APPENDIX 5.2: BIODIVERSITY NET GAIN ASSESSMENT

Scottish & Southern Electricity Networks
TRANSMISSION

TEM-NET-ENV-508

Environmental

Biodiversity Net Gain Assessment Report

Project Name – Achany Wind Farm Extension Grid Connection – Section 37

Project Code – LT361/362

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Executive Summary

This report sets out the results of the Biodiversity Net Gain (BNG) calculations and the approach to delivering on SSEN Transmission's BNG commitments for the Project. This report should be read alongside the SSEN Biodiversity Project Toolkit Excel Sheet for the Project Site (hereafter referred to as 'the Toolkit').

This report details the BNG assessment undertaken for the installation of 16 km of new trident H-wood pole overhead line (OHL) between a new Cable Sealing End (CSE) structure, approximately 1.2 km south of the consented Achany Wind Farm Extension on-site substation and the existing Shin Substation as part of the Achany Wind Farm Extension Grid Connection.

This report includes:

- A calculation of baseline Biodiversity Units (BU) for the Proposed Development following the guidance outlined within SSEN Transmission's Biodiversity Net Gain Toolkit User Guide.
- A prediction of the post development on-site BU following successful reinstatement.
- A qualitative assessment against the Biodiversity Net Gain Good Practice Principles; and
- Details of the required habitat creation or enhancements required to achieve biodiversity enhancements.

The Proposed Development is not located within any statutory or non-statutory site designated for nature conservation. The BNG assessment measures the baseline habitats within the footprint of the Proposed Development as 110.82 Biodiversity Units (BU). The area felled to create the operational wayleave for the Proposed Development will naturally regenerate and be managed to create areas of mixed scrub and acid grassland. The proposed post-development plans for habitats impacted by the construction of the Proposed Development will lead to a net loss of – 13 %. It is recommended that offsetting opportunities are sought as close to the Proposed Development as possible to achieve the required 10 % gain.

Irreplaceable habitats are acknowledged for their particular importance therefore appropriate mitigation has been identified for any impacts on these habitats. SSEN Transmission consider irreplaceable habitats within their network are to be Ancient Woodland (categories 1a & 2a of the Ancient Woodland Inventory (AWI)), ancient or veteran trees, blanket bog or raised bog in good or moderate condition.

No Category 1a or 2a Ancient Woodland, ancient or veteran trees, or raised bog, are found within the Proposed Development. Irreplaceable blanket bog in moderate condition will be disturbed by the installation of the poles and permanent access tracks. The Proposed Development will result in the loss of 0.05 hectares (ha) of Irreplaceable blanket bog . SSEN Transmission will seek to identify an opportunity to compensate for the loss of 0.16 ha blanket bog irreplaceable habitat, by restoring and enhancing an area of no less than 1.62 ha of blanket bog.

1 Introduction

1.1 Background of the Project

1.1.1 Scottish and Southern Electricity Networks (SSEN Transmission), operating under licence held by Scottish Hydro Electric Transmission plc, to operate and develop the high voltage electricity transmission system in the north of Scotland and remote islands commissioned ASH design + assessment Ltd. to undertake a Biodiversity Net Gain (BNG) assessment for the Achany Wind Farm Extension Grid Connection using the SSEN Biodiversity Project Toolkit. SSEN Transmission, hereafter referred to as "the applicant", proposes to install 16 km of OHL between the CSE structure, located 1.2 km south of the consented on-site Achany Wind Farm Extension substation and the existing Shin substation, hereafter referred to as the "Proposed Development". The purpose of this report is to assess the biodiversity net gains or losses resulting from the impacts of the Proposed Development.

1.1.2 The applicant is seeking Section 37 consent for the Proposed Development. The application will be supported by a Voluntary Environmental Appraisal (EA).

1.2 Site Description

1.2.1 The Proposed Development travels south-east from the CSE structure at 230 m above ordnance datum (AOD) across open moorland and woodland habitats to Shin substation at 10 m AOD.

1.2.2 The Proposed Development is not located within any statutory or non-statutory site designated for nature conservation. Four Special Area of Conservation (SAC) sites and one Ramsar site are located within 10 km of the Proposed Development – Caithness and Sutherland Peatlands SAC and Ramsar site, located 160 m east; the River Oykel SAC, located 382 m south; Dornoch Firth and Morrich More SAC, located 7 km south-east and River Evelix SAC, located 9.4 km east.

1.2.3 Two Sites of Special Scientific Interest (SSSIs) are located within 5 km – Grudie Peatlands SSSI, forming part of the Caithness and Sutherland Peatlands SAC and Ramsar site, and Kyle of Sutherland Marshes SSSI, located 490 m south.

1.2.4 There are no Local Nature Reserves or other local designated sites within 5 km of the Proposed Development.

1.2.5 Several areas of woodland included within the Ancient Woodland Inventory (AWI) are found within 5 km of the Proposed Development. Ancient woodland types present include Category 1a and 2a (of semi-natural origin), Category 1b and 2b (long-established of plantation origin) and Category 3 (other woodland on Roy woodland sites). The Proposed Development traverses an area of Category 2b and Category 3 AWI.

1.2.6 Habitats recorded within the Survey Area, a 500 m corridor, defined as 250 m from infrastructure associated with the Proposed Development, included:

- f1a5 Blanket bog – most of the blanket bog recorded within the Survey Area was considered to be modified through grazing and drainage and possibly other historic

management practices such as burning, resulting in some areas where the sward has become impoverished. Blanket mire habitats were also found in a fine scale mosaic with wet heath habitat in the north-west section of the Survey Area. Peat hagging was present in some areas of blanket bog, in particular around the Allt an Ràsail watercourse. Peat cutting has been undertaken in an area south of the A839. One area of 'Near Natural' M17 blanket mire was identified during surveys, located at the edge of the Survey Area approximately 180 m south of where the Proposed Development crosses the A839;

- f1a6 Degraded blanket bog – found in open habitats, often adjacent to or in a fine scale mosaic with blanket bog. This habitat has an impoverished Sphagnum bryophyte layer and is typically drier than non-degraded blanket bog habitat. Many areas of this habitat found within the Survey Area is dominated by purple moor-grass (*Molinia caerulea*);
- g1c bracken – bracken was found in large stands adjacent to the heathland habitats north of Linsidemore and within the existing wayleave north of Shin substation;
- g1b6 other upland acid grassland – acid grassland (comprising less than 1 % of the Survey Area), was found scattered throughout mire and heath habitats at higher altitudes, where stands were typically of unimproved acid grassland. At lower altitudes, areas of acid grassland tended to be more characteristic of semi-improved grassland habitat;
- g3 neutral grassland and g3c8 Holcus-Juncus neutral grassland – neutral grassland was limited to a field at the eastern edge of the Survey Area, close to Shin substation, comprising less than 1 % of the Survey Area;
- h1b5 Dry heaths; upland – dominated by heather, this habitat is found on drier knolls or better drained slopes within the Survey Area. Some evidence of burning was found in the north-west section of the Survey Area, but absent from dry heath habitats in the area north of Linsidemore. Herbivore impacts were evident, with deer browsing and trampling widely evident across the Survey Area and sheep browsing north of Linsidemore;
- h1b6 Wet heathland with cross-leaved heath; upland – the most frequently recorded habitat within the Survey Area. The NVC community M15c was commonly found on rocky areas where bare peat was visible through the open vegetation with a high coverage of *Cladonia* lichens. Smaller amounts of M15b, typical sub-community was present across the Survey Area, found on lower slopes and had a taller sward than M15c, often with a good coverage of purple moor-grass and bog myrtle;
- h3e gorse scrub – uncommon within the Survey Area, only accounting for 0.1 % of habitats surveyed;
- h3h mixed scrub – uncommon within the Survey Area, only accounting for 0.1 % of habitats surveyed;
- f2c Upland flushes, fens and swamps – found infrequently and limited to small linear flushes along the banks of the watercourses or forestry ditches;

- r2 rivers and lakes – several watercourses cross the Survey Area and drain to the Kyle of Sutherland. Watercourses include the Allt Bad an t-Segairt, Allt an Ràsail, Allt Mor and River Shin along with several smaller watercourses. Waterbodies within the Survey Area are limited to one small lochan found in Glen Rossal Estate and Loch Doire a' Chatha within Rosehall Wind Farm;
- w1a upland oakwood – mature woodland within the riparian zone of the River Shin, southeast of the Shin substation;
- w1g other broadleaved woodland – areas of new woodland planting with native broadleaved trees and also areas of scattered naturally regenerating broadleaved trees within previously felled areas;
- w1h other mixed woodland – areas of new woodland planting with native broadleaved trees and Scot's pine;
- w2a native pine woodland – semi-natural pinewood is restricted to two small areas of Scot's pine north of Durcha, characteristic of W18 *Pinus sylvestris-Hylocomium splendens* pinewood community with a heathy ground flora;
- w2b other Scot's pine woodland – of plantation origin, an area of Scot's pine woodland within Shin forest which shares similarities with the W18 NVC pinewood community;
- w2c other coniferous woodland – coniferous woodland plantations (including areas of felled plantation) are widespread within the Survey Area, accounting for 34 % of habitats. Coniferous plantations are south and east of Rosehall Windfarm, Braemore Wood and Shin forest.

1.3 Proposed Development Description

1.3.1 The Proposed Development, which is the subject of the Section 37 application comprises:

- The installation and operation of approximately 16 km of OHL supported by 208 new trident H-wood poles between a new CSE structure, approximately 1.2 km south of the consented Achany Wind Farm Extension on-site substation and the existing Shin substation;
- Installation of temporary access tracks, formed of temporary track panels, to provide a temporary surface for construction vehicles;
- Installation of two sections of permanent access track, totalling 1.6 km, (one between the consented tracks for the Achany Wind Farm Extension and the CSE structure, and another to reach the area of OHL north of Linsidemore for the facilitation of installation and maintenance of Bird Flight Diverters (BFDs);
- Installation of a CSE structure, 1.2 km south of the consented Achany Wind Farm Extension;
- Ancillary works required to facilitate the construction and operation of the OHL, including tree felling and vegetation clearance; and
- Removal of temporary works and site reinstatement.

1.3.2 The installation of the Proposed Development, including tree felling, is anticipated to take place over a 23-month period, following the granting of consents. Upon the successful installation of the OHL, all temporary works will be removed and the area reinstated.

1.3.3 A 1.2 km section of Underground Cable (UGC) will be installed between the consented Achany Wind Farm Extension on-site substation and the CSE structure. The UGC will be installed as part of the applicant's permitted development rights. This BNG assessment considers works associated with the Section 37 application only, works associated with the applicant's permitted development are considered in a separate BNG assessment for the Project.

1.4 Scope of Study

1.4.1 This report sets out the results of the BNG assessment and the approach to delivering on SSEN Transmission's BNG commitments for the Project. This report identifies the baseline biodiversity measured in Biodiversity Units (BU).

1.5 Policy and Legislation

1.5.1 The Proposed Development is recognised in Scotland's fourth National Planning Framework (NPF4) as a National Development. NPF4 requires significant biodiversity enhancements be provided in addition to any proposed mitigation, stating that "*Development proposals for national or major development that require an Environmental Impact Assessment will only be supported where it can be demonstrated that the proposal will conserve, restore and enhance biodiversity, including nature networks, so that they are in a demonstrably better state than without intervention".*

1.5.2 A route optioneering assessment was undertaken early in the project design to inform the route selection process based on the surrounding designated sites and the habitats identified through this assessment. In depth consultation was also held with the relevant statutory bodies on the route options and subsequent alignment options. The route optioneering assessment sought to avoid the Proposed Development entering the adjacent Caithness and Sutherland Peatlands SAC and Ramsar site and to increase the separation distance between the Proposed Development and the designation. The Proposed Development has been designed to minimise the need for access tracks, by utilising existing access tracks and consented access tracks for the Achany Wind Farm Extension as far as possible.

1.5.3 The mitigation hierarchy has been applied to avoid impacts to biodiversity where possible. The extensive nature of blanket bog and degraded blanket bog habitat between the CSE and Rosehall woodlands south of Rosehall Wind Farm, means that complete avoidance of these habitats is not possible. Where avoidance has not been possible, impacts to these habitats have been minimised as far as practicably possible with appropriate mitigation measures set out the EA.

2 Methodology

2.1 Area and Surveys

2.1.1 **Desk Based Assessment** – The desk-based assessment was based upon collation of data from publicly available datasets provided by statutory and non-statutory authorities and analysis of freely-available aerial imagery. Desk-based survey included analysis of the following datasets:

- Joint Nature Conservation (JNCC) website[1];
- NatureScot Site Link website[2];
- NatureScot Natural Spaces datasets[3];
- Habitat Map of Scotland (HabMos) website[4];
- Native Woodland Survey of Scotland (NWSS) data[5];
- Carbon and Peatland Map of Scotland[6];
- Open source data from the National Biodiversity Network[7];
- Highland Nature Biodiversity Action Plan 2021 – 2026[8];
- Scottish Biodiversity List (SBL)[9]; and
- Detailed aerial imagery from Ordnance Survey.

2.1.2 **Field Assessment** – Habitat surveys were undertaken within the Survey Area, defined as a 250 m buffer from the Proposed Development, in June and July 2023. Habitats across the Survey Area were classified and mapped following the UK Habitat (UKHab)[10] classification system. Target notes were taken to provide a photographic record of the habitats recorded and any features of interest. National Vegetation Classification (NVC) was undertaken for priority habitats within the Survey Area. Habitat Condition Assessment (HCA) was undertaken alongside the UKHab surveys and assigned each habitat parcel a condition score (Good, Moderate, Poor or N/A) based on the Condition Assessment sheets detailed in the Natural England Biodiversity Metric 3.1[11]. Where habitat mosaics were recorded, the representative ratios of each habitat type were included.

2.1.3 **Evidence of technical competence –** Surveys were undertaken by Consultant Ecologists from Orrin Ecology who are full CIEEM members, capable in surveying sites within the Highlands of similar habitat types, with 14 years of relevant consultancy experience.

[1] Joint Nature Conservation (JNCC) website: https://jncc.gov.uk
[2] NatureScot Site Link website: https://sitelink.nature.scot/home
[3] NatureScot Natural Spaces datasets: https://www.nature.scot/information-hub/naturescot-data-services
[4] Habitat Map of Scotland (HabMos) website: https://www.nature.scot/landscapes-and-habitats/

2.2 Approach to Biodiversity Net Gain

2.2.1 A full BNG Assessment was undertaken for the Project Site. The BNG assessment was completed using the Toolkit following the SSEN Biodiversity Net Gain Toolkit User Guide (2022). This method has been revised to align with Natural England Biodiversity Metric 3.1, adapted to reflect the requirements of Scottish habitats, to quantify losses and gains of biodiversity. Data were collected on type, area, and condition of the habitat of the Proposed Development, indicating the biodiversity present on-site before the work begins. The same Toolkit was used to calculate the biodiversity losses and the units resulting from the proposed habitat creation after works. The outcomes have been used to ensure the biodiversity targets are being met for the development.

2.2.2 The Toolkit assesses losses of area and linear habitat separately. The Toolkit produces a Unit score for three categories of habitat: Biodiversity Units, Linear Hedgerow (H) Units and Linear Watercourse (W) Units. No linear hedgerow features are present within the Proposed Development. Watercourse features are found within the Proposed Development, with limitations and assumptions for the calculation of Watercourse W Units detailed in Section 2.3 below.

2.3 Limitations and Assumptions

2.3.1 To produce this assessment, certain assumptions have been made and are detailed in this section. This section also details the reasoning for not including certain elements of the proposed development in the Toolkit.

2.3.2 The following assumptions have been made as part of this assessment:

Access Tracks

- Temporary access tracks will be required to construct the OHL alignment where existing and consented access tracks are not already located. The temporary access tracks will utilise temporary track panels which will be in place for up to 23 months. The use of temporary track panels does not require breaking of ground and usually only results in a flattening of the sward, creating minimal disturbance to the

[5] Native Woodland Survey of Scotland (NWSS) data: https://forestry.gov.scot/support-regulations/scottish-forestry-map-viewer
[6] SNH (2016) Carbon and Peatland map of Scotland. Available from: https://soils.environment.gov.scot/maps/thematic-maps/carbon-and-peatland-2016-map/
[7] National Biodiversity Network website: https://nbnatlas.org/
[8] Highland Environmental Forum (2021). Highland Nature: Biodiversity Action Plan 2021 – 2026. Available from: https://www.highlandenvironmentforum.info/biodiversity/action-plan/
[9] Scottish Biodiversity List: https://www.nature.scot/scotlands-biodiversity/scottish-biodiversity-strategy-and-cop15/scottish-biodiversity-list
[10] UKHab Ltd (2023) UK Habitat Classification Version 2.0. Available online: https://www.ukhab.org
[11] Natural England, 2023. Archive site for the Biodiversity Metric 3.1. Available online: https://publications.naturalengland.org.uk/file/4711800952848384

underlying habitats. Track panels are proposed to be located in areas of h1b5 Dry heath, upland (moderate condition); h1b6 Wet heathland with cross-leaved heath, upland (moderate condition); f1a6 Degraded blanket bog (poor condition); g1c Bracken (poor condition); g1b6 Other upland acid grassland (moderate condition) and f1a5 Blanket bog (moderate condition). The track panels for temporary access tracks will not require breaking of ground and as such will not result in the loss of habitat, however due to the length of time the panels will be in place for, the areas impacted by track panels have been included within the Toolkit calculations. Areas of h1b5 Dry heath, upland (moderate condition), h1b6 Wet heathland with cross-leaved heath, upland (moderate condition) and f1a6 Degraded blanket bog (Poor condition) are expected to return to their original extent and condition within 2 years of the panels being removed. Areas of g1b6 Other upland acid grassland (moderate condition) and g1c bracken (poor condition) are expected to return to their original extent and condition within one year of the panels being removed. A two-year delay in reinstatement has been added for all habitat areas impacted by temporary track panels, which are anticipated to be in place for 23 months.

- An area of 0.11 ha f1a5 Blanket bog (moderate condition) will be impacted by the installation of track panels for temporary access tracks. As above, the area is anticipated to be restored to its original extent and condition within four years of construction commencing (two years to recover plus two year delay in reinstatement). As this habitat type is considered an irreplaceable habitat, the area disturbed is treated as permanent loss and is compensated for appropriately as detailed in Section 4.2 and 4.4.
- The two sections of permanent access track would be constructed from stone (either imported or won from an on-site borrow pit). The permanent access tracks would have a running width of 5 m, reduced to 3 m following the commissioning of the Proposed Development. Floating track construction is proposed for areas of permanent track located on peat.
- The construction period for the Proposed Development is estimated to be undertaken over 23 months. In habitats that will be restored following the reduction in running width of the two sections of permanent access track, there is a requirement to include temporal risk within the Toolkit for created habitats. Where habitats are reinstated following the reduction in running width of the permanent access track, an additional two years has been added to the time anticipated for the habitat to reach target condition to account for the delay in time for reinstatement to commence.
- Habitats restored during the reinstatement of the sections of permanent access track include areas of degraded blanket bog in poor condition, wet heathland with cross-leaved heath in moderate condition and dry heaths in moderate condition. Reinstatement works will follow SSEN Transmission General Environmental Management Plans (GEMPs), specifically Soil Management, Working in Sensitive Habitats, and Restoration to ensure that construction methods are followed to enable the successful reinstatement of habitats post-construction.

- It is anticipated that areas of f1a6 Degraded blanket bog in poor condition would be reinstated to the original extent and condition within the timeframe of 32+ years, as recommended by the Biodiversity Metric 3.1 Technical Supplement.
- Areas of h1b6 Wet heathland with cross-leaved heath, upland (moderate condition) and h1b5 Dry heath, upland (moderate condition) that are reinstated following the reduction in running width of access tracks are anticipated to be reinstated to poor condition within 12 years – 10 years plus a two-year temporal delay to the commencement of reinstatement.

Excavations

- Each pole would require an excavation of 9 m^2, totalling 0.19 hectares (ha) for all 208 poles. Reinstatement will be undertaken sequentially (i.e. each area will be restored following installation of the pole rather than reinstatement being undertaken at the end of the installation of all 208 poles). Following the installation of each pole, the area would be back-filled and the surrounding vegetation reinstated under supervision of an Environmental Clerk of Works (ECoW) in line with the mitigation measures detailed in Chapter 5: Ecology of the EA, leading to the permanent loss of 1 m^2 for each pole and 8 m^2 of temporary disturbance around each pole. Given the mitigation measures in place to reinstate habitats around the poles and the short timeframe for disturbance, it is anticipated that areas of wet heathland and dry heath will reinstate to moderate condition within 5 years. This is shorter than the 10 years suggested by the guidance[12], but is considered more appropriate for pole installation timescales with associated mitigation.
- The CSE will comprise the installation of six wood poles to support the CSE structure requiring an excavation of 54 m^2. Following installation of the six poles, the area around the poles would be back-filled and the surrounding vegetation reinstated, leading to the permanent loss of 10 m^2 and 44 m^2 of habitat disturbance. The CSE is located within an area of h1b6 Wet heathland with cross-leaved heath, upland (moderate condition). Similar to the reinstatement of habitats around pole installations as described above, the 44 m^2 of wet heath disturbed during the installation of the CSE structure would be reinstated within 3 months and is anticipated to reinstate to moderate condition within 5 years. This is shorter than the 10 years suggested by the guidance[13], but is considered more appropriate for the pole installation timescales with associated mitigation.

Felling

- The felling requirements for the Proposed Development include felling for the Operational Corridor (OC) to create a wayleave 72 m wide (i.e. 36 m either side of the OHL), further reduced to a 60 m OC when felling within areas of broadleaved trees and vegetation clearance along access track routes. The majority of felling to

[12] Natural England, 2023. Archive site for the Biodiversity Metric 3.1. Technical Supplement. Available online: https://publications.naturalengland.org.uk/file/4711800952848384
[13] Natural England, 2023. Archive site for the Biodiversity Metric 3.1. Technical Supplement. Available online: https://publications.naturalengland.org.uk/file/4711800952848384

create the wayleaves is within non-native conifer plantations, with smaller areas of broadleaved plantation woodland and mixed plantation woodland.

- The overall felling totals given in Chapter 9: Forestry of the EA for the OC and any felling for access track wayleaves total 49.70 ha. The way in which woodland is classified in Chapter 9 differs from the habitat classification of woodland used in Chapter 5: Ecology and this BNG Assessment. The UK Habitat Classification defines woodland as areas with a minimum of 25 % tree cover, whereas the National Forest Inventory[14], used in Chapter 9, defines woodland '*as land with a minimum area of 0.1 ha under stands of trees with, or with the potential to achieve, tree crown cover of more than 20 %. Areas of open space integral to the woodland are also included*', with areas of felled woodland also included. The UK Habitat Classification has a separate category for felled woodland and a minimum mapping unit (MMU) of 5m^2, meaning that forestry rides and open glades within forestry blocks are mapped as the appropriate open ground habitat. For example, Chapter 9: Forestry classifies areas of dry heath with scattered young conifer regen as woodland, whereas in UKHab the area is mapped as h1b5 dry heath, upland, as the scattered trees did not reach 25 % cover at the time of survey.
- Chapter 5: Ecology calculates 32.74 ha of felling, the difference of 16.96 ha between this and the total used in Chapter 9: Forestry accounts for areas of open ground habitat with less than 25 % tree cover and felled woodland. The shapefiles and figures calculated in the Ecology chapter are used for this assessment as it is more representative of the habitats identified onsite based on UKHab and NVC surveys rather than deforestation being calculated for Scottish Government's policy on Control of Woodland Removal and off-site Compensatory Planting requirements as represented in the Forestry chapter of the EA.
- Upon completion of the installation of the Proposed Development, a 15 m corridor directly beneath the OHL conductors will be maintained in accordance with SSEN Transmission's Vegetation Management Strategy to prevent and scrub or tree growth to protect the safe operation of the OHL and allow for maintenance access throughout the operation of the Proposed Development. In the absence of naturally regenerating scrub habitat within the 15 m corridor through felled areas, further light will reach the area beneath the conductors and it is considered this area will likely recover to acid grassland in poor condition within three years – one year for creation and two years for delay in creation, with regular scrub maintenance.
- The remaining wayleave (within felled areas but out with the 15 m corridor) will be allowed to naturally regenerate, with any tree growth managed in line with SSEN Transmission's Resilience Strategy to prevent tree growth reaching a height which may pose a risk to the safe operation of the OHL. The remaining felled wayleave will regenerate to mixed scrub in poor condition within three years – one year for creation and two years for delay in creation.

[14] Forestry Commission (2001) National Inventory of Woodland and Trees – Scotland. Available from: https://www.cdn.forestrresearch.gov.uk/2022/02/niscotland.pdf

2.3.3 The following limitations are present within the assessment:

- Borrow pits which would be required to source stone for the construction of permanent access tracks and the location of temporary construction compounds would be decided on following further detailed design. Separate planning applications would be sought by the Principal Contractor for these aspects of the Project. These aspects of the Project are not currently included within the Toolkit calculations due to uncertainty over their locations. Following confirmation of the location of these areas, it is recommended that this assessment is updated.
- Several watercourses are present within the Survey Area, with some oversailed by the OHL and / or crossed by the temporary and permanent access tracks. The methods for watercourse crossing points will be determined by the Principal Contractor as part of the project detailed design. Following confirmation of the location of crossing points and methods of construction, it is recommended that this assessment is updated.
- Habitat mosaics are not accepted within the Toolkit, where habitat mosaics were recorded during field surveys, NVC habitat data which included representative ratios of each habitat within the mosaic, was used to attribute a relevant portion of each habitat parcel to a distinct habitat type in the Toolkit.
- The Toolkit does not allow areas of less than 0.01 ha to be input which can create discrepancies in the area of habitat loss calculated as part of the EA and the Toolkit calculations. This is particularly problematic when multiple habitat parcels are impacted by a linear feature such as access tracks, which results in losses to multiple habitat parcels that are less than 0.01 ha. To avoid this discrepancy issue, habitat losses for each habitat type are grouped where the habitat condition is the same and is input into the Toolkit as a single entry.
- The Toolkit calculates BU to four decimal points, but only two decimal points are used for reporting purposes in this report. This results in slight differences in values such as 110.83 BU baseline calculated in the Toolkit compared with 110.82 BU reported in Table 1. The differences are no greater than 0.01 and as such are not considered to be a limitation to reporting.

3 Results

3.1 Biodiversity Baseline

3.1.1 The baseline habitats impacted by development are shown in the baseline habitat plan (see Appendix A) detailed in the Toolkit (see Appendix B) and are detailed in Table 1 below. Impacted habitats include:

- Habitats disturbed and lost during the installation of poles; and
- Habitats disturbed and lost during the installation of the CSE structure; and
- Habitats disturbed and lost during the installation of permanent and temporary access tracks; and
- Woodland lost through felling to create an operational corridor and for access tracks.

3.1.2 The baseline area biodiversity units are 110.82 BU.

Table 1: Baseline Non-Irreplaceable Habitats

UKHab Type	Toolkit Habitat Type	Area of Habitat Impacted (ha)	Habitat Distinctiveness	Habitat Condition	Biodiversity Units (BU)	Action
f1a6 degraded blanket bog	Wetland – Blanket bog	0.07	High	Poor	0.53	Impacted by pole and permanent track installation
h1b5 dry heath, upland	Heathland and shrub – Upland heathland	0.09	High	Moderate	1.31	Impacted by pole, CSE and permanent track installation
h1b6 wet heathland with cross-leaved heath, upland	Heathland and shrub – Upland heathland	0.24	High	Moderate	3.48	Impacted by pole and permanent track installation
w1g other broadleaved woodland	Woodland and forest – other woodland broadleaved	0.22	Medium	Moderate	2.02	Felled to create wayleave
w1h other mixed woodland	Woodland and forest – other woodland mixed	2.86	Medium	Moderate	26.31	Felled to create wayleave

w1h other mixed woodland	Woodland and forest – other woodland mixed	3.01	Medium	Poor	13.85	Felled to create wayleave
w2c other coniferous woodland	Woodland and forest – other coniferous woodland	26.65	Low	Poor	53.30	Felled to create wayleave
w2c other coniferous woodland - felled	Woodland and forest – other coniferous woodland	0.09	Low	Poor	0.18	Impacted by permanent track installation
h1b5 dry heath, upland	Heathland and shrub – Upland heathland	0.03	High	Moderate	0.44	Disturbed by temporary access tracks
h1b6 wet heathland with cross-leaved heath, upland	Heathland and shrub – Upland heathland	0.45	High	Moderate	6.53	Disturbed by temporary access tracks
f1a6 degraded blanket bog	Wetland – Blanket bog	0.11	High	Poor	0.83	Disturbed by temporary access tracks
g1c bracken	Grassland – Bracken	0.11	Medium	Poor	0.44	Disturbed by temporary access tracks
g1b6 other upland acid grassland	Grassland – Upland acid grassland	0.11	High	Moderate	1.60	Disturbed by temporary access tracks
	Totals	**34.04**			**110.82**	

3.2 Irreplaceable Habitats

3.2.1 No Category 1a or 2a Ancient Woodland, ancient or veteran trees, or raised bog are found within the Proposed Development. Irreplaceable f1a5 Blanket bog in moderate condition will be impacted by the installation of permanent and temporary access tracks and pole installation. The Proposed Development will result in the loss of 0.05 ha of blanket bog irreplaceable habitat. Following the completion of pole installation, disturbed ground around the pole excavation will be reinstated and upon completion of construction the permanent access tracks will be partially reinstated from a 5 m to 3 m running width. An area of 0.03 ha of f1a5 Blanket bog irreplaceable habitat will be reinstated following the completion of works. This area of habitat will lose a condition score during reinstatement and be reinstated to poor condition blanket bog within 32+ years. The area of 0.11 ha f1a5 Blanket bog in moderate condition disturbed during the installation of temporary access tracks (track panels), is anticipated to recover to its original condition within 4 years of construction commencing (two years to recover and two years delay in reinstatement commencing).

Table 2: Baseline Irreplaceable Habitats

UKHab Type	Toolkit Habitat Type	Area of Habitat Impacted (ha)	Habitat Distinctiveness	Habitat Condition	Action
f1a5 blanket bog	Wetland – Blanket bog	0.05	High	Moderate	Impacted by pole and permanent track installation
f1a5 blanket bog	Wetland – Blanket bog	0.11	High	Moderate	Disturbed by temporary access tracks
	Total	**0.16**			

3.3 Post-development Biodiversity Units

3.3.1 The post-development units have been calculated using the difference between the baseline and the impact on the habitat.

3.3.2 The baseline habitats will either be lost due to pole, CSE and permanent track installation, disturbed around pole installations and reinstated and permanently lost during felling to create the OC wayleave.

3.3.3 Following the construction of the Proposed Development, habitats will be reinstated and in areas of felling, vegetation will naturally regenerate.

3.3.4 The post-development units for (area) are 96.43 BU, resulting in a loss of 14.39 BU, representing a biodiversity net loss of 13 %.

3.4 BNG Off-setting

3.4.1 Opportunities for habitat creation and enhancement are being explored to deliver a 10 % gain in biodiversity. To provide a 10 % gain in biodiversity, 25.47 BU will need to be delivered through off-site habitat enhancement. An area to achieve 10 % gain for non-irreplaceable habitat is yet to be identified, but the applicant is currently seeking an appropriate off-setting site in the local area.

3.4.2 In addition, SSEN Transmission will seek to identify an opportunity to compensate for the loss or disturbance of 0.16 ha blanket bog irreplaceable habitat. Note that 0.11 ha of the 0.16 ha loss is anticipated to reinstate to its original condition following the removal of temporary track panels, however additionality has been sought by the applicant and the area will be compensated for. The bespoke compensation for the loss of irreplaceable blanket bog will be achieved through peatland restoration. This peatland restoration seeks to contribute to national targets to restore peatlands and support the aims of the Highland Council's Ecology Strategy and Action Plan[15] and the Highland Nature Biodiversity Action Plan[16]. The area for peatland restoration would be 1.62 ha. This approach is in accordance with NatureScot guidance for developments that impact on peatland habitats[17] to commit to restoration measures of a 10:1 compensation ratio plus an additional 10 %. Improving the condition of an area of 1.62 ha of blanket bog to a higher condition would aim to be undertaken as close as possible to the Proposed Development and tie in with the peatland restoration proposals for the Achany Wind Farm Extension Habitat Management Plan[18].

3.4.3 Any peatland restoration undertaken to provide habitat enhancement offsite will be undertaken in line with the Peatland ACTION technical guidance[19] and seeks to reduce physical erosion of peat and help rewet adjacent peatlands, which in turn helps to reduce the release of carbon stored (e.g. into watercourses in dissolved and particulate forms or into the atmosphere as CO_2) within areas of actively eroding peatland.

3.4.4 It is anticipated that the peatland restoration measures to provide habitat enhancement would be detailed in a Habitat Management Plan (HMP), secured by condition of consent, and would include the monitoring and maintenance regime associated with the BNG peatland restoration proposals. SSEN Transmission will be responsible for implementing monitoring and maintenance measures included the HMP.

[15] Highland Council Ecology Strategy and Action Plan (2024). Available from: https://www.highland.gov.uk/download/meetings/id/84059/item_13_ecology_strategy_and_action_plan

[16] Highland Nature: Biodiversity Action Plan 2023 – 2026. Available from: https://www.highlandenvironmentalforum.info/biodiversity/action-plan/

[17] NatureScot (2023) Advising on peatland, carbon-rich soils and priority peatland habitats in development management. Available from: https://www.nature.scot/doc/advising-peatland-carbon-rich-soils-and-priority-peatland-habitats-development-management

[18] Scottish and Southern Energy (SSE) (2023) Achany Wind Farm Extension Environmental Impact Assessment (EIA). Energy consents reference: ECU00001930

4 Summary

4.1 Summary of Results

4.1.1 The Proposed Development will result in the loss of 14.39 biodiversity units (-13 % loss) and the loss of 0.16 ha of irreplaceable blanket bog. SSEN Transmission will seek to secure an offsetting opportunity to appropriately offset the Proposed Development.

4.1.2 The habitat creation / enhancements will be designed to be achieved within a reasonable timeframe and with reasonable certainty as the outcomes from the toolkit have been informed by the Natural England Biodiversity Metric 3.1. The restoration and enhancement of biodiversity was conducted in accordance with local and national guidance, including the Peatland ACTION technical guidance. It is considered these measures are appropriate to the nature and scale of the Proposed Development and means the project will achieve positive effects for biodiversity, leaving the natural environment in a demonstrably better state than before development work began.

Table 3. Summary of biodiversity units

Habitat Type	Baseline Biodiversity Units (BU)	Post – Development Biodiversity Units (BU)	Difference in Biodiversity Units (BU)	Difference in Biodiversity Units (%)	Biodiversity Units Required Off-site to achieve 10 % gain (BU)
Area	110.82	96.43	-14.39	-13	25.47
Linear (Hedgerows)	0	0	0	0	0
Linear (Watercourses)*	0	0	0	0	0
*Several watercourses are present within the Survey Area. The methods for watercourse crossing points will be determined by the Principal Contractor as part of the project detailed design. Following confirmation of the location of crossing points and methods of construction, it is recommended that this assessment is updated.					

4.2 Biodiversity Outcomes

4.2.1 The outcomes of the proposed peatland restoration works to provide bespoke compensation for the loss of 0.16ha of irreplaceable blanket bog and further on-site biodiversity enhancement measures will be:

- **Reduce carbon emissions** by reducing the physical erosion of peat in drain bases and sides and also in gullies to minimise losses of particulate matter and through re-

[19] Peatland ACTION (2022) Technical Compendium. Available from: https://www.nature.scot/doc/peatland-action-technical-compendium

wetting of peat adjacent to drains to reduce oxidative losses. Reprofiling of hags will reduce the area of bare peat, reducing the effects of drying and wind erosion;

- **Improve water quality and reducing downstream flood risks** by reducing the levels of suspended solids runoff in eroding drains and holding water within peatland higher up in the catchment. If the implementation of peatland restoration proposals are undertaken in areas of poor condition blanket bog within proximity to the Proposed Development, this would also have downstream benefits from decreased erosion and runoff into the watercourses traversing the Proposed Development and subsequently the River Cassley, part of the River Oykel SAC; and
- **Increase floral and faunal diversity** by reducing areas of bare peat and providing more habitat for plants and the animals that browse on them. Increasing the extent of standing water within restored peatland locally adjacent to bunds to stabilise peat pans and behind drain dams will encourage a broader range of plant and animal species, including qualifying species of the adjacent Caithness and Sutherland Peatlands SAC, Ramsar and Special Protection Area (SPA).

4.2.2 In addition, the naturally regenerating mixed scrub and grassland habitat within the felled wayleave will provide a more varied habitat for birds, mammals and invertebrates compared with the surrounding non-native conifer woodland.

4.3 Implementing and Monitoring

4.3.1 Biodiversity enhancements will be achieved within the following timeframe. Following the successful implementation of the bespoke compensation, in the form of peatland restoration, in line with Peatland ACTION technical guidance, it is anticipated that areas of poor condition blanket bog could be managed to reach moderate condition in 32+ years. Naturally regenerating habitat within the wayleave is anticipated to have reached poor condition acid grassland and mixed scrub within 3 years.

4.3.2 To ensure positive enhancements are achieved long term, monitoring and maintenance procedures will be implemented. A programme of vegetation condition monitoring will be developed and undertaken before and at regular intervals after restoration works to monitor the progress and success or failure of the restoration. The monitoring plan will continue for a 30 year period, by which time it is anticipated that the peatland restoration will have been successful in achieving moderate condition for the restored blanket bog habitat. It is anticipated that the monitoring and maintenance would be detailed in a Habitat Management Plan (HMP), secured by condition of consent, and would include the monitoring and maintenance regime associated with the BNG peatland restoration proposals. SSEN Transmission will be responsible for implementing monitoring and maintenance measures included the HMP.

Appendix A Good practice principles for biodiversity net gain

The project has applied the UK good practice principles for biodiversity net gain (CIRIA C776a Biodiversity net gain. Good practice principles for development. Part A: A practical guide) below:

Principle	Summary of project actions
Apply the mitigation hierarchy	The mitigation hierarchy, to avoid / minimise impacts on surrounding biodiversity, has been applied throughout the evolution of the design process for the Proposed Development, seeking to avoid impacts to the adjacent designated sites and utilising existing and already consented access tracks to minimise habitat loss. A route optioneering assessment was undertaken early in the project design to inform the route selection process based on the surrounding designated sites and the habitats identified during the route and alignment process surveys. The mitigation hierarchy has also been applied through the recommendations within the Environmental Appraisal (EA) undertaken for the Proposed Development.
Avoid losing biodiversity that cannot be offset elsewhere	No designated sites would be directly impacted by the Proposed Development. Habitats of high distinctiveness and irreplaceable habitats have been avoided where possible. Where impacts to these habitats have been identified as a result of the Proposed Development, measures have been set out to offset these losses as close to the Proposed Development as possible.
Be inclusive and equitable	Throughout the EA process, statutory bodies and stakeholders have been consulted to explore the approaches for biodiversity.
Address risk	The habitat reinstatement would follow recognised best practice as detailed in the Applicant's General Environmental Management Plans to minimise the risk of damage to underlying peat and aid recovery of habitats. This BNG assessment incorporates delivery, spatial and difficulty risk when enhancing and

	creating habitats. Habitat enhancement and creation should be explored in advance of construction commencing to reduce temporal risk. A Habitat Management Plan (HMP) will be developed for the Project, detailing results of further surveys within the proposed areas of peatland restoration as part of compensation measures. The HMP will also include monitoring requirements to determine if the created habitats are on track to reach their target condition. Should habitat creation / enhancement be unsuccessful in any location, the HMP would include a feedback loop to ensure that active management is undertaken, and remedial measures are implemented.
Make a measurable net gain contribution	SSEN Transmission have published commitments to BNG in their Sustainability Strategy, the Pathway to 2030 (2024). SSEN Transmission's BNG toolkit provides evidence on how the Project baseline habitat units and created habitat units, the difference between these is used to measure the Project's success in meeting a 10 % gain.
Achieve the best outcomes for biodiversity	The improvement of peatland condition can provide benefits to breeding and foraging birds, mammals and invertebrates. If the peatland restoration proposals are undertaken adjacent to the Proposed Development, this can provide benefits for the qualifying features of the adjacent Caithness and Sutherland Peatlands SPA, SAC and Ramsar designated site. Downstream benefits can also be realised for the River Cassley, a tributary of the River Oykel SAC. Blanket bog is a priority habitat, listed within the Scottish Biodiversity List and a priority habitat of the LBAP.
Be additional	Any mitigation required identified within the EA should be included in habitat enhancement plans to ensure the plans go beyond these mitigation requirements.
Create a net gain legacy	The peatland restoration would provide long-term benefits through adaptive management planning and dedicated funding for long-term management.

Optimise sustainability	As BNG has been included from the start of the Proposed Development route options appraisal and the work has been carried out by people across multiple disciplines this optimises the sustainability of the Proposed Development. This will be explored further during the next stages of the development including the appointment of the Principal Contractor.
Be transparent	SSEN Transmission is keen to ensure that approaches following on from this project and others are shared to ensure that any lessons learnt through BNG assessment, habitat creation / enhancement and habitat management can be factored into future projects.