

## **Consultation Document**

### **Overhead Line Route Selection**

### **Creag Dhubh to Inveraray 275 kV Overhead Line**

**June 2021**

**Reference LT000194**



## CONTENTS

<b>GLOSSARY</b>	<b>2</b>
<b>PREFACE</b>	<b>4</b>
<b>EXECUTIVE SUMMARY</b>	<b>5</b>
<b>1. INTRODUCTION</b>	<b>6</b>
1.1 Purpose of Document	6
1.2 Document Structure	6
1.3 Next Steps	6
<b>2. THE PROPOSALS</b>	<b>7</b>
2.1 Project Need	7
2.2 Proposals Overview	7
<b>3. DESCRIPTION OF THE ROUTES</b>	<b>8</b>
3.1 Identification of Route Options	8
<b>4. COMPARATIVE APPRAISAL</b>	<b>9</b>
4.1 Introduction	9
4.2 Environmental Topics	9
4.3 Engineering Topics	10
4.4 Cost	12
4.5 Comparative Analysis Summary	13
4.6 Preferred Route	14
<b>5. CONSULTATION ON THE PROPOSALS</b>	<b>17</b>
5.1 Questions for Consideration by Consultees	17
5.2 Next Steps	17

### Appendix

Figures

*Figure 1: Study Area*

*Figure 2: Route Options*

*Figure 3: Natural Heritage*

*Figure 4: Hydrology*

*Figure 5: Peat*

*Figure 6: Topography*

*Figure 7: Additional Route Option*

*Figure 8: Preferred Route Option*

## GLOSSARY

<b>Term</b>	<b>Definition</b>
Alignment	A centre line of an overhead line OHL, along with location of key angle structures.
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.
Conductor	A metallic wire strung from structure to structure, to carry electric current.
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 Impact Assessment (EIA)	A formal process set down in The Electricity Works (EIA) (Scotland) Regulations 2017 used to systematically identify, predict and assess the likely significant environmental impacts of a proposed project or development.
Gardens and Designed Landscapes (GDLs)	The Inventory of Gardens and Designed Landscapes lists those gardens or designed landscapes which are considered by a panel of experts to be of national importance.
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.
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 individual structures to avoid localised environmental or technical constraints.
Mitigation	Term used to indicate avoidance, remediation or alleviation of adverse impacts.
National Scenic Area (NSA)	A national level designation applied to those landscapes considered to be of exceptional scenic value.
Overhead line (OHL)	An electric line installed above ground, usually supported by lattice steel towers or poles.
Plantation Woodland	Woodland of any age that obviously originated from planting.
Riparian Woodland	Natural home for plants and animals occurring in a thin strip of land bordering a stream or river.
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.
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'.

TRANSMISSION

<b>Term</b>	<b>Definition</b>
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 Argyll and Bute 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 74/409/EEC) to protect important bird habitats. Implemented under the Wildlife and Countryside Act 1981.
Stakeholders	Organisations and individuals who can affect or are affected by SSEN Transmission works.
Study Area	The area within which the corridor, route and alignment study takes place.
Terminal Structure	A structure (tower or pole) required where the line terminates either at a substation or at the beginning and end of an underground cable section.
The National Grid	The electricity transmission network in the Great Britain.
Volts	The international unit of electric potential and electromotive force.
Wayleave	A voluntary agreement entered into between a landowner upon whose land an overhead line is to be constructed and SSEN Transmission
Wild Land Area (WLA)	Those areas comprising the greatest and most extensive areas of wild characteristics within Scotland.

## PREFACE

This Consultation Document has been prepared by Ramboll on behalf of Scottish and Southern Electricity Networks Transmission (SSEN Transmission) to seek comments from all interested parties on the Preferred Route identified for the proposed Creag Dhubh to Inveraray 275 kV overhead line (OHL) project.

The Consultation Document is available online at <https://www.ssen-transmission.co.uk/projects/creag-dhubh-inveraray-275kv-overhead-line/>

Our virtual consultation room will launch on 14<sup>th</sup> July 2021, where further information regarding our proposals will be available alongside opportunities to join the project team for interactive text chat sessions.

A link to view the virtual consultation platform will be available on the project webpage from 14<sup>th</sup> July 2021.

<b>Date of event</b>	<b>Website address to join consultation</b>
Wednesday 14 <sup>th</sup> July: 10am – 1pm & 5pm - 7pm	<a href="https://www.ssen-transmission.co.uk/projects/creag-dhubh-inveraray-275kv-overhead-line/">https://www.ssen-transmission.co.uk/projects/creag-dhubh-inveraray-275kv-overhead-line/</a>
Thursday 15 <sup>th</sup> July: 10am – 1pm & 5pm - 7pm	
Thursday 29 <sup>th</sup> July: 10am – 1pm & 5pm - 7pm	

Comments on this document should be sent to:

Sarah Cane-Ritchie

SSEN Transmission

Inveralmond House

200 Dunkeld Road Perth PH1 3AQ

Email: [Sarah.Cane-Ritchie@sse.com](mailto:Sarah.Cane-Ritchie@sse.com)

Mobile: 07918472528

All comments are requested by 9<sup>th</sup> July 2021.

## EXECUTIVE SUMMARY

This Consultation Document invites members of the public, statutory consultees and other key stakeholders to provide comment on the Route Options for a 275 kV connection between the proposed Creag Dhubh 132/275 kV substation and the recently constructed Inveraray to Crossaig 275 kV OHL.

In order to meet the licence obligations and ensure security of supply SSEN Transmission need to provide a new 275 kV OHL transmission connection. SSEN Transmission have identified five alternative Route Options to meet this need, as follows:

### **Route Option A: Overhead Line from Balantyre Wood to the Proposed Creag Dhubh Substation**

Route Option A was selected as an option that provided the greatest separation from areas of settlement and transport corridors around Inveraray, Glen Aray and separation from the Glen Etive and Glen Fyne Special Protection Area (SPA) (for birds).

### **Route Option B: Overhead Line from Balantyre Wood to the Proposed Creag Dhubh Substation**

Route Option B was selected to provide a direct Route Option on the west side of the A819 in Glen Aray.

### **Route Option C: Overhead Line from Inveraray Substation to the Proposed Creag Dhubh Substation**

Route Option C was selected to provide an option that would follow the existing 132 kV OHL from Inveraray substation.

### **Route Option D: Overhead Line from Carloonan to the Proposed Creag Dhubh Substation**

Route Option D was selected to provide a direct Route Option on the east side of the A819 in Glen Aray.

### **Route Option E: Overhead Line from Inveraray Substation to the Proposed Creag Dhubh Substation**

Route Option E was selected to provide the shortest direct Route Option between the Inveraray switching station and the proposed Creag Dhubh substation.

This report presents a comparative analysis of environmental, engineering and cost criteria of the five Route Options. Overall, a combined sixth Route of Route Options D and E, named Route Option DE is considered to be the Preferred Route Option.

A Report on Consultation will be published in August 2021 which will document the consultation responses received, and the decisions made in light of these responses, to select a Proposed Route for further design development by assessment of OHL Alignment Options.

## 1. INTRODUCTION

### 1.1 Purpose of Document

SSEN Transmission is proposing to construct and operate a new 275 kV overhead line (OHL) between a proposed new substation at Creag Dhubh, and a connection point on the recently constructed Inveraray to Crossaig OHL, north Argyll, Scotland. This Consultation Document invites comments from all interested parties on the Route Options under consideration. The Study Area for the project is shown in, Appendix, Figure 1.

Transmission licensees, such as SSEN Transmission, are required to comply with the National Electricity Transmission System Security and Quality of Supply Standards<sup>1</sup> (NETS SQSS), which sets out criteria and methodologies for planning and operating the GB Transmission System. New generation connection requests from renewable energy projects throughout Argyll exceed the capacity of the existing transmission system in the area. In order to meet the license obligations relating to security of supply as set out in the NETS SQSS, there is need to provide a new 275 kV transmission connection between the recently constructed Inveraray to Crossaig OHL, connecting to the proposed new substation at Creag Dhubh.

This Consultation Document describes the different connection OHL Route Options evaluated in more detail and invites interested parties to provide their views.

All comments received will inform SSEN Transmission's selection of a Preferred Option to take forward.

### 1.2 Document Structure

This report is comprised of the following sections as follows:

2. The Proposals – describes the project need, the project overview, and consultation history;
3. Description of Routes – describes the identification of Route Options and provides a summary of each Route Option (A-E);
4. Comparative Appraisal – a summary of the environmental, engineering and cost topics, followed by a comparative analysis summary and a description of the Preferred Route; and
5. Consultation on the Proposals – invites comments on the Preferred Option process, the identification of Preferred Route and next steps.

The main body of this document is supported by a series of figures which can be found in Appendix: Figures.

### 1.3 Next Steps

As part of the consultation exercise, comments are sought from members of the public, statutory consultees and other stakeholders on the Preferred Route Option put forward in this report.

A Report on Consultation will be published in August 2021 which will document the consultation responses received, and the decisions made in light of these responses, to select a Proposed Route for further design development by assessment of OHL Alignment Options.

Following the identification of a Proposed Route, further engineering and environmental surveys will be undertaken to identify a Preferred Alignment within the Proposed Route. Consultation on a Preferred Alignment will be undertaken in a similar manner to the identification of a Preferred Route, later this year.

---

<sup>1</sup> URL: <https://www.ofgem.gov.uk/licences-industry-codes-and-standards/standards/security-and-quality-supply-standard-sqss> (Accessed 04/03/2021)



## 2. THE PROPOSALS

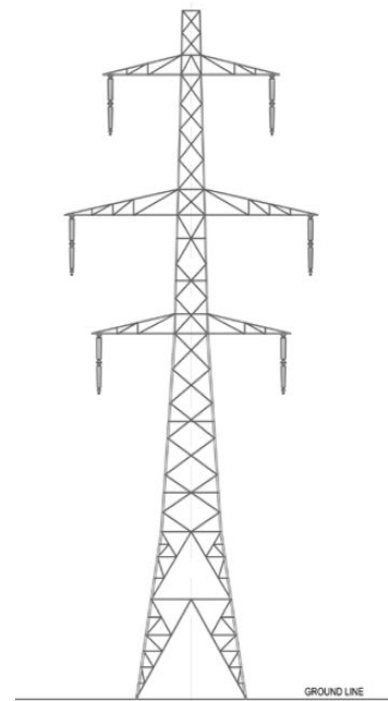
### 2.1 Project Need

Due to the projected increase in renewable energy generation stations in Argyll, a need has been identified for the upgrade and reinforcement of the electricity transmission network on the Argyll peninsula to ensure supply and support the transition to net zero emissions.

### 2.2 Proposals Overview

The Proposed Development would comprise the construction of new 275 kV double circuit OHL supported by lattice steel towers (Plate 1 below), between a proposed new substation at Creag Dhubh, and a connection point on the recently constructed Inveraray to Crossaig OHL, a Route of between 8 and 12 km (Appendix, Figure 1).

#### Plate 1: Transmission tower design



Proposed L8 (c)  
Tower Suite

The spacing between towers would vary depending on topography, altitude, and land use but would likely be between 300 m to 350 m. Permanent access tracks are likely to be required to any angle and terminal tower locations, with temporary access tracks used to access all other towers. At this stage, it has been assumed that towers would be a maximum of 60 m above ground level, with a typical average tower height of 50 m above ground level.

Construction of the Proposed Development would require the removal of sections of commercial forest, which would be undertaken in consultation with Scottish Forestry and affected landowners. After felling, any timber removed that is commercially viable would be sold and the remaining forest material would be dealt with in a way that delivers the best practicable environmental outcome and is compliant with waste regulations.



### 3. DESCRIPTION OF THE ROUTES

#### 3.1 Identification of Route Options

A Study Area (Appendix, Figure 1) was defined by the existing 132 kV OHL between the proposed Creag Dhubh substation and a connection point on the recently constructed Inveraray to Crossaig OHL to the north of Inveraray. The north western boundary of the Study Area nominally follows the southern shore of Loch Awe to the north of Cladich while the south eastern boundary roughly runs along the southern edge of Glen Shira to Inveraray. This allowed a range of Route Options and tie-in locations to be analysed. Following on from this, five potential Route Options to connect the Inveraray to Crossaig OHL with the proposed Creag Dhubh substation were developed following SSEN Transmission guidance and taking into account the physical, environmental and amenity constraints.

The Route Selection process was carried out in March 2021. From this process, a Preferred Route has been brought forward for further Route analysis and potential Alignment options. A 'Proposed Route' according to the SSEN Transmission OHL Routeing Guidance is defined as *"a route taken forward following stakeholder consultation to the alignment selection stage of the overhead line routeing process"*. The results of the route selection stage environmental assessment are described in the 'North Argyll 275 kV Overhead Line Reinforcement Environmental OHL Routeing Study Report (SSEN Transmission, March 2021)'.

The Route Options identified are shown in Appendix, Figure 2 and briefly describe as follows:

##### **Route Option A: Overhead Line from Balantyre Wood to the Proposed Creag Dhubh Substation**

Route Option A was selected as an option that provided the greatest separation from areas of settlement and transport corridors around Inveraray, Glen Aray and separation from the Glen Etive and Glen Fyne SPA

##### **Route Option B: Overhead Line from Balantyre Wood to the Proposed Creag Dhubh Substation**

Route Option B was selected to provide a direct Route Option on the west side of the A819 in Glen Aray.

##### **Route Option C: Overhead Line from Inveraray Switching Station to the Proposed Creag Dhubh Substation**

Route Option C was selected to provide an option that would follow the existing 132 kV OHL from Inveraray substation.

##### **Route Option D: Overhead Line from Carloonan to the Proposed Creag Dhubh Substation**

Route Option D was selected to provide a direct Route Option on the east side of the A819 in Glen Aray.

##### **Route Option E: Overhead Line from Inveraray Switching Station to the Proposed Creag Dhubh Substation**

Route Option E was selected to provide the shortest direct Route Option between the Inveraray substation and the proposed Creag Dhubh substation.

## 4. COMPARATIVE APPRAISAL

### 4.1 Introduction

The comparative appraisal for each Route Option has been completed in accordance with the methodology set out in SSEN Transmission guidance. The guidance states that each Route Option should be evaluated with reference to agreed environmental, engineering and cost criteria and should be considered in terms of the potential for the Proposed Development to be constrained. A Red/Amber/Green (RAG) rating has been applied to each criterion to indicate the potential for each Route Option to be constrained, with RED indicating a high potential for constraint, AMBER indicating intermediate potential for constrain and GREEN indicating low potential for constraint. It should be noted that a RED or AMBER rating does not necessarily indicate that the Route Option would be unacceptable in planning terms, but rather indicates the need for further consideration of the potential to mitigate potentially adverse effects.

Figures 3 to 6 outline the constrains discussed within the environmental, engineering and cost assessments.

### 4.2 Environmental Topics

#### 4.2.1 Route Option A

Route Option A avoids intersecting with the Glen Etive and Glen Fyne SPA, and would locate the Proposed Development in a landscape character type considered to have the best capacity to accommodate such a development. However, Route Option A is likely to be highly constrained by the extensive priority peatland habitat and the high potential to impact on Schedule 1 birds. In addition, due to the more elevated character of Route Option A, impacts on visual amenity are likely to be more extensive, and potentially impact on some higher sensitivity areas such as the western shore of Loch Awe.

#### 4.2.2 Route Option B

Route Option B has the lowest number of recorded golden eagle flights, followed by Route Option C. Route Option B would avoid likely significant effects during construction through avoiding interactions with the water environment, as well as avoiding the majority of peatland. There is a high potential for this Route to interact with PWS's which could require OHL micrositing or further mitigation, however if towers are downgradient or further than 250 m from PWS its unlikely to cause disruption. Route Option B has the potential to result in the loss of 21.6 ha of Ancient Woodland (a larger area than any other Route Option). Route Option B passes through well-preserved pre-Improvement townships at 'Drimfern' and 'South Tullich', that would be difficult to avoid, giving the potential for direct impacts with adverse effects.

#### 4.2.3 Route Option C

Route Option C is the least constrained with regard to forestry and woodland as it results in the smallest loss (3.2 ha) of Ancient Woodland (of semi natural origin) and long-established woodland (of plantation origin) depending on Alignment as well as the second lowest area of commercial forestry lost (24 ha). Route Option C also has the second lowest number of recorded golden eagle flights. There is a high potential for this Route to interact with PWS's which could require OHL micrositing or further mitigation, however if towers are downgradient or further than 250 m from PWS its unlikely to cause disruption. Route Option C would require one crossing of the River Aray and passes through well-preserved pre-Improvement townships at 'Drimfern' and 'South Tullich', that would be difficult to avoid, giving the potential for direct impacts with adverse effects.

#### 4.2.4 Route Option D

Route Option D has a high potential to be constrained as it intersects the Glen Etive and Glen Fyne SPA. Route Option D is considered to have potential to compromise the conservation status of Schedule 1 birds, however it is noted that the area of the Glen Etive and Glen Fyne SPA intersected by this Route Option has comparatively low levels of golden eagle activity, compared to other parts of the Study Area. Route Option D would have the

least impact on visual receptors as the Route Option could be accommodated within the enclosed glen landscape. Forestry and woodland would provide a high degree of screening of the central and southern sections of Route Option D. Route Option D passes through fewer areas of open habitat so may have fewer interactions with Ground Water Dependant Terrestrial Ecosystems (GWDTEs). However, Route Option D will result in the second greatest loss of Ancient Woodland (14.4 ha) and commercial plantation (41 ha), which also has potential implications for downstream hydrology associated with timing of felling operations.

#### 4.2.5 Route Option E

Route Option E has a high potential to be constrained as it intersects the Glen Etive and Glen Fyne SPA. Route Option E is considered likely to compromise the conservation status of Schedule 1 birds, specifically the golden eagle using the high ground around Stuc Scandan. However, Route Option E passes through fewer areas of open habitat so may have fewer interactions with GWDTEs.

Table 4.1 below summarises the environmental appraisal RAG ratings for Route Options A – E.

**Table 4.1: Environmental Comparison Table – Route Options A - E**

Route	RAG Impact Rating- Environmental																		
	Natural Heritage								Cultural Heritage		People	Landscape and Visual			Land Use			Planning	
	European Designated Sites-	Designated Sites-Ancient	Regional Designations	Protected Species	Habitats	Schedule 1 Birds	Birds of Conservation Concern	Hydrology / Geology	Designations	Cultural Heritage Assets	Proximity to Dwellings	Designations	Character	Visual	Agriculture	Forestry	Recreation	Policy	Proposals
A	G	A	G	G	R	R	G	R	A	G	A	A	G	A	G	A	G	G	A
B	A	R	G	G	A	A	G	A	A	R	A	A	A	G	G	A	G	G	A
C	A	A	G	G	A	A	G	A	A	R	A	A	A	G	G	A	G	G	G
D	R	R	G	G	G	A	G	A	A	A	A	A	A	G	G	A	G	A	G
E	R	A	G	G	G	R	G	R	A	A	G	A	A	G	G	A	G	A	G

### 4.3 Engineering Topics

#### 4.3.1 Route Option A

Route Option A requires crossing the existing 132 kV OHL once but does not cross the A819. This Route Option has the highest elevations with a maximum elevation of 538 m. The properties and buildings within Route Option A are sparsely laid out, and there are substantially more properties along Route Options B and C. Route Option A crosses the proposed Blarghour Wind Farm development area and is the longest Route Option at approximately 12 km.

#### 4.3.2 Route Option B

Route Option B would only cross the existing 132 kV once, does not cross the A819 and has the least number of minor crossings, with a total of six track crossings and spanning over Erallich water. It has between 2-5% of the Route Option within the 1 in 200-year flood zone and there are substantially more properties along the Route Option compared to others. Route Option B crosses the proposed Blarghour Wind Farm access track.

The space available for tower Alignments in Route Option B is limited due to very steep, rocky terrain, proximity of residences and the proximity of the existing 132 kV line, which will remain operational during construction of the new OHL. Therefore, mitigating other effects along Route Option B could be difficult due to the limitation on tower Alignment locations.

#### 4.3.3 Route Option C

Route Option C crosses the existing 132 kV OHL twice and the A819, a major road for the Argyll area. It has between 2-5% of the Route Option within the 1 in 200-year flood zone and has the second highest number of properties after Route Option B. Route Option C also passes through Ladyfield plantation woodland, an area with potential to contain unexploded ordnance (UXO) associated with historic use as a firing range.

The space available for tower Alignments in Route Option C is limited due to very steep, rocky terrain, proximity of residences and the proximity of the existing 132 kV line, which will remain operational during construction of the new OHL. Therefore, mitigating other effects along Route Option C could be difficult due to the limitation on tower Alignment locations.

#### 4.3.4 Route Option D

Route Option D crosses the existing 132 kV OHL once and the A819. It has between 2-5% of the Route Option within the 1 in 200-year flood zone and runs through the second lowest area of peatland after Route Option B. The properties and buildings within Route Option D are sparsely laid out, and there are substantially more properties along Route Options B and C. The Route Option also passes through Ladyfield plantation woodland, an area with potential UXO.

#### 4.3.5 Route Option E

Route Option E would not cross the existing 132 kV OHL but would cross the A819. This Route Option is considered high risk in terms of elevation, being the second highest Route Option after Route Option A. It runs through the second largest area of peatland; however, there are no properties along the Route Option. The Route Option would also pass through Ladyfield plantation woodland, an area with potential UXO.

Table 4.2 below summarises the engineering appraisal RAG ratings for Route Options A - E.

**Table 4.2: Engineering Comparison Table – Route Options A - E**

Route	RAG Impact Rating – Engineering											
	Infrastructure crossings		Environmental Design			Ground Condition		Proximity			Additional Consideration	
	Major Crossings	Minor Roads	Elevation	Contaminated Land	Flooding	Terrain	Carbon & Peatland	Clearance	Windfarms	Communication Masts	Route length	Unexploded rounds
A	R	A	R	G	G	G	R	R	R	R	R	G
B	R	A	A	G	R	A	A	R	A	R	G	G
C	R	R	A	G	R	G	R	R	A	R	G	R
D	R	R	A	G	R	G	R	R	G	G	G	R
E	G	R	R	G	G	G	R	G	G	G	G	R

#### 4.4 Cost

##### 4.4.1 Route Option A

Route Option A has the highest capital cost of the five Route Options, the only Route with a RED RAG rating for capital cost. It has a RED RAG rating for diversions based on two crossings and for tree felling based on area of forestry to be felled. Route Option A has the highest land assembly costs of the five Route Options, the only Route with a RED RAG rating for land assembly. Route Option A has the highest total cost of the five Route Options, the only Route with a RED RAG rating for total cost, being 46% more than the lowest total cost Route (which is Route E).

##### 4.4.2 Route Option B

Route Option B has the third lowest capital cost of the five Route Options, it has a GREEN RAG rating. It has a RED RAG rating for diversions based on one crossing. Route Option B has an AMBER RAG rating for tree felling based on area of forestry to be felled. Route Option B has the second lowest total cost of the five Route Options, it has a GREEN RAG rating for total cost, being 8% higher than the lowest total cost Route Option.

##### 4.4.3 Route Option C

Route Option C has the second highest capital cost of the five Route Options and has an AMBER RAG rating, because it is 24% greater than the lowest cost Route Option. It has a RED RAG rating for diversions based on one crossing. Route Option C has a RED RAG rating for tree felling based on area of forestry to be felled. Route Option C has the second highest total cost of the five Route Options and has an AMBER RAG rating, because it has a 26% greater total cost, than the lowest cost Route Option.

##### 4.4.4 Route Option D

Route Option D has the second lowest capital cost of the five Route Options, it has a GREEN RAG rating, being 5% higher than the lowest capital cost. It has a RED RAG rating for diversions based on one crossing. Route Option D has a RED RAG rating for tree felling, it has the highest cost of all Route Options for tree felling. Route Option D has a GREEN RAG rating for total cost, being 12% higher than the lowest cost Route Option.

#### 4.4.5 Route Option E

Route Option E has the lowest capital cost of the five Route Options, and it is the only Route Option with a GREEN RAG rating in every cost criterion. Route Option E has the lowest total cost of the five Route Options.

Table 4.3 below summarises the cost appraisal RAG ratings for Route Options A – E.

**Table 4.3: Cost Comparison Table – Route Options A - E**

Route	RAG Impact Rating – Cost								
	Capital	Diversions	Public Road Improvement	Tree Felling	Land Assembly	Consent Mitigations	Inspections	Maintenance	Total Cost
A	R	R	G	R	R	G	R	R	R
B	G	R	G	A	G	G	G	G	G
C	A	R	G	R	G	G	G	G	A
D	G	R	G	R	G	G	G	G	G
E	G	G	G	G	G	G	G	G	G

#### 4.5 Comparative Analysis Summary

Route Option A has potential for environmental constraint, primarily with respect to sensitive habitats (peatland habitat) and Schedule 1 birds. In addition, there would be the potential for visual amenity effects on the western shore of Loch Awe, Route Option A would also be constrained as a result of the high elevation of the Route Options. Route Option A would also have the highest cost. As a result, Route Option A is the least Preferred Route Option in terms of environmental, engineering or cost considerations.

Route Option B has potential for environmental constraint primarily with respect to ancient woodland and undesignated cultural heritage assets. There is a high potential for this Route to interact with PWS's which could require OHL micrositing or further mitigation, however if towers are downgradient or further than 250 m from PWS its unlikely to cause disruption. The Route Option would be constrained due to challenges with regards to major crossings, flooding, very steep, rocky terrain, proximity of residences and the proximity of the existing 132 kV line, which will remain operational during construction of the new OHL. Route Option B has the second lowest total cost of the five Route Options.

Route Option C has potential for environmental constraint primarily with respect to undesignated cultural heritage assets; however overall Route Option C would be the Preferred Route Option in terms of environment. Route Option C is considered to be challenging due to the very steep, rocky terrain, proximity of residences and the proximity of the existing 132 kV line, which will remain operational during construction of the new OHL.

Route Option D has potential for environmental constraint primarily with respect to the interaction with the Glen Etive and Glen Fyne SPA and would result in the second greatest loss of Ancient Woodland. However, Route Option D would have the least impact on visual receptors. The level of constraint to be ascribed to the interaction with the SPA and loss of Ancient Woodland will be tested further through consultation given the relative lack of golden eagle activity in the intersected part of the SPA. Route Option D could be constrained by major crossings, flooding, clearance to existing properties and UXO. Despite significant tree felling requirements, Route Option D has the third lowest total cost of the five Route Options.

While Route Option E would be the Preferred Route Option from a cost perspective, the Route Option would be constrained due to the interaction with Schedule 1 birds, high elevations and hydrology, hydrogeology and soils. The level of constraint to be ascribed to the interaction with the SPA will be tested further through consultation. Route Option E has the lowest total cost of the five Route Option.

The analysis of the Route Options above has identified the potential for an additional Route, Route Option DE, that on balance may be more advantageous in terms of environmental, engineering and cost considerations. Route Option DE follows Route Option D in the south to where it intersects with Route Option E and then follows this Route (Appendix, Figure 7).

#### 4.6 Preferred Route

Route Option DE (Appendix, Figure 8) is compared with the other five Route Options below in relation to environmental, engineering and cost considerations.

Route Option DE intersects the Glen Etive and Glen Fyne SPA in the north but avoids the areas within the Study Area with the highest density of Schedule 1 bird flight activity. The Route Option appears to pass through fewer areas of open habitat so may have fewer interactions with GWDTEs. This does however mean a greater area of forestry felling may be required, which has potential implications to downstream hydrology. Route Option DE will have the second greatest loss of Ancient Woodland and commercial plantation. However, this Route Option would have the least impact on visual receptors as the Route Option could be accommodated within the enclosed glen landscape and forestry and woodland would provide a high degree of screening of the central and southern sections of the Route Option.

Table 4.4 below summarises the environmental appraisal RAG ratings for Route Option DE.

**Table 4.4: Environmental Comparison Table –Route Option DE**

Route	RAG Impact Rating- Environmental																		
	Natural Heritage							Cultural Heritage		People	Landscape and Visual			Land Use			Planning		
	European Designated Sites -Ornithology	Designated Sites -Ancient Woodland	Regional Designations	Protected Species	Habitats	Schedule 1 Birds	Birds of Conservation Concern	Hydrology / Geology	Designations		Cultural Heritage Assets	Designations	Character	Visual	Agriculture	Forestry	Recreation	Policy	Proposals
DE	R	R	G	G	G	R	G	R	A	A	A	A	A	G	G	A	G	A	G

Route Option DE is preferred through engineering assessment, as it avoids the high elevations and peatland habitat (found in Route Options A and E) and avoids very steep, rocky terrain (found in Route Options B and C). Route Option DE has advantages from an access perspective, as the use of existing forestry tracks would reduce the need for new track construction.

Table 4.5 below summarises the engineering appraisal RAG ratings for Route Option DE.



**Table 4.5: Engineering Comparison Table – Route Option DE**

Route	RAG Impact Rating – Engineering											
	Infrastructure crossings		Environmental Design			Ground Condition		Proximity			Additional Consideration	
	Major Crossings	Minor Roads	Elevation	Contaminated Land	Flooding	Terrain	Carbon & Peatland	Clearance	Windfarms	Communication Masts	Route length	Unexploded rounds
Route D (0-5.25 km)	R	G	G	G	R	G	G	G	G	G	G	R
Route E (5.25-8.06 km)	G	R	G	G	G	G	R	G	G	G	G	R

The cost appraisal RAG ratings of Route Option DE are set out in Table 4.6 below. It would not be the Preferred Route in terms of cost only but is the second lowest cost, along with Route Option B.

**Table 4.6: Cost Comparison Table – Route Option DE**

Route	RAG Impact Rating – Cost							
	Capital	Diversions	Public Road Improvement	Tree Felling	Land Assembly	Consent Mitigations	Inspections and Maintenance	Total Cost
DE	G	R	G	R	G	G	G	G

#### 4.6.1 Conclusions

Route Option A has been discounted as this is the least Preferred Option in terms of environmental, engineering and cost considerations.

Route Option B is constrained in terms of ancient woodland and undesignated cultural heritage assets. There is also a high potential for this Route to interact with PWS's which could require OHL micro-siting or further mitigation. This Route Option would be constrained due to challenges with regards to major crossings, flooding, very steep, rocky terrain, proximity of residences and the proximity of the existing 132 kV line. However, Route Option B is preferred in the engineering assessment over Route Option C.

Route Option C has potential for environmental constraint primarily with respect to undesignated cultural heritage assets but overall would be the Preferred Route in terms of environment. However, Route Option C is considered to be challenging because the space available for tower Alignments in Route Option C will be limited due to very steep, rocky terrain, proximity of residences and the proximity of the existing 132 kV line, which will remain operational during construction of the new OHL. Therefore, mitigating other effects along Route Option C could be difficult due to the limitation on tower Alignment locations.

Route Option D has potential for environmental constraints primarily with respect to the interaction with the Glen Etive and Glen Fyne SPA and loss of Ancient Woodland. However, Route Option D would have the least

impact on visual receptors. The level of constraint to be ascribed to the interaction with the SPA and loss of Ancient Woodland requires further investigation, through consultation with statutory consultees. If, through consultation, it is agreed that development in this part of the SPA would not have adverse effects on the integrity of the SPA, having regard to the conservation objectives, then this RAG rating could be amended. In addition, if consultation found that the area of commercial forestry due to be felled to create an operational corridor could be incorporated into the routine restructuring of the woodland, then this RAG rating could be amended. In relation to Ancient Woodland some loss is unavoidable as all of the Route Options interact with Ancient Woodland, therefore avoidance through detailed Alignment or tower placement will be an important consideration. Route Option D is the Preferred Route in terms of engineering considerations and has the third lowest total cost of the five Route Options.

Route Option E has similar constraints to Route Option D, however the northern end of Route Option E intersects a smaller area of the SPA and is considered likely to compromise the conservation status of Schedule 1 birds, specifically the golden eagle using the high ground around Stuc Scandan, however this is to be confirmed through consultation with statutory consultees. Route Option E is, however, less favourable than Route Option D in engineering terms due to the higher elevations.

On balance, considering the environmental, engineering and cost criteria, Route Option DE is the Preferred Route Option (Appendix 1, Figure 8). It is acknowledged that a number of environmental and engineering constraints remain, and that further studies and consultation could result in changes to the Preferred Route Option.

## 5. CONSULTATION ON THE PROPOSALS

SSEN Transmission places great importance on, and is committed to, consultation and engagement with all parties, or stakeholders, likely to have an interest in proposals for new projects such as this. Stakeholder consultation and engagement is an essential part of an effective development process.

### 5.1 Questions for Consideration by Consultees

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

1. Have we explained the need for this Project adequately?
2. Have we explained the approach taken to select the Preferred Route adequately?
3. Are there any factors, or environmental features, that you consider may have been overlooked during the Preferred Route selection process?
4. Do you feel, on balance, that the Preferred Route selected is the most appropriate for further consideration at the Alignment selection stage?

### 5.2 Next Steps

Virtual online consultation events will be held, as detailed in the preface of this document. The responses received from these consultation events, and those sought from statutory consultees and other stakeholders, will inform further consideration of the Route Options put forward, and the identification of a Proposed Route Option to take forward to the next stage in the OHL Routeing process (Alignment Selection).

All comments are requested by 9<sup>th</sup> July 2021. A Report on Consultation will be produced which will document the consultations received, and the decisions made in light of these responses.

Following the identification and confirmation of a Proposed Route, further engineering and environmental surveys (e.g. Phase 1 Habitat / NVC surveys, Protected Species Surveys and further input by landscape, ecology, cultural heritage, hydrology, and forestry specialists) would be undertaken to identify a Preferred Alignment. Consultation on a Preferred Alignment will be undertaken in a similar manner to the identification of a Preferred Route later this year.



**Scottish & Southern**  
Electricity Networks

---

TRANSMISSION

## **APPENDIX**