriminatory terms for connection to the transmission system. In line with these duties and obligations, SSEN Transmission has entered into an agreement with the wind farm developer to provide a connection from the wind farm to the National Grid.

This Consultation Document follows completion of a route selection study carried out for the Proposed Development between October 2023 and June 2024. The route selection study identified a total of five route options (comprising three western route options and two eastern route options) that were subject to environmental and engineering appraisal, prior to seeking the views of statutory consultees and other stakeholders, including the local community. Following this consultation, a proposed route (see **Figures 1a to 1c**) was confirmed within a Report on Consultation¹, and comprised Route Options 1b and Route Option 2a, given the strong preference from community responses.

Following the identification of a proposed route, a number of technically feasible and economically viable OHL alignment options were identified, each of which has been appraised in relation to environmental, engineering and cost considerations.

Comments are sought from stakeholders on the alignment options considered. Following a review of the consultation responses received, SSEN Transmission will confirm a proposed alignment for the connection, which will be taken forward to EA/EIA and consenting stage.

¹ SSEN Transmission (June 2024) Glendye Wind Farm Overhead Line Grid Connection Project: Report on Consultation (Route Stage)

When providing comments and feedback on this Consultation Document, SSEN Transmission would be grateful for your consideration of the questions below:

- 1. Has the requirement for the project been clearly explained?**
- 2. Are there any additional factors, or environmental features, that you consider important and should be brought to the attention of the project team?**
- 3. Do you have any comments about any of the alignment options or variants?**
- 4. Following a review of the provided information, how would you describe your understanding of the Glendye Wind Farm Connection Project?**
- 5. Do you have any community benefit opportunities you would like us to consider, or are there any local initiatives you would like us to consider supporting?**

1. INTRODUCTION

1.1 Purpose of Document

- 1.1.1 This Consultation Document has been prepared by ASH Design and Assessment Ltd. on behalf of Scottish and Southern Electricity Networks Transmission (SSEN Transmission). SSEN Transmission, operating under licence held by Scottish Hydro Electric Transmission plc, owns, operates and develops the high voltage electricity transmission system in the north of Scotland and remote islands.
- 1.1.2 This document invites comments from all interested parties on the alignment² options and variants considered during the alignment selection process for a new 132 kV single circuit overhead line (OHL) to connect the consented Glendye Wind Farm to the National Grid at Fetteresso substation. The project is known as the Glendye Wind Farm Overhead Line Grid Connection project, hereafter referred to as 'the Proposed Development'.
- 1.1.3 This report describes the alignment selection process followed, the alignment options and variants identified, and the results of the appraisal undertaken.
- 1.1.4 This consultation exercise provides stakeholders and members of the public with the opportunity to provide feedback on the alignment options and variants, prior to SSEN Transmission confirming the proposed alignment. This document, together with further information in relation to public consultation events can be accessed on the project website:

<https://www.ssen-transmission.co.uk/projects/project-map/glendye-windfarm-connection/>

1.2 Document Structure

- 1.2.1 This report is comprised of the following sections:
1. Introduction – sets out the purpose of the Consultation Document and document structure;
 2. Project Overview – sets out the need for the project, the preferred technology solution and information relating to construction activities;
 3. Alignment Selection Process - sets out the process that has been applied in the appraisal of alignment options and variants;
 4. Description of Alignments – describes the alignment options and variants that have been identified;
 5. Comparative Appraisal of Alignments – appraises the alignment options and variants against a series of environmental, technical and cost considerations;
 6. Summary of Comparative Appraisal – provides a summary of the key findings of the appraisal; and
 7. Next Steps – outlines the next steps.
- 1.2.2 The main body of this document is supported by a series of figures which are included at the end of this document.

² A centre line of an overhead line, along with the location of key angle structures.

2. PROJECT OVERVIEW

2.1 The Need for the Project

- 2.1.1 The Glendye Wind Farm was granted consent by Scottish Ministers in October 2023. The wind farm would be constructed on the Glen Dye and Fasque Estate situated approximately 5 km northwest from the village of Fettercairn and 12 km west from the village of Strachan. The wind farm is anticipated to generate in excess of 104 megawatts (MW) and to comprise of 26 turbines which require connection to the electricity transmission network by late 2028.
- 2.1.2 SSEN Transmission has a statutory duty under Schedule 9 of the Electricity Act 1989 to develop and maintain an efficient, co-ordinated and economical transmission system in its licenced areas. SSEN Transmission has obligations to offer non-discriminatory terms for connection to the transmission system.
- 2.1.3 SSEN Transmission are therefore required to provide a connection for the proposed wind farm. The proposed connection is in accordance with an agreement between SSEN Transmission, National Grid Electricity System Operator (as operator of the National Grid) and the wind farm developer.
- 2.1.4 The new connection would be routed between the consented Glendye Wind Farm on-site substation and the existing Fetteresso substation as shown in **Figures 1a to 1c**.

2.2 Preferred Technology Solution

- 2.2.1 Use of steel trident poles is the preferred engineering solution for the OHL elements of the Proposed Development.
- 2.2.2 Two short sections of 132 kV underground cable (UGC) would be required as the Proposed Development leaves Glendye Wind Farm on-site-substation, as well as on the final approach to Fetteresso substation, given the presence of wind turbines and electrical infrastructure at these points. A terminal structure (either a wooden trident pole or a steel tower) would be required to facilitate the transition between OHL and UGC.
- 2.2.3 The steel trident poles would have a nominal height of approximately 13 m (including insulators and support). The proposed trident pole would support three conductors (wires) in a horizontal flat formation. The spacing between poles would vary depending on topography and altitude. The specific distances would be determined after a detailed line survey but would be approximately 100 m apart. Photographs showing typical steel trident poles are shown in **Plate 2.1**.

Plate 2.1: Example Steel Trident H Poles



2.3 General Construction Activities

2.3.1 To facilitate the connection, the main construction elements associated with the Proposed Development are anticipated to include:

- establishment of one or more construction compounds;
- establishment of suitable laydown areas for materials;
- construction of stone tracks (both temporary and permanent) and other temporary access solutions as necessary;
- delivery of structures and materials to site;
- excavation and construction works associated with foundations, as necessary;
- assembly and erection of trident poles;
- stringing of conductors using hauling ropes and winches; and
- inspections and commissioning.

2.4 Underground Cable

2.4.1 It is anticipated that the installation of an UGC, required at either end of the connection, would involve the following tasks:

- Establishment of one or more construction compounds;
- Establishment of suitable laydown areas for materials;
- Establish a working corridor approximately 40 m wide;
- Installation of an access haul road and temporary bridges where/if required;
- Excavate a trench up to 2 m in depth and 1 m wide, widening through benching and battering where stability and safety concerns arise;
- Clear out all materials likely to damage cable ducts, e.g. clods, rocks, stones and organic debris, and employ use of pumps to remove any water;
- Installation of ducting within the trench, surrounded by engineered backfill in suitable layers for protection, with protection tile and warning tape placed above the cable line, reinstatement to sub-soil level;
- Excavation and formation of power cable joint bays with above ground electrical link pillars and associated demarcation; reinstate excavated surface layers in reverse order;
- Transportation of and installation of power cable;
- Mobilisation of jointing containers and jointing of power cable;
- Reinstatement of joint bays and installation of fencing at link pillar locations; and
- Reinstatement of excavated surface layers in reverse order.

2.5 Other Considerations

Forestry Removal

2.5.1 An Operational Corridor (OC) of approximately 72 m would be required through commercial forestry plantations to enable the safe operation and maintenance of the OHL (and UGC through forested areas). In areas of woodland, the width of the OC could vary depending on the type of woodland and species present.

2.5.2 Construction of the project may require the removal of sections of forestry, although detailed design would seek to minimise the impact of any removal as far as practicable. This would be undertaken in consultation with affected landowners. The project would comply with the Scottish Government's Control of Woodland Removal Policy.³

³ Forestry Commission Scotland (2009) Control of Woodland Removal Policy

2.5.3 Compensatory planting would comply with the UK Forestry Standard (2023)⁴ sustainable approach to forestry and associated guidelines which may apply, or any such replacement standard applied or proposed by the consenting authority. Planting would be supported by an approved replanting plan that would identify the following;

- The location to which replanting should be undertaken;
- Species of tree to be replanted;
- Woodland design plans;
- Timing to which replanting should be undertaken;
- Maintenance of replanted areas;
- Monitoring methods of the replanted areas; and
- Reporting standards to be met by the plan.

2.5.4 After felling, any timber removed that is commercially viable would be sold and the remaining forest materials such as arisings / brash would be mulched on site.

Access Strategy

2.5.5 Vehicle access is required to each pole location during construction to allow excavation and creation of foundations and pole installation. Existing tracks would be used where possible. Preference will be given to lower impact access solutions including the use of low pressure tracked personnel vehicles and temporary track solutions in boggy/ soft ground areas to reduce any damage to, and compaction of, the ground. These journeys would be kept to a minimum to minimise disruption to habitats along the route. However, both temporary and permanent stone tracks may be necessary in some areas depending on existing access conditions, terrain and altitude.

2.5.6 For the short sections of UGC, a construction haul road would be required within the UGC construction corridor to facilitate its construction. Once installed, it is anticipated that the construction corridor would be reinstated, with an OC being maintained.

2.6 Programme

2.6.1 It is anticipated that construction of the project would take place over an approximately 18-month period following the granting of consents, although detailed programming of the works would be the responsibility of the Contractor in agreement with SSEN Transmission.

2.7 Biodiversity Net Gain

2.7.1 Biodiversity Net Gain (BNG) is an approach to development that aims to leave the natural environment in a measurably better state than it was pre-development. SSEN Transmission has developed a BNG toolkit based upon the Natural England metric⁵, which aims to quantify biodiversity based upon the value of habitats for nature. It is an efficient and effective method for demonstrating whether development projects have been able to maintain or increase the biodiversity value of a development site after construction works.

2.7.2 The BNG toolkit would be applied to the project to quantify the overall potential biodiversity impacts; this includes a biodiversity baseline assessment, analysis of habitat losses due to temporary works and permanent infrastructure, and analysis of biodiversity gains following reinstatement of habitats in areas of temporary construction work.

⁵ Natural England Biodiversity Metric 3.1 <https://publications.naturalengland.org.uk/file/5450039124819968>

SSEN Transmission's Biodiversity Ambition

2.7.3 SSEN Transmission is committed to protecting and enhancing the environment by minimising the potential impacts from their construction and operational activities. As part of this approach, SSEN Transmission has made commitments within its Environmental Legacy⁶, Sustainability Strategy (2018)⁷, Sustainability Plan (2019)⁸ and RIIO-T2 Business Plan⁹, for new infrastructure projects to:

- Ensure natural environment considerations are included in decision making at each stage of a project's development;
- Utilise the mitigation hierarchy to avoid impacts by consideration of biodiversity in project design;
- Positively contribute to the UN and Scottish Government Biodiversity strategies by achieving an overall 'No Net Loss' on new infrastructure projects gaining consent in 2020 onwards and achieving a 10% Net Gain on all new projects gaining consent in 2023 onwards; and
- Work with their supply chain to gain the maximum benefit during asset replacement and upgrades.

2.7.4 The design and evolution of this grid connection project will be carried out in line with these commitments.

⁶ Scottish and Southern Electricity Networks : Delivering a positive Environmental Legacy (online) available at: <https://www.ssen-transmission.co.uk/globalassets/documents/sustainability-and-environment/environmental-legacy-booklet>

⁷ Delivering a smart, sustainable energy future: The Scottish Hydro Electric Transmission Sustainability Strategy (2018) available at: <https://www.ssen-transmission.co.uk/media/2701/sustainability-strategy.pdf>

⁸ Our Sustainability Plan: Turning Ambition into Action. (2019) SHE Transmission. available at: <https://www.ssen-transmission.co.uk/media/3215/our-sustainability-plan-consultation-report.pdf>

⁹ A Network for Net Zero - SSEN Transmission ([ssen-transmission.co.uk](https://www.ssen-transmission.co.uk))

3. ALIGNMENT SELECTION PROCESS

3.1 Overview

3.1.1 The approach to route and alignment selection is being informed by SSEN Transmission's guidance 'Procedures for Routeing Overhead Lines and Underground Cables of 132 kV and above'¹⁰ which provides a framework to ensure environmental, technical and economic considerations are identified and appraised at each stage of the routeing process.

3.1.2 The guidance splits the routeing stage of a project into the following principal stages:

- Stage 0: Routeing strategy development;
- Stage 1: Corridor Selection;
- Stage 2: Route Selection;
- Stage 3: Alignment Selection; and
- Stage 4: EIA and consenting.

3.1.3 Each stage is an iterative process and involves an increasing level of detail and resolution, bringing environmental, technical and cost considerations together in a way which seeks to achieve the best balance at each stage. The stages carried out can vary depending on the type, nature and size of a project and consultation is carried out at each stage of the process as appropriate.

3.1.4 The Proposed Development is currently at Stage 3: Alignment Selection, the objective of which is to identify a proposed alignment to take forward to the EIA and consenting stage of the project.

3.1.5 In consideration of the principles outlined in the guidance document, the following tasks have been undertaken in this study:

1. Review and update, where required, of the baseline situation established at Stage 2;
2. Identification of alignment options and variants¹¹; and
3. Environmental, engineering and cost appraisal of alignment options and variants.

3.2 Stage 1: Corridor Selection

3.2.1 No corridor options were identified due to the limited scale of the project and the identified connection points between the wind farm and the existing Fetteresso substation, which constrain any alternative corridor options.

3.3 Stage 2: Route Selection

3.3.1 The Route Selection process was carried out between October 2023 and June 2024. Five indicative route options were defined with approximately 1 – 2 km widths to allow for subsequent identification of alignments during Stage 3 (Alignment Selection) of the routeing process. These consisted of three Western Route Options (Route Options 1a, 1b and 1c) and two Eastern Route Options (Route Options 2a and 2b). The Route Stage Consultation Document¹² identified a number of environmental constraints such as the River Dee SAC, presence of Class 1 and Class 2 peatland, landscape and visual effects and the Cairn o'Mount Cairns Scheduled Monument for Western Route Options, and the presence of forestry and proximity to properties for Eastern Route Options. Engineering considerations focussed on terrain, access opportunities, ground conditions and clearance distances. Following a review of the consultation responses received as a result of the

¹⁰ SSEN Transmission (2020). Procedures for Routeing Overhead Lines and Underground Cables of 132 kV and above, Revision 2.0.

¹¹ It is usually unlikely that multiple alignment options will be identified; the most technically feasible and economically viable alignment is likely to be the shortest connection which avoids or minimises interaction with the environmental constraints which remain within the route and challenging ground conditions. Rather, alignment options are likely to be limited to shorter sections of the alignment where different alternatives (variants) may exist to avoid a localised constraint.

¹² SSEN Transmission (2024) Glendye Wind Farm Overhead Line Grid Connection Project – (Route Stage) Consultation Document

route stage consultation exercise, a proposed route was identified, confirmed within a Report on Consultation¹³ to be Route Option 1b and Route Option 2a (see **Figures 1a to 1c**). A key factor in this decision was the response from the local community to route the OHL away from properties as far as practicable.

3.4 Alignment Identification

3.4.1 Following the identification of a proposed route, a number of technically feasible and economically viable alignment options were identified, as described in **Section 4** of this document.

3.4.2 The steps outlined in the Holford Rules¹⁴ and SSEN Transmission's guidance 'Procedures for Routeing Overhead Lines and Underground Cables of 132 kV and above' have been taken into account as far as practicable in establishing the alignment options and variants. In particular, alignment options and variants have sought to:

- Avoid if possible major areas of highest amenity value (including those covered by national and international designations and other sensitive landscapes);
- Avoid by deviation, smaller areas of high amenity value;
- Try to avoid sharp changes of direction and reduce the number of larger angle towers required;
- Avoid skylining the route in key views and where necessary, cross ridges obliquely where a dip in the ridge provides an opportunity;
- Target the route towards open valleys and woods where the scale of poles will be reduced and views broken by trees (avoid slicing through landscape types and try to keep to edges and landscape transitions);
- Consider the appearance of other lines in the landscape to avoid a dominating or confusing wirescape effect; and
- Approach urban areas through industrial zones and consider the use of undergrounding in residential and valued recreational areas.

3.5 Baseline Conditions

3.5.1 A baseline study was initially carried out to identify a broad range of potential constraints and opportunities within the proposed route, and its adjacent context. This built upon a similar exercise during Stage 2 of the project and involved the following activities:

- Identification of environmental designated sites and other constraints, utilising GIS datasets available via NatureScot¹⁵ Site Link¹⁶;
- Identification of archaeological designations and other recorded sites, utilising GIS datasets available via Historic Environment Scotland^{17,18} and Aberdeenshire Historic Environment Record (HER)¹⁹;
- SEPA interactive Flood Risk Mapping and Future Flood Mapping^{20,21};

¹³ SSEN Transmission (June 2024) Glendye Wind Farm Overhead Line Grid Connection Project: Report on Consultation (Route Stage)

¹⁴ Scottish Hydro Electric Transmission Limited (SHETL). (October 2004). *The Holford Rules: Guidelines for the Routeing of New High Voltage Overhead Transmission Lines with NGC 1992 and SHETL 2003 Notes; Revision 1.01*

¹⁵ Scottish Natural Heritage (SNH) became NatureScot on 24 August 2020

¹⁶ SNH. SNHi Site Link. [online] Available at: <https://sitelink.nature.scot/home> [last accessed 31/07/2024]

¹⁷ Historic Environment Scotland Data Services. Portal. [online] Available at: <http://portal.historicenvironment.scot/> [last accessed 31/07/2024]

¹⁸ Royal Commission on Ancient and Historical Monuments of Scotland. Canmore. [online] Available at: <http://canmore.rcahms.gov.uk/> [last accessed 31/07/2024]

¹⁹ Aberdeenshire Historic Environment Record (2023) (Online) Available at: <https://online.aberdeenshire.gov.uk/smrpub/master/default.aspx?Authority=Aberdeenshire> [last accessed 12/06/2024]

²⁰ Scottish Environmental Protection Agency. SEPA Flood Maps [online] Available at: <http://map.sepa.org.uk/floodmap/map.htm> [last accessed 31/07/2024]

²¹ Scottish Environmental Protection Agency. SEPA Future Flood Maps [online] Available at: https://map.sepa.org.uk/floodmaps/FloodRisk/FutureFloodMaps#_3 [last accessed 31/07/2024]

- Review of the Aberdeen City and Shire Strategic Development Plan and the Aberdeenshire Local Development Plan (2023)²² to identify further environmental constraints and opportunities, such as regional level designations or other locations important to the public;
- Review of landscape character assessments of relevance²³;
- Review of Native Woodland Survey of Scotland and Ancient Woodland Inventory data sets²⁴;
- Review of Ordnance Survey (OS) mapping (1:50,000 and 1:25,000 and online GIS data sources from OS OpenData) and aerial photography (where available) to identify other potential constraints such as settlement, properties, walking routes, cycling routes etc;
- Extrapolation of OS GIS data to identify further environmental constraints including locations of watercourses and waterbodies, roads classifications and degree of slope;
- Review of environmental information relating to wind farm or other relevant developments in the area, namely Fetteresso Forest Wind Farm, Glendye Wind Farm and Glen Dye Moor Restoration Project; and
- Review of other local information through online and published media such as tourism sites and walking routes.^{25,26,27}

3.5.2 Desk-based studies were supplemented by targeted walkover surveys by the project team to obtain further site data and observations of localised constraints. These surveys included peat depth probing, habitat and protected species surveys of alignment options and variants.

3.6 Appraisal Method

3.6.1 Appraisal of the alignment options and variants was undertaken against a number of environmental, engineering and cost criteria set out within the SSEN Transmission guidance:

Environmental Criteria

- Natural Heritage - designations, protected species, habitats, ornithology, hydrology, geology and hydrogeology;
- Cultural Heritage - designations and cultural heritage assets;
- People – proximity to dwellings;
- Landscape and Visual – designations, landscape character and visual;
- Land Use - agriculture, forestry and recreation; and
- Planning – policy and proposals.

Engineering Criteria

- Infrastructure Crossings - major crossings (overhead lines, rail, river, navigable canal, gas or hydro pipeline) and road crossings;
- Environmental Design - elevation, contaminated land, pollution and flooding;
- Ground Conditions – terrain and peatland;
- Construction and Maintenance - access, angle support; and
- Proximity – clearance distance, windfarms, communication masts, urban areas, metallic pipes.

Economic Criteria

- Capital – construction costs; and
- Operational – inspections and maintenance costs.

²² Aberdeenshire Local Development Plan (2023) (Online) Available at: <https://www.aberdeenshire.gov.uk/planning/plans-and-policies/ldp-2023/> [last accessed 31/07/2024]

²³ NatureScot. (2019). Scottish Landscape Character Types Map and Descriptions [online] Available at: <https://www.nature.scot/professional-advice/landscape/landscape-character-assessment/scottish-landscape-character-types-map-and-descriptions> [last accessed 31/07/2024]

²⁴ UK Government Open Data (online) Available at data.gov.uk [last accessed 31/07/2024]

²⁵ Munro Magic [online] Available at: <http://www.munromagic.com/> [last accessed 31/07/2024]

²⁶ Walk Highlands [online] Available at: <http://www.walkhighlands.co.uk/> [last accessed 31/07/2024]

²⁷ Scotways [online] Available at: <https://www.scotways.com/> [last accessed 31/07/2024]

Rating of Alignment Option(s) and Alignment Variant(s)

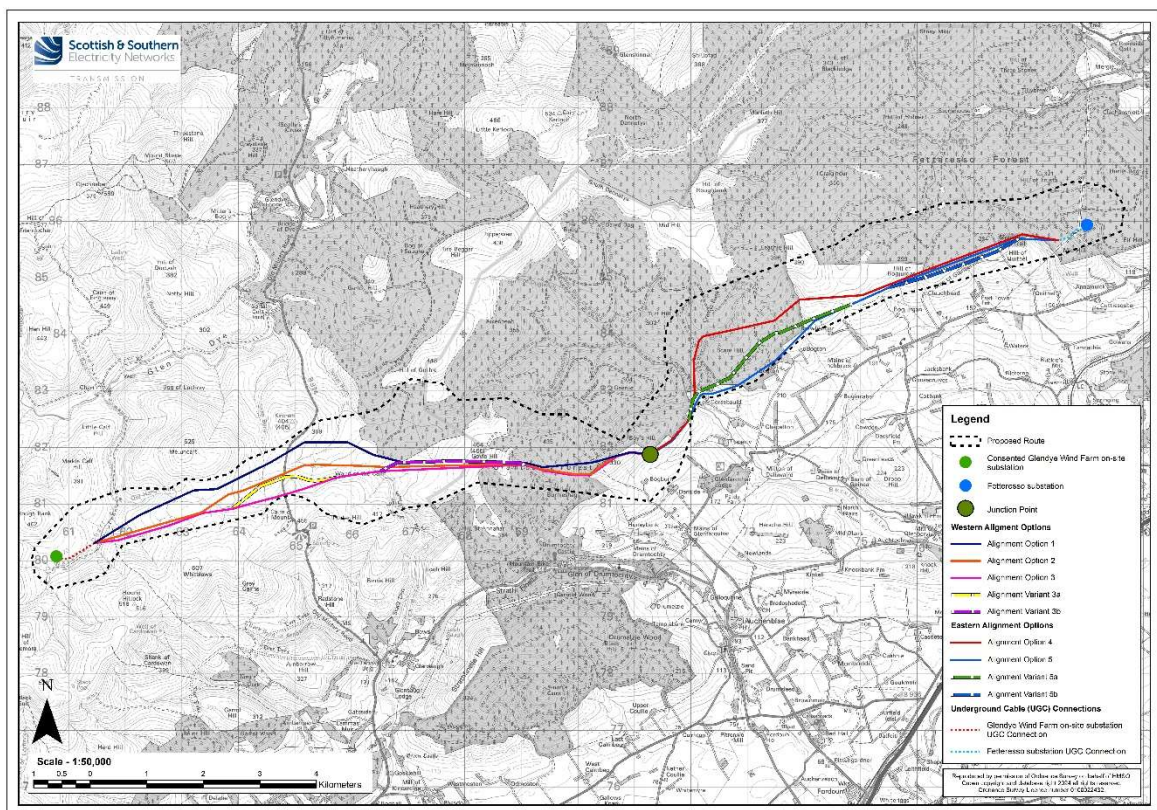
- 3.6.2 At Stage 2, a RAG rating was applied to each topic area within each route, indicating potential constraint to development. For this project, the RAG rating approach was considered too broad at Stage 3 as it could generally result in similar ratings for all Alignment Options and Variants. Instead, a more descriptive appraisal is adopted, allowing for more detailed considerations of the differences in constraint to development between each option.

4. DESCRIPTION OF ALIGNMENTS

4.1.1 This section of the Consultation Document describes each of the alignment options and variants identified for appraisal, which are displayed on **Figures 1a to 1c** and **Plate 4.1**. An appraisal has also been undertaken for the short sections of UGC at either end of the connection. However, given the length of these sections it is not considered necessary to consult on these options and therefore this Consultation Document focusses on the OHL alignment options only. A preferred alignment for the UGC sections is shown on accompanying figures, with the final alignment being dependent on the connection points to the respective substations.

4.1.2 In a similar manner to the route selection stage of the project, alignment options and variants have been divided into Western Alignment Options and Eastern Alignment Options. Any of the Western Alignment Options could join any of the Eastern Alignment Options at a 'Junction Point' to form a complete connection across the project. The 'Junction Point' is used in this Consultation Document as a means of splitting the Western and Eastern Alignment Options and Variants for the purposes of appraisal; it is a theoretical point and there would be no additional infrastructure at this location.

Plate 4.1: Alignment Options



Western Alignment Options and Variants

4.2 OHL Alignment Option 1

4.2.1 OHL Alignment Option 1 is the most northerly of the Western Alignment Options, and totals approximately 10.2 km in length between approximately 330 m AOD and 430 m AOD. This alignment option would depart from a point approximately 700 m east of the proposed Glendye Wind Farm on-site substation and would initially head in a north easterly direction across the open moorland of Glen Dye Estate. After crossing the B974, approximately 1.4 km north of Cairn o'Mount Viewpoint and 1.2 km north of Cairn o'Mount Cairns Scheduled Monument, the alignment option continues east across open moorland before running adjacent to the forest edge, north of the Waird of the Cairn. The alignment would then continue to progress east to the south of

Goyle Hill, before entering Drumtochty Forest where the Alignment Option would continue for approximately 2 km before exiting the forest prior to reaching the Junction Point.

4.3 OHL Alignment Option 2

4.3.1 OHL Alignment Option 2 is positioned between Alignment Option 1 to the north and Alignment Option 3 to the south and would total approximately 10.2 km in length between approximately 330 m AOD and 420 m AOD. This alignment option would depart from a point approximately 700 m east of the proposed Glendye Wind Farm on-site substation and would run in a similar direction to Alignment Option 1, but typically on slightly lower ground. After crossing the B974, approximately 1 km north of Cairn o'Mount Viewpoint and 800 m north of Cairn o'Mount Cairns Scheduled Monument, the alignment option continues east across open moorland, also on lower ground compared to Alignment Option 1, before running to the south of the forest edge, north of the Waird of the Cairn. The Alignment would then continue to progress east, passing to the south of Goyle Hill, before entering Drumtochty Forest where the Alignment Option would continue for approximately 1.5 km before exiting the forest prior to reaching the Junction Point.

4.4 OHL Alignment Option 3

4.4.1 OHL Alignment Option 3 is the most southerly of the Western Alignment Options, and totals approximately 10 km in length between approximately 330 m AOD and 420 m AOD. This alignment option would depart from a point approximately 700 m east of the proposed Glendye Wind Farm on site substation, and would initially head in an easterly, north-easterly direction across the open moorland of Glen Dye Estate. Crossing the B974, this alignment option is the closest option to the viewpoint and scheduled monument, situated approximately 700 m north of Cairn o'Mount Viewpoint and 500 m north of Cairn o'Mount Cairns Scheduled Monument. Beyond the B974, the alignment option continues northeast across open moorland through the Waird of Cairn. The alignment would then continue to progress east to the south of Goyle Hill, before entering Drumtochty Forest where the Alignment Option would continue for approximately 2 km before exiting the forest prior to reaching the Junction Point.

4.5 OHL Alignment Variant 3a

4.5.1 OHL Alignment Variant 3a was developed to seek to minimise potential setting impacts on the Cairn o'Mount Cairns Scheduled Monument, in comparison to Alignment Option 3. OHL Alignment Variant 3a totals approximately 2 km in length and would be situated approximately 1 km north of Cairn o'Mount Viewpoint and 800 m north of Cairn o'Mount Cairns Scheduled Monument, at approximately 380 m AOD as it crosses the B974. Beyond the B974, the variant would continue east, following the contours, to join with OHL Alignment Option 3.

4.6 OHL Alignment Variant 3b

4.6.1 OHL Alignment Variant 3b has been developed to minimise potential impacts on ornithological constraints as well as minimising interaction with a deeper area of peat. OHL Alignment Variant 3b would total approximately 2.6 km in length between approximately 360 m AOD and 440 m AOD. Shortly after departing northeast from Alignment Option 3 at the Waird of Cairn, this variant would follow the same alignment as Alignment Option 1, along the southern forest edge and to the south of Glendye, prior to re-joining Alignment Option 3 again as it enters Drumtochty Forest.

Eastern Alignment Options and Variants

4.7 OHL Alignment Option 4

4.7.1 OHL Alignment Option 4 is the most northerly of the Eastern Alignment Options, and would total approximately 8.5 km in length, at between approximately 170 m AOD and 300 m AOD, commencing from the Junction Point located southeast of Boy's Hill. The alignment would initially follow the forest edge around Boy's Hill towards

Corsebauld, before heading north, following Maxie Burn to the north of Scare Hill. Here, the alignment heads east through forestry toward Brawliemuir, whereby it would cross an area of open, rough grazing, towards Hill of Bogjurgan. The alignment then enters Fetteresso Forest where it would terminate and transition to UGC prior to completing the connection to Fetteresso substation.

4.8 OHL Alignment Option 5

4.8.1 OHL Alignment Option 5 is situated to the south of Alignment Option 4, totalling approximately 9 km in length, at between approximately 170 m AOD and 270 m AOD. The alignment option would commence from the Junction Point located southeast of Boy's Hill, and would head in a north-easterly direction, passing to the north of Corsebauld before passing through forestry to the north of West Bogton. The alignment option then continues east across areas of rough grazing towards Hill of Bogjurgan, before entering Fetteresso Forest where it would terminate and transition to UGC prior to completing the connection to Fetteresso Substation.

4.9 OHL Alignment Variant 5a

4.9.1 OHL Alignment Variant 5a has been developed to minimise impacts on felling and future management of the forestry by following more closely the alignment of an existing track compared to other alignment options, whilst increasing the distance to properties at Corsebauld, West Bogton, Bogton and Brawliemuir compared with Alignment Option 5. The alignment variant would total approximately 3.7 km in length at between approximately 150 m AOD and 280 m AOD and would depart from Alignment Option 5 to the west of Corsebauld, re-joining it to the east of Brawliemuir.

4.10 OHL Alignment Variant 5b

4.10.1 OHL Alignment Variant 5b was developed to minimise impacts on forestry in comparison to OHL Alignment Option 5 by following just to the south of the forest edge, to the north of Brae of Glenbervie. The variant would total approximately 2.3 km in length at between approximately 230 m AOD and 270 m AOD, departing from Alignment Option 5 at Hill of Bogjurgan, re-joining it at Hill of Quithel.

5. COMPARATIVE APPRIASAL

5.1 Overview

- 5.1.1 This section provides a summary of the environmental and engineering appraisal of the alignment options and variants described in **Section 4**. Reference should also be made to **Figures 2 to 9**.

Environmental Topic Areas

5.2 Natural Heritage

Designations

Statutory Designations

- 5.2.1 None of the alignment options or variants overlap with any sites designated for nature conservation (see **Figure 2**). The nearest statutory designated site is the River Dee Special Area of Conservation (SAC) located approximately 3 km north of the alignment options at its closest point. The River Dee SAC is designated for freshwater pearl mussel *Margaritifera margaritifera*, Atlantic salmon *Salmo salar* and otter *Lutra lutra*. Western Alignment Options 1, 2, 3, and Alignment Variants 3a and 3b are all hydrologically connected to the River Dee SAC via existing water courses. None of the Eastern Alignment Options have direct hydrological connectivity to this European site via existing water courses, however all are located within the same catchment area.
- 5.2.2 All alignment options and variants are considered to be broadly similar with respect to potential impacts on statutory designations. It is considered that with the implementation of a Construction Environmental Management Plan (CEMP), inclusive of best practice construction methodologies such as pollution prevention measures and water quality control, negative impacts on the qualifying interests of these designated sites could be prevented for all alignment options and variants.

Non-statutory Designations

- 5.2.3 Eastern Alignment Options 4 and Alignment Variant 5a traverse non-statutory designations of woodland included on the Ancient Woodland Inventory (AWI). AWI areas crossed include category 2b, listed as 'long-established woodlands of plantation origin' (LEPO). These areas have been interpreted as plantation from maps of 1860 and continuously wooded since, therefore developing semi-natural characteristics. Alignment Variant 5a would cross the greatest extent of LEPO. However, current land use practices within these areas involve cyclical felling for commercial forestry which have resulted in forestry of a mixture of age classes or clear fell which is considered to limit its ecological value. None of the Western Alignment Options traverse areas of woodland listed on the AWI.

Protected Species

- 5.2.4 Protected species constraints are considered to be broadly equivalent for all alignment options and variants at this stage. All Western Alignment Options are dominated by moorland habitats offering suitable habitat for Scottish Biodiversity List (SBL) species including adder, common lizard, and mountain hare. Eastern Alignment Options 4, 5, and Alignment Variant 5a, are largely routed through forestry plantation woodland and clear-fell, with acid grassland and heathland also present. These habitat types offer suitable habitat for SBL bats, slow worm, badgers, brown hare, Scottish wildcat, red squirrel, hedgehog and pine marten. Alignment Variant 5b is routed through agricultural fields consisting of modified agricultural grassland suitable for SBL species of common toad. These habitats also offer suitable habitat for badger, bats and brown hare. All alignment options contain water courses suitable to support otter and water vole.
- 5.2.5 Further targeted protected species surveys would be required once a proposed alignment has been identified to inform appropriate mitigation measures to minimise impacts on protected species, such as the micro-siting of poles, access and work areas, and management of construction activities.

Habitats

- 5.2.6 All Western Alignment Options and Alignment Variants are routed through similar moorland habitat types dominated by blanket bog, heathland, and upland flushes. Eastern Alignment Options 4, 5, and Alignment Variant 5a, are largely routed through forestry plantation woodland and clear-fell, with acid grassland and heathland also present. Alignment Variant 5b is routed through agricultural fields consisting of modified agricultural grassland.

Ground Water Dependent Terrestrial Ecosystems (GWDTE)

- 5.2.7 Potential GWDTE habitats in the form of upland flushes, fens and swamps, and rush pastures are found across all Western Alignment Options and Alignment Variants. Given the widespread distribution of these habitats, it is unlikely that any alignment option would be able to fully avoid impacts to these habitats, however further survey work will be able to confirm areas of groundwater dependency and detail mitigation to reduce impacts. All Western Alignment Options are considered to be broadly equivalent in terms of GWDTE habitat constraints.
- 5.2.8 All Eastern Alignment Options and Alignment Variants would avoid impacts on GWDTE habitats.

Annex 1 Habitats

- 5.2.9 Annex I habitats, as defined in the Habitats Directive²⁸(as amended by the Conservation (Natural Habitat, &c) Regulations 1994²⁹), are habitats with priority status due to the habitat being in danger of disappearance and for which there is a particular responsibility to preserve³⁰. Annex 1 habitats present within the vicinity of the alignment options and variants include blanket bog and heathland. Blanket bog is the dominant Annex I habitat type and is extensive across all Western Alignment Options and variants. The blanket mire is often found in mosaics with heathland and modified bog. Priority peatland mapping indicates that Class 1 and 2 priority peatland habitats are present within the western extent of the Proposed Development, and preliminary peat probing suggests a range of peat depths throughout this western area. Habitat surveys completed to date indicate that although there are areas of blanket bog within the proposed route, it is in combination with modified bog that has been subject to historical management pressures as well as other erosional factors.
- 5.2.10 Due to the extensive nature of these habitats across the Western Alignment Options, it is unlikely that any of these alignment options or variants would be able to avoid having any impact to these habitat types. Further botanical National Vegetation Classification (NVC) surveys are required to determine Annex I status, which together with more detailed peat depth surveys will inform the siting of infrastructure to minimise impacts on sensitive habitats where practicable. From survey data available to date, Alignment Option 3 and 3a would result in the least amount of Annex I habitat loss and generally avoid deeper areas of peat.
- 5.2.11 All Eastern Alignment Options avoid Annex I habitats.

Biodiversity

- 5.2.12 The Biodiversity Units (BU) and BU / Ha of each option is set out in **Table 5.1**. In terms of potential biodiversity unit loss, all Western Alignment Options would involve the loss of peatland habitats. Within the SSEN Transmission toolkit³¹, peat habitats of moderate or above condition are considered 'irreplaceable'. As noted in **Sub-Section 5.2.9**, whilst there are areas of blanket bog within the vicinity of alignment options and variants, it is in combination with modified bog that has been subject to historical management pressures as well as other erosion factors, and further surveys would be undertaken to determine the condition of peat habitat to inform

²⁸ Habitats Directive online available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A31992L0043> (last accessed 19/08/2024)

²⁹ The Conservation (Natural Habitats, &c.) Regulations 1994 available online at: The Conservation (Natural Habitats, &c.) Regulations 1994 (legislation.gov.uk) (last accessed 20/08/2024)

³⁰ Joint Nature Conservation Committee 2024 habitats list available online at: Habitat Interest Features - Special Areas of Conservation (jncc.gov.uk) (last accessed 19/08/2024)

³¹ SSEN Transmission (2020) – Biodiversity Project Toolkit (v3)

siting of infrastructure. For the purposes of the calculations within **Table 5.1**, peat habitats are considered as 'irreplaceable' to provide a worst-case scenario. Further review of pole positions and the siting of temporary and permanent infrastructure will be required to minimise impacts on peat habitats, informed by detailed habitat and peat depth data. From the survey data available, the BNG calculations undertaken suggest that Western Alignment Option 3 would result in the least amount of irreplaceable habitat loss of Western Alignment Options. BU's for Eastern Alignment Options are much lower, given the lower sensitivity of habitats within these areas. **Table 5.1** suggests that Eastern Alignment Option 5 with Variant 5a and Variant 5b would result in the least amount of biodiversity units being lost.

Table 5.1: Alignment Options Biodiversity Units

Alignment	Biodiversity Units (BU) – Total with IRR & Bunits	Irreplaceable habitat units	BU – Excluding Irreplaceable Habitats	BU per Hectare (IRR & BU / Ha) - Total	IRR per hectare (IRR / ha)	BU / Ha – Excluding Irreplaceable Habitats
OHL Alignment Option 1	3,014.67	2,432.58	582.09	14.29	11.53	2.76
OHL Alignment Option 2	2,993.43	2,396.57	596.86	14.43	11.55	2.88
OHL Alignment Option 3	2,955.89	2,323.59	632.30	14.33	11.26	3.07
OHL Alignment 3 with Variant 3a and 3b	3,014.73	2,401.22	613.51	14.42	11.49	2.93
OHL Alignment Option 4	977.52	-	977.52	5.27	-	5.27
OHL Alignment Option 5	842.38	-	842.38	4.88	-	4.88
OHL Alignment 5 with Variants 5a and Variant 5b	841.92	-	841.92	4.84	-	4.84

Ornithology

- 5.2.13 All alignment options and variants would involve the loss of supporting habitat for breeding and wintering birds, including open moorland, woodland and scrub habitat. These habitats are however abundant in the local and wider area. Preliminary results from breeding bird surveys have identified a possible peregrine falcon *Falco peregrinus* nest, in addition to potential nesting of goshawk *Accipiter Gentilis*, and red kite *Milvus milvus* within the vicinity of some alignment options and variants. There are no alignment options or variants located within close proximity to known black grouse *Tetrao tetrix* lekking sites.

- 5.2.14 NatureScot guidance related to no-disturbance buffer zones require a 500-750 m buffer from peregrine nests during the breeding season (Goodship and Furness, 2022)³². All Western Alignment Options would be located within the no disturbance buffer; however, preference is given to Alignment Option 1 and Alignment Variant 3b as these options would allow a greater no disturbance distance within the no disturbance buffer. Goshawk and red kite have also been observed within the plantation woodland located to the north of the Junction Point in the centre of the proposed route, and near to the existing Fetteresso substation, however nest sites have not been confirmed.
- 5.2.15 Migratory geese species have also been recorded flying over all alignment options. Geese were observed flying at height and were not recorded utilising the survey area, and as such are not considered to be at risk of collision impacts arising from any of the alignment options.
- 5.2.16 Generally, with the exception of the probable peregrine nest, it is considered that ornithological impacts across alignment options and variants are broadly similar.
- Geology, Hydrology and Hydrogeology*
- 5.2.17 Carbon and peatland mapping is displayed on **Figure 3a**, peat depth information from a targeted peat probing exercise is shown on **Figure 3b**, peatland restoration projects and schemes are shown on **Figure 3c**, and local hydrology constraints are displayed on **Figure 4**.
- 5.2.18 Priority peatland mapping highlights that Alignment Options 1, 2, 3, as well as Alignment Variants 3a and 3b would pass through areas of both Class 1 and 2 peatlands. Alignment Options 4 and 5, as well as Alignment Variants 5a and 5b, would not pass through any areas designated as Class 1 or Class 2 peatland and are largely underlain by either mineral soils (Class 0) or Class 4 peatland which are not considered priority peatland areas.
- 5.2.19 Site specific peat probing, and geomorphological mapping has been undertaken in proximity to the Western Alignment Options and variants, as shown on **Figure 3b**. Peat depths were recorded using a 100 m grid (a Phase 1 survey) in order to obtain data regarding peat extent and depth within 250 m of each Western Alignment Option and variant. Areas of deep peat (>1m) were recorded across all the Western Alignment Options and variants. The deepest areas of peat were noted in three distinct areas to the south of Meluncart, where peatland restoration has been undertaken (**Figure 3c**) south of the Waird of Cairn and to the south of Hill of Gothie. Peat haggling and erosional features were noted within the peatland restoration area to the south of Meluncart and to the south of the Waird of Cairn, whilst extensive areas of blanket bog were recorded to the south of Hill of Gothie. Peat is shallow or absent in areas where there are steeper slopes and generally deeper peat is present in the areas of flatter topography.
- 5.2.20 Alignment Option 1 would pass through the largest extent of Class 1 peatland and the deepest areas of peat (up to 5.2 m) was noted in proximity to this alignment option. Alignment Option 2 and 3 would intersect similar extents of Class 1 peatland and similar peat depths were recorded in proximity to these alignments, although slightly shallower peat was recorded in proximity to Alignment Option 3. Based on the information collected so far, Alignment Option 3 and Alignment Variant 3a would avoid the deepest areas of peat.
- 5.2.21 Further peat depth probing (Phase II) will be required whichever alignment option(s) is chosen to ensure the deepest areas of peat are avoided. A peat management plan and peat landslide hazard risk assessment will be required where peat deposits are crossed.
- 5.2.22 The Western Alignment Options are located within the Water of Dye surface water catchment and the Eastern Alignment Options are located within the Bervie Water Catchment (see **Figure 4**). There is a relatively dense network of tributary streams to both watercourses, and all alignment options and variants would require to cross

³² Goodship, N.M. and Furness, R.W. 2022. Disturbance Distances Review: An updated literature review of disturbance distances of selected bird species. A report from MacArthur Green to NatureScot.

a number of tributaries. All permanent structures would need to be set back from the watercourse channel to protect against exposure from natural processes leading to watercourse meandering and migration.

- 5.2.23 SEPA floodplain mapping (see **Figure 4**), shows flood extents are generally confined to the watercourse corridors.
- 5.2.24 Western Alignment Options are located within the Water of Dye surface water catchment. The Water of Dye is part of the River Dee SAC. As noted in **Sub-Section 5.2.1**, the SAC has been designated for Atlantic salmon, freshwater pearl mussel and otters which are sensitive to changes in water quality. It is noted that none of the alignment options or variants would cross the area designated as part of the SAC, however due regard would need to be made to pollution risks during construction and operation phase of the development.
- 5.2.25 Private water supply information provided by Aberdeenshire Council and presented in reports prepared in support of nearby developments indicate that there are private water supplies within approximately 250 m of the Eastern Alignment Options. Many if not all the properties and farms in proximity to the alignments in this area are likely to maintain a private water supply. All Eastern Alignment Options have the potential to impact on private water supplies and further assessment would be carried out at the EA/EIA stage of the project to assess potential risks and, if required, determine appropriate mitigation. It is not anticipated that any of the Western Alignment Options would pass near private water supply infrastructure.

5.3 Cultural Heritage

Potential Constraints

- 5.3.1 Designated and non-designated heritage assets within 2 km of the alignment options are shown on **Figures 5a-5c**.

Designated Heritage Assets

- 5.3.2 No designated heritage assets are crossed by any of the alignment options, and therefore no direct construction impacts on designated heritage would occur from any alignment option or variant.
- 5.3.3 Within 2 km of the alignment options there are:
- Three Scheduled Monuments of heritage value at the national level and of high sensitivity;
 - Two Category A Listed Buildings of heritage value at the national level and of high sensitivity;
 - One Category B Listed Building of heritage value at the regional level and of medium sensitivity; and
 - One Category C Listed Building of heritage value at the local level and of low sensitivity.
- 5.3.4 With regard to designations within 2 km of the Western Alignment Options and variants, the only designated heritage asset where an impact on its setting is a potential constraint, is Cairn o' Mount, Cairns (SM 4968) (shown on **Figure 5a**). This pair of Bronze Age burial cairns is set in a prominent position adjacent to the B974 (Old Military Road) and is a recognised viewpoint. There are wide ranging views from the monument, principally to the south, and the larger of the two cairns is prominently visible on the skyline in views from the south. It is also a heritage asset recognised as contributing to the character of the Braes of Mearns Special Landscape Area (SLA).
- 5.3.5 Views to the north and northwest from the cairns are partially screened by local topography but open views are attainable from the vicinity of the viewpoint overlooking the Waird of the Cairn to the north. The alignment options would be visible on approach from the northwest, passing along the Waird of the Cairn from east to west, where all alignment options would be seen below the skyline and backdropped by moorland. Wirelines and visualisations demonstrating the visibility of the alignment options and variants from near Cairn o' Mount, Cairns (SM 4968) are provided in **Figures 9a to 9m**.
- 5.3.6 Alignment Option 2 and Alignment Variant 3a are more likely to be screened by the topography in the view from the cairns, passing at a slightly lower elevation along the Cairn Burn to the north. These alignment options are

also less likely to interrupt or detract from views towards the cairn, such as are attainable on approach from the B974, north of the Waird of the Cairn.

- 5.3.7 In contrast, Alignment Options 1 and 3 would introduce infrastructure at slightly higher elevations than Alignment Option 2 and Alignment Variant 3a, at greater and lesser distances from the monument, respectively. They are likely to be more prominent in views to and from the cairns to the north, with the potential to adversely impact upon the monuments setting.
- 5.3.8 There is little to distinguish between the Eastern OHL Alignment Options with regard to potential setting impacts on the remainder of designated assets within approximately 2 km of these options. There is limited potential for adverse impacts to their settings, due to the effects of topographic screening and the scale of the Proposed Development in relation to the surrounding landscape.

Cultural Heritage Assets

- 5.3.9 There is also little to distinguish between the alignment options with regard to direct impacts on non-designated assets, the vast majority of which are of post-medieval date and mainly relate to farming activities. There is no significant difference in the character or quantity of assets that lie within proximity to the alignment options. None of these non-designated assets represent significant constraints to development and in most cases direct impacts can be avoided with minimal mitigation, such as marking out of upstanding remains. As such, there is little to distinguish between the alignment options with regard to the potential direct impacts to non-designated heritage assets.

5.4 People

- 5.4.1 Settlement within the vicinity of alignment options and variants is concentrated to the east, where a number of scattered properties and farm buildings are present, as shown on **Figure 6**. To the west, the presence of residential properties is generally absent and therefore constraints are comparable across Western Alignment Options and variants.
- 5.4.2 For Eastern Alignment Options, Alignment Options 4 and 5, as well as Alignment Variant 5a and 5b, pass to the north of 7 residential properties. Of these alignment options and variants, Alignment Option 5 runs approximately 200 - 300 m from 4 residential properties at its closest point, whereas Alignment Option 5b would run approximately 300 – 500 m from 3 residential properties at its closest point. Such constraints however are broadly comparable across Eastern Alignment Options and variants.

5.5 Landscape and Visual

Protected and Designated Landscapes

- 5.5.1 Alignment Options 1, 2, 3 (and variant 3a) would pass through the Clachnaben and the Forest of Birse SLA. Alignment Options 1, 2, 3 (and variant 3b) would also pass through the Braes of the Mearns SLA. The Clachnaben and the Forest of Birse SLA is characterised by a rolling upland landscape, including distinctive hill profiles. It is virtually uninhabited, and its rugged terrain is largely covered by heather moorland. Although views into the landscape are widely obtained, access into the SLA is limited, adding to the sense of remoteness. The Braes of Mearns SLA provides a strong contrast between the distinctive flat Howe and the dramatic ridge of the Mounth to the north. It is characterised by a mix of farmed landscapes and wooded areas.
- 5.5.2 There would be some direct impacts on the SLA's as the alignments pass through them, including disruption during construction and introduction of new OHL infrastructure. However, given the presence of other OHL infrastructure in the wider area, the scale of the OHL and the opportunities for achieving a sensitive alignment, there are unlikely to be notable effects on the overall character of the SLA's. The alignments do not pass through any other designated or protected landscapes.
- 5.5.3 Alignment Options 4 and 5 (and its variants) would not pass through any designated or protected landscapes.

Landscape Character Types (LCTs)

- 5.5.4 The Landscape Character Assessment of Scotland, undertaken by NatureScot³³ identifies two Landscape Character Types crossed by the alignment options and variants (as shown on **Figure 6a**). To the west and north is LCT 29: Summits and Plateaux – Aberdeenshire, and to the east is LCT 24: Coastal Farmed Ridges and Hills – Aberdeenshire.
- 5.5.5 The proposed route and all alignment options and variants would be situated within LCT 29: Summits and Plateaux – Aberdeenshire. The key features of LCT 29 include lowlands hills, rising up into characteristic highland ridges, terminating in an expansive upland plateau. The LCT provides a backdrop from the transition of the Cairngorms National Park to the Howe of the Mearns and more settled coast. Within the proposed route the LCT is characterised by the largely managed forested areas. Areas that exhibit more wild characteristics are present to the west of the proposed route, where the B974 also stretches north to south. There are numerous routeways present which extend into the forest and lower hills. Settlement within the LCT is sparse, focused around the Bridge of Dye and Strachan and Glensaugh, with only scattered farmsteads located in the central area. Further to the west, the landscape is more remote with dramatic steep scarp slopes leading to the uplands.
- 5.5.6 LCT 24: Coastal Farmed Ridges and Hills – Aberdeenshire covers a small area within the proposed route, to the south of Boy’s Hill and south of the Junction Point. The proposed route would also border this LCT to the east, crossing over to the LCT briefly north of East Town. LCT 24 is comprised of an extensive area of farmsteads and patchwork farmland around Glenberrie and to the south of the proposed route.
- 5.5.7 An OHL alignment to minimise landscape effects would ideally follow the natural contours of the landscape, avoiding prominent ridgelines and hill, and would respect the existing landscape patterns, targeting existing linear features and transitions in landscape character, avoiding frequent changes in direction which are inconsistent with the natural grain of the landscape, and avoiding the fragmentation of distinct elements such as woodlands, open areas of farmland or settlements. Alignment Option 2 and Alignment Variant 3a would generally pass at slightly lower elevations than the other Western Alignment Options helping them to sit more comfortably within the wider landscape. For the most part, the Eastern Alignment Options would be unlikely to result in any notable difference in effects to landscape character.

Potential Visual Receptors

- 5.5.8 To achieve an alignment between Glendye Wind Farm and Fetteresso substation there would be a requirement to cross the B974 as well as a number of recreational routes and local accesses. All Western Alignment Options and Variants would be visible from the B974 particularly when travelling southbound but would generally be seen below the skyline and backdropped by moorland.
- 5.5.9 All Western Alignment Options and Variants would be visible from within the vicinity of the Cairn o’Mount viewpoint, however they would not likely be visible from the viewpoint itself given the local topography, and would not be visible from the main view looking south. Although the alignment options and variants would not be visible from the Cairn o’Mount viewpoint, they would be visible from the cairns themselves (a scheduled monument). As noted in **Sub-Section 5.3.4 to 5.3.7** above (refer also to **Figures 9a to 9m**), in views from within the vicinity of the Cairn o’Mount Cairns Scheduled Monument, Alignment Option 2 and Alignment Variant 3a are likely to be somewhat screened by topography, passing at a slightly lower elevation than the other alignment options. These options are also less likely to interrupt or detract from views towards the cairns, such as are attainable on approach from the B974, north of the Waird of the Cairn. However, visual effects from the B974 and Cairn o’Mount viewpoint are unlikely to be very different between alignment options.

³³ Scottish Natural Heritage. (2019). Scottish Landscape Character Types Map and Descriptions [online] Available at: <https://www.nature.scot/professional-advice/landscape/landscape-character-assessment/scottish-landscape-character-types-map-and-descriptions>

5.5.10 Eastern Alignment Options and variants would generally pass through forestry or closely follow the forest edge, which would serve to screen or back cloth the Proposed Development from visual receptors. Effects on visual receptors, including from properties, recreational routes and local roads would therefore likely be comparable for all Eastern Alignment Options and variants.

5.6 Land Use

Forestry

- 5.6.1 **Figure 7** shows areas of woodland recorded on the AWI, as well as on the National Woodland Survey of Scotland (NWSS). None of the Western Alignment Options or variants traverse areas of woodland recorded on the AWI or NWSS. Eastern Alignment Options 4 and Alignment Variant 5a traverse areas of LEPO, plantation woodland recorded on the AWI. Current land use practices within these areas involve cyclical felling for commercial forestry which have resulted in forestry of a mixture of age classes or clear fell. Short sections of upland birchwood are crossed by Eastern Alignment Options 4 and 5, and Alignment Variant 5a.
- 5.6.2 Most alignment options (with the exception of Alignment Variants 3a and 5b) have some effect on the mainly coniferous plantations present within Drumtochty and Fetteresso Forests. These conifer plantations are in the cycle of felling and replanting with some of the second rotation conifers having been thinned.
- 5.6.3 Two woodland creation areas are situated within the vicinity of the alignment options and variants, as shown on **Figure 7**. These comprise:
- North of Brawliemuir and Bogjergan, planted under the Forestry Grant Scheme in 2020³⁴; and
 - North of the Glenfarquar Lodge within proximity to the Burn of Bankhead, which was granted permission as an option under the Forestry Grant Scheme in 2023³⁵, but is yet to be claimed by the Forestry Grant Scheme. Alignment Options 4 and 5 and its variants would have an effect on these areas.
- 5.6.4 Overall, Western Alignment Options and Variants are broadly comparable, although Alignment Option 3 has marginally the smallest effect on plantation woodland and has no interface with AWI or NWSS. Of the Eastern Alignment Options, Alignment Options 4 and 5, and Variant 5a all pass through areas of forestry, some of which is recorded as LEPO on the AWI. Alignment Variant 5b offers opportunities to reduce felling compared with Alignment Option 5 by taking an alignment along the forest edge.

Agriculture

- 5.6.5 Agricultural land within the UK is classified by The Macaulay System of Land Capability for Agriculture (LCA)³⁶. This classification ranks land on the basis of its potential productivity and cropping flexibility. Class 1 represents land that has highest flexibility and thus high agricultural value, whereas Class 7 land is of very limited agricultural value.
- 5.6.6 For all Western Alignment Options there is little to distinguish between the options and variants in terms of agriculture. All options generally cross areas of Class 6.3 which is capable of only rough grazing of low value, due to physical limitations.
- 5.6.7 For the Eastern Alignment Options, Alignment Variant 5b would pass through areas of Class 4.1 land, whereas all other alignment options and variants would pass through land capable of use as improved grassland with areas of Class 5.1 and 5.2. All Eastern Alignment Options are considered to be comparable in terms of constraints.

³⁴ (Claim Reference 20FGS48003)

³⁵ (Claim Reference 23FGS70293)

³⁶ The James Hutton Institute online available at: Land Capability for Agriculture (LCA) - James Hutton Institute (last accessed 19/08/2024)

Recreation

- 5.6.8 The main points of recreational interest located within the vicinity of alignment options and variants are shown on **Figure 6**.
- 5.6.9 All Western Alignment Options and Variant 3b would pass through or adjacent to the very northern extent of the Glensaugh Research Farm, one of The James Hutton Institutes research farms which measures the long-term changes in dry and wet aerial deposition, water quality, soil characteristics, vegetation, and wildlife. All Western Alignment Options also pass through Drumtochty Forest, popular with walkers and mountain bikers, approximately 1.5 km to the north of Drumtochty Castle.
- 5.6.10 All Eastern Alignment Options would require to cross Scottish Hill Tracks 196 (Stachan to Auchenblae Trail) and 197 (Strachan to Glenbervie Trail) which are situated through Fetteresso and Drumtochty Forestry. Alignment Options 4 and 5, and Variant 5b, would also cross Scottish Hill Track 198 (Cryne Corse Mounth Trail) on approach to Fetteresso substation.

5.7 Planning Context

Planning Policy

- 5.7.1 Adherence to National, Regional and Local planning policy will in large part depend on avoiding or minimising potential constraints noted above, particularly in relation to impacts on priority peatland habitats and ancient woodland.
- 5.7.2 However, it should be acknowledged that this development would be recognised in NPF4 as a National development under ND3 'Strategic Renewable Electricity Generation and Transmission infrastructure'. It therefore forms a vital element to deliver network and grid infrastructure required to deliver the Government's legally binding targets for net zero emissions and renewable energy electricity generation objectives.
- 5.7.3 All alignment options are considered to be broadly comparable in relation to planning policy at this stage.

Planning Proposals

- 5.7.4 A review of the Aberdeenshire Council and Energy Consent Unit planning portals have identified a number of planning applications within the vicinity of the alignment options and variants (see **Figures 3c and 8**).
- 5.7.5 All Western Alignment Options would cross the Glen Dye Moor peatland restoration project (shown on **Figure 4c**) (ref: APP/2023/1290), located to the western extent of the Proposed Development.
- 5.7.6 Peatland restoration areas are also proposed by Forestry Land Scotland at Goyle Hill and Hill of Gothie (as shown on **Figure 3c**). All Western Alignment Options would pass through the proposed restoration area at Goyle Hill, whilst all Eastern Alignment Options would pass through Woodland creation schemes (see **Figure 7**).
- 5.7.7 To the east, Alignment Option 4 would pass approximately 500 m to the southeast of the consented Fetteresso Wind Farm.
- 5.7.8 There are also proposals within Fetteresso Forest by SSEN Transmission to extend the existing Fetteresso substation, as well as constructing a new 400 kV substation within its vicinity, called Hurlie Substation. None of the alignment options or variants would interact with these proposals, although the final connection into Fetteresso substation by UGC would be co-ordinated by SSEN Transmission as part of the substation extension works.

Engineering Topic Areas

5.8 Infrastructure Crossings

Major Crossings

- 5.8.1 Major infrastructure crossings³⁷ can present many obstacles when designing and constructing an OHL and therefore it is advantageous to avoid multiple crossings if possible.
- 5.8.2 No major infrastructure crossings would be required for any of the Western Alignment Options or variants. To the east, Alignment Options 4 and 5 would be required to cross two gas pipelines (see **Figure 8**).
- 5.8.3 The key consideration for appraisal purposes is the ability to cross both gas pipelines within a single span of the OHL. It is anticipated this could be achieved for Alignment Option 4, but potential challenges related to the required clearance distances have been identified for Alignment Option 5, where available space between the pipelines may not be sufficient to accommodate the necessary support structure in compliance with the applicable clearances.

Road Crossings

- 5.8.4 All Western Alignment Options and Alignment Variant 3a would cross the B974, and there is no engineering preference in this respect.
- 5.8.5 All Eastern Alignment Options and variants are situated within a mix of upland moorland, agricultural and forestry land and would involve a number of track crossings (predominantly forestry tracks). Again, there is no engineering preference in this respect.

5.9 Environmental Design

Elevation

- 5.9.1 High elevations increase wind and ice loading on the lines resulting in the need for shorter spans or stronger structures, which can pose a constrain and increase cost. Additionally, access for construction and maintenance tends to be more difficult at altitude and the risk of severe weather is greater.
- 5.9.2 The altitude along all of the alignment options and variants would be greater than 200 m AOD for long sections. Therefore, all options are similarly constrained and there is no preferred option in terms of elevation.

Atmospheric Pollution

- 5.9.3 Desk based surveys have been conducted to confirm the level of atmospheric pollution using data gathered from the National Atmospheric Emission Inventory³⁸ (NAEI). The NAEI provides information on the following pollutants that are deemed to affect the performance of overhead lines.
- Carbon Dioxide;
 - Nitrogen Dioxide;
 - Sulphur Dioxide; and
 - particulate matters (10 µm, 2.5 µm, 1 µm, and 0.1 µm)
- 5.9.4 Based on the data gathered, there is not deemed to be a significant risk posed by atmospheric pollution by any of the alignment options.

³⁷ Major infrastructure crossings include high voltage transmission lines, rail lines, wide rivers (greater than 200 m), navigable canals, gas pipelines, and hydro pipelines.

³⁸ Ricardo National Atmospheric Emission Inventory: available online at: [UK Emissions Interactive Map \(beis.gov.uk\)](https://ukemissionsinteractive.beis.gov.uk) (last accessed 05/07/2024)

Contaminated Land

- 5.9.5 Contaminated land poses a significant health risk to construction and maintenance operatives, and is potentially expensive to mitigate, dispose of or remediate. As such, the presence of contaminated land with proximity to an alignment would be a significant constraint. There were no known areas of contaminated land found during this assessment.

Flooding

- 5.9.6 Areas vulnerable to flooding (coastal, surface and river flooding) pose a potential risk during construction, may prevent maintenance and can pose a physical risk to structures during flood events. As such, options with large areas vulnerable to flooding would have a high risk of constraint.
- 5.9.7 Potential for flood risk has been based on publicly available data from SEPA to determine the extent of each alignment option within the 1:200-year flood zone.³⁹
- 5.9.8 All alignment options and variants result in a low flood risk.

5.10 Ground Conditions

Terrain

- 5.10.1 Unfavourable terrain can lead to many design and construction related challenges for new OHL builds. Steep slopes, mountainous terrain and / or cliffs create difficult obstacles for OHLs to cross and it is therefore preferred to limit construction in this terrain where possible.
- 5.10.2 All of the western alignment options would traverse mountainous terrain on the descent from the consented Glendye Wind Farm, continuing on land with high elevation with steep slopes present.
- 5.10.3 In the east, Alignment Options 4 and 5, together with its variants, would generally pass through areas of forestry and agricultural land that includes some steeper gradients and undulating hills. However, all Eastern Alignment Options and variants are comparable in terms of terrain.

Peat

- 5.10.4 Construction in areas of peat can pose engineering challenges during both the design and construction stages of an OHL build. In addition, construction in peat can lead to increased construction and maintenance costs and therefore, should be reduced or avoided where possible.
- 5.10.5 The British Geological Society website and peat probing data have been combined to determine peat areas along each alignment option. Alignment Option 1 would pass through the largest extent of Class 1 peatland and the deepest areas of peat (up to 5.2 m) was noted in proximity to this alignment option. Alignment Option 2 and 3 would intersect similar extents of Class 1 peatland and similar peat depths were recorded in proximity to these alignments, although slightly shallower peat was recorded in proximity to Alignment Option 3. Based on the information collected so far, Alignment Option 3 and Alignment Variant 3a would avoid the deepest areas of peat.
- 5.10.6 There are no areas of peatland present within the Eastern Alignment Options or variants.

³⁹ Scottish Environmental Protection Agency. *SEPA Flood Maps* [online] Available at: <http://map.sepa.org.uk/floodmap/map.htm>

5.11 Construction / Maintenance

5.11.1 Constructability is an important consideration for all OHL developments considering the wide-ranging terrain and multiple obstacles that are often encountered. Therefore, consideration of access routes and the number of critical angle poles to be used on this OHL is important for the construction and future maintenance requirements of the line.

Access

5.11.2 Adequate access is an important consideration for both construction and maintenance activities. Positioning an OHL in close proximity to existing public roads and networks of tracks will provide ease of access and can greatly reduce costs associated with the construction stage.

5.11.3 All Eastern Alignment Options and Variants are located approximately 1 km from existing tracks at any point along each Alignment Option.

5.11.4 All Western Alignment Options are considered to be characterised by difficult access, being more than 1 km away from any track or road for most of their length, and the construction of new temporary and permanent access tracks is likely to be required.

Angle Poles

5.11.5 Angle poles are important components of an OHL as they are primarily used in 'stringing' operations and failure containment. Due to the nature of angle poles, higher loads are required to be designed into the structures and larger foundations and more complex installations are often required. OHLs with a high number of angle supports tend to be more difficult to construct, due to the number of angle pull throughs, and often require more extensive access.

5.11.6 In the west, Alignment Options 1 and 3 (and its variants) would require a higher number of angle supports compared to Alignment Option 2. In the east, there is little difference between the number of angle poles required for either alignment options or variants.

5.12 Proximity

Clearance Distance

5.12.1 Assessment of the Alignment Options and variants was undertaken to determine the clearance distances available between buildings and dwellings.

5.12.2 All Western Alignment Options would not come into proximity with any dwellings.

5.12.3 For Eastern Alignment Options, Alignment Options 4 and 5, as well as Alignment Variant 5a and 5b, pass to the north of 7 residential properties at distances of between 200 – 500 m. Such constraints are broadly comparable across Eastern Alignment Options and variants.

Proximity to Wind Farms

5.12.4 Windfarms pose a risk to OHLs due to disruption of airflows which can cause wake on OHL conductors. Due to the wake effect, there are chances of increased conductor vibrations which cause fatigue in conductors and eventually results in the breaking of conductor strands. Therefore, to achieve the desired life of the conductor it is mandatory to keep the OHL's out with a three-rotor-diameter buffer of any turbines.

5.12.5 Upon leaving the proposed Glendye Wind Farm substation, all western alignment options would fall within a three-rotor-diameter of the Glendye Wind Farm turbines. An underground cable solution is proposed within the vicinity of the substation.

5.12.6 In the east, Alignment Option 4 would be located approximately 500 m from Fetteresso Wind Farm. Alignment Options 5 would pass in close proximity to East Town wind turbine, which would be situated approximately 340 m away from Alignment Option 5 and approximately 320 m away from Alignment Variant 5b.

Communication Masts

5.12.7 There are no communication masts within 1 km of any Alignment Options or Variants, therefore the line of sight from masts will not constrain any structure locations within these alignment options.

Urban Environments

5.12.8 No Alignment Options are situated within or in proximity to any urban environments.

Metallic pipes

5.12.9 Metallic pipes have to be avoided by individual supports, as they are often expensive to reroute.

5.12.10 There are no metallic pipes situated in any of the Western Alignment Options or Variants.

5.12.11 There are 2 metallic piped situated within all Eastern Alignment Options, these are situated between Alignment Variants 5a and 5b.

5.13 Cost

5.13.1 In terms of costs, there is little difference between the alignment options and variants.

6. SUMMARY OF COMPARATIVE APPRAISAL

6.1.1 The following section provides a summary of the key constraints noted in Section 5 of this Consultation Document across environmental and technical considerations.

Western Alignment Options and Variants

6.1.2 Whilst all Western Alignment Options are generally comparable across environmental topic areas, there are some notable differences.

6.1.3 All Western Alignment Options and Variants would cross through areas of Class 1 and Class 2 peatlands in the west, and open moorland and forestry to the east. Annex I habitats present within the west of the proposed route include blanket bog and heathland. Blanket bog is the dominant Annex I habitat type and is extensive across all Western Alignment Options and variants. The blanket mire is often found in mosaics with heathland and modified bog, and preliminary peat probing suggests a range of peat depths throughout the area. Habitat surveys completed to date indicate that although there are areas of blanket bog within the proposed route, it is in combination with modified bog that has been subject to historical management pressures as well as other erosion factors.

6.1.4 Following a site-specific probing exercise to inform alignment selection, Alignment Option 1 would pass through the largest extent of Class 1 peatland (much of which is associated with the Glen Dye Moor Peatland restoration project and the Hill of Gothie and Goyle Hill peatland restoration scheme) and the deepest areas of peat (up to 5.2 m) was noted in proximity to this alignment option. Alignment Option 2 and Alignment Option 3 would intersect similar extents of Class 1 peatland and similar peat depths were recorded in proximity to the alignments, although slightly shallower peat was recorded in proximity to Alignment Option 3. Based on the information collected so far, Alignment Option 3 and Alignment Variant 3a would avoid the deepest areas of peat.

6.1.5 Another important consideration for Western Alignment Options and Variants is the potential for setting effects on the Cairn o' Mount Cairns (SM 4968) Scheduled Monument. Views to the north and northwest from the cairns are partially screened by the local topography but open views are attainable from the vicinity of the viewpoint overlooking the Waird of the Cairn to the north. The alignment options would be visible on approach from the northwest, passing along the Waird of the Cairn from east to west, where all alignment options would be seen below the skyline and backdropped by moorland. Alignment Option 2 and Alignment Variant 3a are more likely to be screened by the topography in the view from the cairns, passing at a slightly lower elevation along the Cairn Burn to the north. In contrast, Alignment Options 1 and 3 would introduce infrastructure at slightly higher elevations than Alignment Option 2 and Alignment Variant 3a, at greater and lesser distances from the monument, respectively. They are likely to be more prominent in views to and from the cairns to the north, with the potential to adversely impact upon the monuments setting.

6.1.6 Alignment Variant 3b has been developed to minimise ornithological constraints in proximity to the Waird of Cairn in comparison to Alignment Option 3.

6.1.7 From an engineering perspective, all of the Western Alignment Options would traverse mountainous terrain on the descent from the consented Glendye Wind Farm, continuing on land with high elevation and areas of steep slopes present. Access within this area is limited, and the construction of new temporary and permanent access tracks is likely to be required regardless of the option chosen.

6.1.8 Given the above, it is considered that the least impactful of the Western Alignment Options is **Alignment Option 3** combined with **Alignment Variant 3a and 3b**.

Eastern Alignment Options

- 6.1.9 The Eastern Alignment Options and Variants traverse a mixture of forestry and lowland farmland.
- 6.1.10 Alignment Options 4, 5 and Variant 5a cross through areas of commercial forestry. Alignment Variant 5a was developed to minimise impacts on felling and future management of the forestry by following more closely to the alignment of an existing forestry track in comparison to Alignment Options 4 and 5, whilst also increasing the distance from local properties. This variant would however be routed through an area of woodland recorded as LEPO on the AWI, although current land use practices within these areas involve cyclical felling for commercial forestry which have resulted in forestry of a mixture of age classes or clear fell which is considered to limit its ecological value. Alignment Variant 5b was developed to minimise impacts on forestry by following an alignment to the south of the forest edge. All Eastern Alignment Options pass through a proposed woodland creation scheme.
- 6.1.11 From an engineering perspective, there are good access opportunities across both alignment options and alignment variants, with comparable terrain for all options.
- 6.1.12 It is therefore considered that the least impactful of the Eastern Alignment Options is **Alignment Option 5** together with **Alignment Variants 5a and 5b**.

7. NEXT STEPS

- 7.1.1 SSEN Transmission is required to provide a connection for the consented Glendye Wind Farm to the existing SSEN Transmission network at Fetteresso substation. The proposed connection would comprise a new 132 kV OHL supported by steel trident pole structures. Short sections of UGC will be required at either end of the OHL to facilitate connection at both substations.
- 7.1.2 This Consultation Document summarises the environmental, technical and economic appraisal of the alignment options and variants. This Consultation Document is available online at the project website – <https://www.ssen-transmission.co.uk/projects/project-map/glendye-windfarm-connection/>
- 7.1.3 Public consultation events detailing the proposals described in this document will be held at the following times and locations:
- Monday 7th October 2024 – Drumlithie – Drumlithie Village Hall
 - Tuesday 8th October 2024 – Stonehaven – Stonehaven Town Hall
 - Wednesday 9th October 2024 – Strachan Village Hall
 - Thursday 10th October 2024 - Auchenblae Village Hall
- 7.1.4 Comments are sought from stakeholders on the alignment options considered.
- 7.1.5 All comments on the alignment options and alignment selection process are requested by **Thursday 21st November 2024**. Following consultation events and a review of consultation responses, a Report on Consultation will be produced which will document the consultation responses received, and the decisions made in light of these responses to inform the selection of a proposed alignment.
- 7.1.6 Following the identification and confirmation of a proposed alignment, the project will progress to the EA/EIA and consenting stage. An application for consent under Section 37 of the Electricity Act 1989 is anticipated to be submitted to the Energy Consents Unit of the Scottish Government during the first quarter of 2025.