

# Consultation Document

## Brechin to Tealing 132 kV Overhead Line

February 2021

REF: LT225





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## 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 SHE Transmission's works on communities, such as the effects of noise and disturbance from construction activities.
Biodiversity Net Gain (BNG)	Biodiversity Net Gain (BNG) is a process which leaves nature in a better state than it started.
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)	Environmental Impact Assessment. A formal process codified by EU directive 2011/92/EU, and subsequently amended by Directive 2014/52/EU. The national regulations 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 impacts 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.
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.
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.

<b>Term</b>	<b>Definition</b>
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.
Stakeholders	Organisations and individuals who can affect or are affected by SSEN Transmission plc works.
Study Area	The area within which the corridor, route and alignment study takes place.
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 plc.

## PREFACE

This Consultation Document has been prepared by ASH Design and Assessment Ltd. on behalf of Scottish and Southern Electricity Networks Transmission plc (SSEN Transmission plc), operating under licence as Scottish Hydro Electric Transmission plc (SHE Transmission plc) to seek comments from all interested parties on the preferred route identified for a new 132 kV overhead line (OHL) between Brechin substation and Tealing substation.

The Consultation Document is available online at the project website:

<https://www.ssen-transmission.co.uk/projects/east-coast-132kv-upgrade/>

Under normal circumstances, consultation on the project would involve public engagement events held in the local area. However, as a result of the Covid 19 pandemic this has not been possible.

To continue engagement on the project SSEN Transmission plc has developed an online consultation tool, to enable the local community to experience the full exhibition from home on a computer, tablet or mobile device. The online exhibition has been designed to look and feel like a real consultation in a community hall, with exhibition boards, maps, interactive videos and the opportunity to share views on the proposals.

Visitors will be able to engage directly with the project team, via a live chat function, where they can ask any questions they might have about the project and share their feedback on the current proposals.

The virtual consultation events will be taking place via the project website at the following times:

- 25 February 2021 from 1pm – 3pm and from 5pm – 7pm.

Comments on this Consultation Document should be sent to:

Louise Anderson  
Community Liaison Manager  
Scottish Hydro Electric Transmission PLC  
T: +44(0)1738 457495  
M: +44(0)7384 454233  
E: [louise.anderson@sse.com](mailto:louise.anderson@sse.com)  
Inveralmond House, 200 Dunkeld Road, Perth, PH1 3AQ

All comments are requested by 12 March 2021.

## EXECUTIVE SUMMARY

A number of new renewable generation schemes in the North East of Scotland has triggered the need for upgrade of the East Coast 132 kV transmission network between the Craigiebucklar / Tarland Overhead Line (OHL) Tee point west of Aberdeen and the Tealing substation north of Dundee. The existing 132 kV transmission infrastructure between Brechin substation and Tealing substation in the local authority area of Angus forms part of this network and thus requires reinforcement as part of the upgrade of the transmission system.

The OHL between Brechin substation and Tealing substation was constructed in 1951 and recent asset condition assessments and data gathering suggest the existing overhead line will need to be replaced in the next five to ten years.

It is anticipated that this will be achieved via the construction and operation of a new 132 kV double circuit OHL to replace the existing OHL. This Consultation Document invites comments from all interested parties on the preferred route identified.

A corridor was identified within which the identification and assessment of route options could be completed (see **Figure 1**). The corridor was developed to encompass a range of feasible route options between the two connection points.

The preferred route option has been selected to provide an optimum balance of environmental, technical and economic factors. Moving forward, confirmation of the proposed route (generally between 1 and 2 km wide) and of potential OHL alignments within it will be informed by this consultation exercise and through detailed surveys, which may identify any as yet unknown engineering, environmental or land use constraints.

Further public consultation on a preferred alignment (approximately 200 m width depending on constraints) will take place later this year. It is anticipated that an application for consent for a proposed alignment will be submitted in Autumn 2022.

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

- Have we explained the need for this Project adequately?
- Have we explained the approach taken to select the preferred route adequately?
- Are there any factors, or environmental features, that you consider may have been overlooked during the preferred route selection process?
- Do you feel, on balance, that the preferred route selected is the most appropriate for further consideration at the alignment selection stage?



# 1. INTRODUCTION

## 1.1 Purpose of Document

- 1.1.1 This Consultation Document invites comments from all interested parties on the preferred route identified for the proposed 132 kV overhead line (OHL) between Brechin substation and Tealing substation.
- 1.1.2 This Consultation Document describes the route options appraisal undertaken, the alternatives considered during the selection of route<sup>1</sup> options, and the identification of a preferred route. Comments are now sought from statutory authorities, stakeholders, elected representatives and the public on the route selection process and the preferred route identified.
- 1.1.3 All comments received will inform further consideration of the preferred route, and subsequent alignment.<sup>2</sup> options therein.

## 1.2 Document Structure

- 1.2.1 This report is comprised of seven sections as follows:
- 1: Introduction – setting out the purpose of the Consultation Document;
  - 2: The Proposals – describes the need for the proposals, the proposed technology solution and the typical construction methods;
  - 3: Route Selection Process – sets out the process that has been applied in the selection and appraisal of route options;
  - 4: Description of Routes – describes the route options that have been identified;
  - 5: Local Context – describes the local context and baseline environment;
  - 6: Comparative Appraisal – analyses each route option against a series of environmental, technical and economic considerations to arrive at a preferred route; and
  - 7: Consultation on the Proposals – invites comments on the route assessment process and identification of preferred route.
- 1.2.2 The main body of this document is supported by a series of figures.

## 1.3 Next Steps

- 1.3.1 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.
- 1.3.2 A Report on Consultation will be produced which will document the consultations received, and the decisions made in light of these responses.
- 1.3.3 Following the identification of a proposed route, further technical and environmental surveys will be undertaken to identify a preferred alignment within the route. Consultation on a preferred alignment will be undertaken in a similar manner to the identification of a preferred route, later this year.

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<sup>1</sup> A linear area of approximately 1 km width (although this may be narrower/wider in specific locations in response to identified constraints), which provides a continuous connection between defined connection points.

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

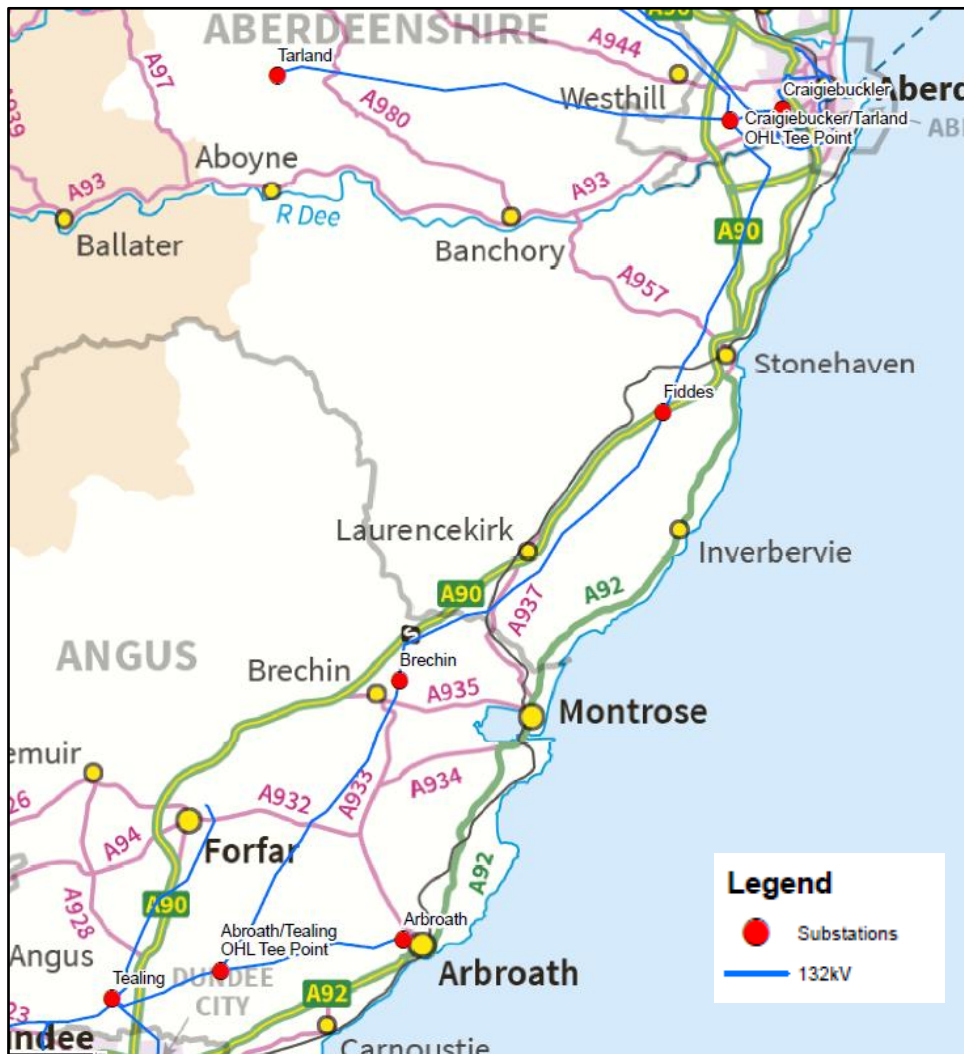
## 2. THE PROPOSALS

### 2.1 The Need for the Project

2.1.1 Scottish and Southern Electricity Networks Transmission plc (SSEN Transmission plc) is a wholly owned subsidiary of the SSE plc group of companies. SSEN Transmission plc owns and maintains the electricity transmission network across the north of Scotland, and holds a license under the Electricity Act 1989 to develop and maintain an efficient, co-ordinated and economical system of electricity transmission.

2.1.2 The primary driver for this reinforcement is the request for connection of a number of new renewable generation schemes, including onshore wind and battery systems, to the North East of Scotland. This has triggered the need for an upgrade to the East Coast 132 kV transmission network between Craigiebuckler / Tarland OHL Tee point, west of Aberdeen, and the Tealing substation, north of Dundee. **Plate 2.1** illustrates the 132 kV network in this area.

**Plate 2.1: 132 kV Network**



2.1.3 In addition to the load driver, the asset health of this OHL provides a secondary driver for this project. The circuit was constructed in 1951 and re-conducted in 1981/2. Recent asset condition assessments recommend that the existing wood pole OHL circuit will need to be replaced in the next five to ten years. For clarity, this does not include the Tealing to Arbroath / Tealing Tee section of OHL.

## 2.2 Preferred Technology Solution

- 2.2.1 Based on the options assessed, the preferred solution is a new 132 kV double circuit OHL supported on a steel lattice tower.

## 2.3 Alternative Options Considered

- 2.3.1 Alternative options considered include the following:

*Do nothing*

- 2.3.2 The upgrade to the 132 kV transmission network in the north east of Scotland is necessary due to the growth in renewable electricity generation requiring an increase in transmission capacity. Therefore, a “do-nothing” scenario would result in a significant network capacity deficit. This would not support SSEN Transmission plc’s ability to meet their licence requirements, in respect of the planning and operation criteria. Furthermore, without the transmission capacity increase future renewable energy generating developments in the region would be constrained by a lack of suitable grid connection. This would therefore impact Scotland’s carbon reduction targets and commitment to net zero emissions by 2045.

*Like for like replacement*

- 2.3.3 Similar to the “Do nothing” scenario, a Like for Like replacement would result in a significant network capacity deficit. This would not support SSEN Transmission plc’s ability to meet their licence requirements, in respect of the planning and operation criteria. Furthermore, without the transmission capacity increase future renewable energy generating developments in the region would be constrained by a lack of suitable grid connection. This would therefore impact Scotland’s carbon reduction targets and commitment to net zero emissions by 2045. The Brechin to Arbroath / Tealing Tee would also be a single circuit radial OHL which does not have the system security required. It has therefore been discounted in favour of the 132 kV double circuit OHL.

*Re-conductor Existing*

- 2.3.4 The existing wood pole structures between Brechin to Arbroath/Tealing Tee and the existing steel lattice towers between Arbroath/Tealing Tee and Tealing are not suitable for the heavier conductor proposed to meet the increased transmission capacity. The asset condition assessments have also recommended that the existing Brechin to Arbroath /Tealing Tee structures need replaced in the next 5 to 10 years. The existing wood pole OHL between Brechin and Arbroath /Tealing Tee is also a single circuit which does not have the system security required. A double circuit is required for improved network reliability. These factors have therefore discounted this option in favour of the new 132 kV double circuit OHL.

## 2.4 Proposals Overview

- 2.4.1 The steel lattice towers would have a nominal height of approximately 26 - 27 m (including insulators and support). The structure selection process is ongoing and current models under consideration are the L7c and L4m steel lattice towers. The spacing between towers would vary depending on topography and altitude. The specific distances would be determined after a detailed line survey, but would be approximately 250 m apart. A photograph showing a typical steel lattice tower is shown in **Plate 2.2** below.

**Plate 2.2: Typical Steel Lattice Tower (L7c)**



#### *Construction Activities*

2.4.2 To facilitate this connection, the main construction elements associated with the development are anticipated to include:

- Establishment of one or more construction compound(s);
- Establishment of suitable laydown areas for materials;
- Construction of stone tracks (both temporary and permanent) and other temporary track solutions as necessary;
- Delivery of tower steel work and materials to site;
- Excavation and construction works associated with foundations, including backfilling, as necessary;
- Assembly and erection of tower steel work, likely by crane;
- Stringing of conductors using conductor stringing equipment;
- Remedial works (using excavated material) to reinstate the immediate vicinity of the structures, and any ground disturbed, to pre-existing condition; and
- Inspections and commissioning.

#### *Forestry Removal*

2.4.3 If construction of the project required the removal of sections of commercial forest, this would be undertaken in consultation with Forestry and Land Scotland (FLS) and affected landowners. Scottish Forestry would also be consulted throughout the development of the project and the project will seek to adhere to Scottish Government's Control of Woodland Removal Policy<sup>3</sup>.

2.4.4 Were the OHL routed through commercial forests or woodland areas, an operational corridor would be required to enable the safe operation and maintenance of the OHL. This will vary depending on the type of woodland (based on species present) in proximity to the OHL and the height of support structures used within each woodland area.

<sup>3</sup> Forestry Commission Scotland (2009) Control of Woodland Removal Policy

### *Access during Construction*

- 2.4.5 Vehicle access is required to each tower location during construction to allow excavation and creation of foundations and tower 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, stone tracks (both temporary and permanent) may be necessary in some areas depending on existing access conditions, terrain and altitude.

### *Programme*

- 2.4.6 It is anticipated that construction of the project would take place over a 30-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 plc.
- 2.4.7 Every effort would be made to minimise disturbance to landowners, local residents and other stakeholders during construction by providing regular updates on works and restrictions via the site manager, community liaison manager and corporate affairs team.

## **2.5 Biodiversity Net Gain**

- 2.5.1 Biodiversity Net Gain (BNG) is a process which leaves nature in a better state than it started. Although it is an internationally recognised process and tool within the development industry, it is not a term that is widely used or implemented in Scotland<sup>4</sup>. A small handful of businesses are making voluntary commitments to incorporating BNG into their projects, including SSEN Transmission plc.
- 2.5.2 SSEN Transmission plc has developed a BNG toolkit based upon the Natural England metric<sup>5</sup>, 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.
- 2.5.3 For BNG to be used appropriately and to generate long-term gains for nature, the good practice principles established by the Business and Biodiversity Offset Programme (BBOP)<sup>6</sup> should be followed. These principles have been established in the context of UK development by the Construction Industry Research and Information Association (CIRIA), the Chartered Institute for Ecology and Environmental Management (CIEEM) and the Institute of Environmental Management and Assessment (IEMA)<sup>6</sup>.
- 2.5.4 BNG does not apply to statutory designated sites or irreplaceable habitats (e.g. ancient woodland<sup>7</sup>, blanket bog)<sup>8</sup>.

### *SSEN Transmission's Biodiversity Ambition*

- 2.5.5 SSEN Transmission plc 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 plc has

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<sup>4</sup> CIEEM. 2019. Biodiversity Net Gain in Scotland. CIEEM Scotland Policy Group. <https://cieem.net/wp-content/uploads/2019/06/Biodiversity-Net-Gain-in-Scotland-CIEEM-Scotland-Policy-Group.pdf>

<sup>5</sup> Natural England Biodiversity Metric 2.0 <http://publications.naturalengland.org.uk/publication/5850908674228224>

<sup>6</sup> Guidance Notes to the Standard on Biodiversity Offsets (2012). Business and Biodiversity Offsets Programme (BBOP). [https://www.forest-trends.org/wp-content/uploads/imported/BBOP\\_Standard\\_Guidance\\_Notes\\_20\\_Mar\\_2012\\_Final\\_WEB.pdf](https://www.forest-trends.org/wp-content/uploads/imported/BBOP_Standard_Guidance_Notes_20_Mar_2012_Final_WEB.pdf)

<sup>7</sup> Categories 1a and 2a.

<sup>8</sup> CIRIA, CIEEM, IEMA (2019). Biodiversity Net Gain: Good practice principles for development, A Practical Guide. <https://cieem.net/wp-content/uploads/2019/02/C776a-Biodiversity-net-gain.-Good-practice-principles-for-development.-A-practical-guide-web.pdf>

made commitments within its Sustainability Strategy (2018)<sup>9</sup>, Sustainability Plan (2019)<sup>10</sup> and RIIO-T2 Business Plan, 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 Net Gain on projects gaining consent in 2025 onwards; and
- Work with their supply chain to gain the maximum benefit during asset replacement and upgrades.

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

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<sup>9</sup> Delivering a smart, sustainable energy future: The Scottish Hydro Electric Transmission Sustainability Strategy (2018) <https://www.ssen-transmission.co.uk/media/2701/sustainability-strategy.pdf>

<sup>10</sup> Our Sustainability Plan: Turning Ambition into Action. (2019) SHE Transmission. <https://www.ssen-transmission.co.uk/media/3215/our-sustainability-plan-consultation-report.pdf>

## 3. ROUTE SELECTION PROCESS

### 3.1 Guidance Document

- 3.1.1 The approach to route selection was informed by SSEN Transmission plc's guidance 'Procedures for Routeing Overhead Lines and Underground Cables of 132 kV and above' (September 2020). The guidance sets out SSEN Transmission plc's approach to selecting a route for an OHL. This document helps SSEN Transmission plc to meet its obligations under Schedule 9 of the Electricity Act 1989, which requires transmission license holders:
- to have a regard to the desirability of preserving natural beauty, of conserving flora, fauna and geological or physiographical features of special interest and of protecting sites, buildings and objects of architectural, historic or archaeological interests; and
  - to do what they reasonably can to mitigate any effect that the proposals would have on the natural beauty of the countryside or on any such flora, fauna, features, sites, buildings or objects.
- 3.1.2 The guidance develops a process which aims to balance these environmental considerations with technical and economic considerations throughout the route options process.
- 3.1.3 The guidance splits a project into the following stages:
- Pre-Routeing Activities: Selection of proposed connection option;
  - Stage 1: Corridor Selection;
  - Stage 2: Route Selection;
  - Stage 3: Alignment Selection; and
  - Stage 4: EIA and Consenting.
- 3.1.4 The stages that are 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
- 3.1.5 This project is currently at Stage 2: Route Selection, the objective of which is to identify a preferred route to be taken forward for consultation prior to selection of a proposed route. For this project, Stage 1: Corridor Selection has occurred simultaneously with Stage 2: Route Selection because the wider study area was not considered to be large enough to warrant the Stage 1: Corridor Selection.
- 3.1.6 Early consultation with statutory consultees has been undertaken to seek preliminary comment on route options and local environmental constraints.
- 3.1.7 In line with the principles outlined in the guidance document, the method of identifying a preferred route option at Stage 2 has involved the following 4 key tasks:
- Identification of the baseline situation;
  - Identification of alternative route options;
  - Environmental, technical and economic analysis of route options; and
  - Identification of a preferred route option.
- 3.1.8 An initial BNG appraisal to determine the biodiversity baseline of route options and the potential biodiversity impacts of each option has also been undertaken to inform the consideration of route options.



### 3.2 Area of Search

3.2.1 A Corridor was identified within which the identification and assessment of route options could be completed (see Figure 1). The Corridor was developed to encompass a range of feasible route options between the two connection points at Brechin and Tealing substations.

### 3.3 Baseline Conditions

3.3.1 A baseline desktop study has been carried out to identify a broad range of potential constraints and opportunities within the Corridor, and its adjacent context. This has involved the following activities:

- Identification of environmental designated sites and other constraints, utilising GIS datasets available via the NatureScot Site Link<sup>11</sup>;
- Identification of archaeological designations and other recorded sites, utilising GIS datasets available via Historic Environment Scotland<sup>12,13</sup> and Angus Historic Environment Record (HER)<sup>14</sup>;
- SEPA interactive Flood Risk Mapping<sup>15</sup>;
- Review of the TAYplan Strategic Development Plan 2016-2036 (Approved 2017)<sup>16</sup> and Angus Local Development Plan (2016)<sup>17</sup> 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 relevance to the Corridor<sup>18</sup>;
- Review of Native Woodland Survey of Scotland and Ancient Woodland Inventory data sets<sup>19</sup>;
- 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 Vectormap GIS data to identify further environmental constraints including locations of watercourses and waterbodies, and roads classifications; and
- Review of other local information through online and published media such as tourism sites and walking routes.<sup>20,21</sup>

#### *Site Appraisals*

3.3.2 A series of high-level site appraisals were carried out by experienced professionally qualified individuals in a variety of specialist fields to enable an informed combined opinion on how the potential environmental effects identified during the baseline studies could influence potential route options.

3.3.3 Site appraisals were also undertaken by SSEN Transmission plc OHL engineers and other project team members to help inform the technical and economic appraisal of options.

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<sup>11</sup> NatureScot. Site Link. [online] Available at: <https://sitelink.nature.scot/home>

<sup>12</sup> Historic Environment Scotland Data Services. *Portal*. [online] Available at: <http://portal.historicenvironment.scot/>

<sup>13</sup> Royal Commission on Ancient and Historical Monuments of Scotland. *Canmore*. [online] Available at: <http://canmore.rcahms.gov.uk/>

<sup>14</sup> Aberdeenshire Archaeology Service. *Angus Historic Environment Record*. [online] Available at:

<https://online.aberdeenshire.gov.uk/smrpub/master/default.aspx?Authority=Angus>

<sup>15</sup> Scottish Environmental Protection Agency. *SEPA Flood Maps* [online] Available at: <http://map.sepa.org.uk/floodmap/map.htm>

<sup>16</sup> TAYplan Strategic Development Planning Authority (Approved 2017). *TAYplan Strategic Development Plan*. Available at: [https://www.tayplan-sdpa.gov.uk/strategic\\_development\\_plan](https://www.tayplan-sdpa.gov.uk/strategic_development_plan)

<sup>17</sup> Angus Council (2016). *Angus Local Development Plan*. September 2016. Available at:

[https://www.angus.gov.uk/directories/document\\_category/development\\_plan](https://www.angus.gov.uk/directories/document_category/development_plan)

<sup>18</sup> 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>

<sup>19</sup> Available at [data.gov.uk](http://data.gov.uk)

<sup>20</sup> *Munro Magic* [online] Available at: <http://www.munromagic.com/>

<sup>21</sup> *Walk Highlands* [online] Available at: <http://www.walkhighlands.co.uk/>



### 3.4 Route Identification and Selection Methods

3.4.1 Following site appraisals and taking into account the most notable constraints identified during the baseline studies, route options were identified.

3.4.2 Considerations included a review of the steps outlined in the Holford Rules and SSEN Transmission plc's approach to routeing. In summary, the following has been taken into account as far as is practicable at this routeing stage and will be considered in more detail during Stage 3 (Alignment Selection):

- 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 towers 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 overhead 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.

3.4.3 In addition, principles of BNG and the mitigation hierarchy have been considered during the routeing process and will continue to inform routeing and alignment decisions as the project progresses.

3.4.4 Indicative route options have been identified at widths of between 1 and approximately 2 km (see **Figure 1**) to allow for subsequent identification of alignments during the next stage of the process (Stage 3).

### 3.5 Appraisal Method

3.5.1 Appraisal of route options has involved systematic consideration against the topic areas included in **Table 3.1**.

**Table 3.1: Topic Areas Considered**

Topic	Category	Sub-Topic
Environmental	Natural Heritage	Designations
		Protected Species
		Habitats
		Ornithology
		Geology, Hydrology and Hydrogeology
	Cultural Heritage	Designations
		Cultural Heritage Assets
	People	Proximity to Dwellings
	Landscape and Visual	Designations
		Character
		Visual
	Land Use	Agriculture
		Forestry
		Recreation
	Planning	Policy
Proposals		



## 4. DESCRIPTION OF ROUTES

### 4.1 Identification of Route Options

4.1.1 Indicative route options have been defined with approximately 1 - 2 km widths to allow for subsequent identification of alignments during Stage 3 (Alignment Selection) of the project (see **Figure 1**). Each route option is listed below and described in the following section:

- Route Option 1 and sub-options Route Option 1A and 1B;
- Route Option 2 and sub-option Route Option 2A; and
- Route Option 3.

4.1.2 During the route selection process, urban environments were avoided where possible. This resulted in the route options being positioned to avoid Brechin, Friockheim, Letham and Tealing. After initial site visits, Route Option 3 was altered to avoid Kinnaird Castle GDL; provide wider options around Dilty Moss SSSI; and to minimise effects on forestry through amendments east of Montreathmont Forest. An additional route option (Route Option 2A) was also added linking Route Options 3 and 2, to provide an option that minimised effects on cultural heritage constraints in Route Option 3 near the A932. Given ecological constraints around Rescobie and Balgavie Lochs, an option was also considered to join Route Options 1 and 1A (and potentially Route Option 2) within the vicinity of the B9113, but this was not taken forward due to a number of environmental, land use and technical constraints and challenges.

4.1.3 All route options start at Brechin substation (see **Plate 4.1**, Photo 1) and travel south, crossing the River South Esk and up towards Hillhead of Burghill (see **Plate 4.1**, Photo 2). After crossing the river, they diverge into the Route Options discussed in the section below, and then converge to terminate at Tealing substation (see **Plate 4.1**, Photo 3).

#### Plate 4.1: All Route Options Photographs



Photo 1: Brechin substation from public road



Photo 2: View north from public road nr. Hillhead of Burghill



Photo 3: Tealing substation from minor road to the west of the substation, just north of Fithie Burn [Source: Google Streetview]

## 4.2 Route Option 1 and Sub Options 1A and 1B

4.2.1 Route Option 1 (and Sub-Options 1A and 1B) are the most westerly of route options connecting Brechin and Tealing substations.

4.2.2 Route Option 1 travels south from Brechin substation veering slightly westward after the River South Esk, passing the western side of Montreathmont Forest (see **Plate 4.2**, Photo 1) and, near Turin Hill, turning slightly and travelling to the eastern edge of Rescobie Loch and the A932 road (see **Plate 4.2**, Photo 2). It continues southward between Dunnichen Hill and Letham settlement, routeing east of Carrot Hill before turning slightly and connecting into Tealing substation.

4.2.3 Two sub-options to Route Option 1 have been identified:

- Route Option 1A (which would join with Route Option 1) which travels through Montreathmont Forest in the north and then joins Route Option 1 (see **Plate 4.2**, Photo 3); and
- Route Option 1B which follows Route Option 1 in the north and then travels west of Carrot Hill (see **Plate 4.2**, Photo 4).

4.2.4 There is also the potential for an alternate option to combine Route Options 1A and 1B.

### Plate 4.2: Route Option 1, 1A and 1B Photographs



*Photo 1: View from minor road to northwest of Montreathmont Forest (Route Option 1) [Source: Google Streetview]*



*Photo 2: View northeast from minor road near Boal of field south of A932 road, with Rescobie Loch in midground and Montreathmont Forest in distance. (Route Option 1)*



*Photo 3: View from minor road within Montreathmont Forest (Route Option 1A) [Source: Google Streetview]*



*Photo 4: View northwest from public viewpoint at Carrot Hill (Route Option 1B) [Source: Google Streetview]*

## 4.3 Route Option 2 and Sub-Option 2A

4.3.1 Route Option 2 follows the route of the existing overhead line and overlaps with other route options until crossing the River South Esk where it then travels through Montreathmont Moor and Forest and then across a more open agricultural area comprising small scale wind development (see **Plate 4.3**, Photos 1-3). It then



passes east of Guthrie Hill and west of Guthrie Castle before passing to the east side of Letham and following the B978 (see **Plate 4.3**, Photo 4) until another overhead line joins the route, to the west of Monikie. The route starts to turn south-west around 7 km before Tealing, and then makes a sharp westward turn around 1 km before it reaches Tealing substation.

4.3.2 A sub-option to Route Option 2 has been identified.

4.3.3 Route Option 2A follows Route Option 3 until north of Friockheim and then crosses west to join Route Option 2 north of Guthrie (and route of the existing overhead line) until Tealing substation.

**Plate 4.3: Route Option 2 Photographs**



*Photo 1: View south from B9113 road along existing OHL crossing agricultural land between two wind turbines.*



*Photo 2: View north from B9113 road along existing OHL routeing through woodland.*



*Photo 3: View from minor road on Guthrie Hill looking north towards existing OHL and two wind turbines.*



*Photo 4: View west from B9128 towards existing OHL and the B978 road.*

**4.4 Route Option 3**

4.4.1 This route option overlaps with other route options until crossing the River South Esk where it then travels just west of Kinnaird Castle around the eastern edge of Montreathmont Moor/Forest (see **Plate 4.4**, Photos 1-2). It then continues east of Guthrie Castle before it crosses the A932. It continues south-west until it crosses the Tealing to Arbroath overhead line, after which it turns westwards and joins Route Option 2.

**Plate 4.4: Route Option 3 Photographs**



*Photo 1: View southwest from minor road near Burnside and the A934, looking towards the woodland at Middletonmoor.*

*Photo 2: View northwest from minor road near Burnside and the A934, looking towards Montreathmont Forest*



*Photo 3: View north from minor road between Monikie and Husbandtown, looking towards existing steel lattice tower.*

*[Source: Google Streetview]*

## 5. LOCAL CONTEXT

### 5.1 Introduction

- 5.1.1 The Corridor is located within the local authority area of Angus, a rural region on the east coast of Scotland whose main centres of population include Brechin, Forfar, Kirriemuir and the coastal towns of Montrose, Arbroath, Carnoustie and Monifieth. The Corridor is in an area of lowland farmland in between the coast to the east and upland regions to the west and northwest, including the Sidlaw Hills and the Cairngorms.
- 5.1.2 Within the Corridor, settlement is concentrated within the town of Brechin and villages of Letham and Friockheim, as well as scattered communities and dwellings. The main local centre for the area, Brechin, is located in the north of the Corridor, while Forfar is located about 2.4 km west of the Corridor. The city of Dundee lies immediately south of the Corridor.
- 5.1.3 The area has a rich and diverse heritage, with many historical and archaeological features. The River South Esk and surroundings is a particular focus for both cultural and natural heritage, including the town of Brechin, Brechin Castle and Kinnaird Castle with associated designed landscapes.
- 5.1.4 The area is well-connected by a network of roads, including the A935 and A933 which connect Brechin with Arbroath and Montrose, as well as the A932 which provides a route to Forfar. The A90 passes through the south of the Corridor, running south to north from Dundee up along the east coast to Aberdeen. Several B roads (including the B9113, B9128, B978, B9127) and minor roads also traverse the area.
- 5.1.5 The Caledonian Railway, a heritage steam railway, also operates a recreational service from Brechin to Bridge of Dun. To the east of the Corridor, the East Coast railway runs between Dundee and Aberdeen.
- 5.1.6 Other electrical infrastructure also exists within the Corridor, including several steel lattice transmission lines going from Tealing to Forfar (132 kV), Dundee (132 kV), Arbroath (132 kV) and north past Forfar (275 kV), and from Brechin to Bridge of Dun (132 kV). There are also several low distribution wood pole lines within the Corridor. Small-scale wind turbines are also present within the Corridor.
- 5.1.7 The Corridor is a largely agricultural and settled area that also features several areas of forestry and woodland. These include estate policy woodlands associated with designed landscapes and estate properties, for example by Brechin Castle, Kinnaird Castle, Guthrie Castle and House of Pitmuies, as well the large area of Montreathmont Forest which forms part of the National Forest Estate, managed by FLS.

### 5.2 Environmental Designations

- 5.2.1 The following environmentally designated sites or areas afforded recognition or protection within planning policy are present within the Corridor (see **Figures 2 to 8**).
- A Special Area of Conservation (SAC), internationally designated under the Habitats Directive:
    - River South Esk SAC, with qualifying features for Salmon and Freshwater Pearl Mussel.
  - Sites of Special Scientific Interest (SSSI), those areas of land and water that NatureScot consider best represent our natural heritage – its diversity of plants, animals and habitats, rocks and landforms, or a combination of such features:
    - Turin Hill SSSI, with notified features limited to geological interest;
    - Rescobie and Balgavies Lochs SSSI, designated for habitat and botanical interest, including basin fen, transition open fen and the vascular plant assemblage;
    - Dilty Moss SSSI, designated for peatland habitat;
    - Carrot Hill Meadow SSSI, designated for important plant communities within spring-fen habitats;
    - Whitehouse Den SSSI, with notified features limited to geological interest; and



- Gage Marsh SSSI, designated for wetland plant community with a rich flora of vascular plants.
- Geological Conservation Review (GCR) sites, those deemed to contain geological and geomorphological features of national and international importance and are selected through the Geological Conservation Review initiated by the Joint Nature Conservation Committee (JNCC) in 1977.
  - Sites near Turin Hill and Aberlemno, including Turin Hill GCR, Turin Hill Quarries GCR, Aberlemno Quarry GCR and Tillywhandland Quarry GCR; and
  - Whitehouse Den GCR, near Tealing.
- Areas on the Inventory of Gardens and Designed Landscapes (GDLs), nationally important sites selected by Historic Environment Scotland (HES) under the terms of the Ancient Monuments and Archaeological Areas Act 1979:
  - Kinnaird Castle GDL;
  - Brechin Castle GDL;
  - Guthrie Castle GDL; and
  - House of Pitmuies GDL.
- Designated cultural heritage assets comprising Scheduled Monuments (SM) (including castles, forts, towers, brochs, a Roman camp, cairns, duns), Listed Buildings (LB) and Conservation Areas (CA); and
- A number of woodlands within the Corridor that are included on the Ancient Woodland Inventory (AWI), many of which are recorded as ‘*Long-established woodlands of plantation origin (LEPO) (1b and 2b)*’.

### 5.3 Natural Heritage

- 5.3.1 The Corridor generally comprises a mosaic of agricultural land and woodland. Woodland areas are dominated by conifer plantations, with the largest expanse at Montreatmont forest to the north of the Corridor. There are numerous fragments of broadleaved and mixed woodland associated with riparian zones, field boundaries, road and railway sides, and around settlements.
- 5.3.2 Several areas of woodland included on the AWI are present within the Corridor (see **Figure 8**), “*defined as land that is currently wooded and has been continually wooded, at least since 1750*” (NatureScot, 2011: p1<sup>22</sup>). These woodlands include a few small areas classified as ‘*Ancient Woodland (1a and 2a)*’<sup>23</sup> but most are ‘*Long-established woodlands of plantation origin (LEPO) (1b and 2b)*’.
- 5.3.3 Agricultural land is dominated by arable field systems and smaller areas of pasture. Arable fields are prevalent across low-lying ground along river floodplains across much of the route options. Pasture is generally improved and occupies gentle hillsides. Areas of rough pasture are dominant on the limited areas of higher ground present within the Corridor, and in more remote areas of agricultural land near Kirkbuddo and Monikie but are generally very limited within the route options. Unimproved areas are generally dominated by rush-pasture and occupy field edges and riparian zones. Most unimproved areas are considered to be potentially groundwater dependent.
- 5.3.4 Other habitats include heathlands, present on higher ground near Carrot Hill and Labothie hill, mires present at Dilty Moss and fens at Rescobie and Balgavies Lochs.

<sup>22</sup> NatureScot (2011). *A guide to understanding the Scottish Ancient Woodland Inventory (AWI)*. Available at: <https://www.nature.scot/guide-understanding-scottish-ancient-woodland-inventory-awi>

<sup>23</sup> “Interpreted as semi-natural woodland from maps of 1750 (1a) or 1860 (2a) and continuously wooded to the present day. If planted with non-native species during the 20<sup>th</sup> century they are referred to as Plantations on Ancient Woodland Sites (PAWS).” NatureScot (2011). *A guide to understanding the Scottish Ancient Woodland Inventory (AWI)*. Available at: <https://www.nature.scot/guide-understanding-scottish-ancient-woodland-inventory-awi>



5.3.5 Protected species such as otter, pine marten, badger, bat species, red squirrel, Atlantic salmon and freshwater pearl mussel are either known, or are likely to be present in the Corridor based on the presence of suitable habitat or being a qualifying feature of a nearby designated site.

5.3.6 The woodland and scrub habitat throughout the area will support breeding bird species, whilst more wetland areas could provide habitats of value to breeding waders and wildfowl. The Corridor also passes through open field systems, which may be of value to foraging waders and wildfowl and may serve as foraging areas for migratory wildfowl associated with Montrose Basin Special Protection Area (SPA). Montrose Basin SPA lies approximately 5 km east of Brechin substation, and whilst not located within the Corridor, is designated for its large and diverse assemblage of wintering wildfowl including migratory Pink-footed goose, Greylag goose and Redshank. No species of conservation importance were recorded in the area affected through the course of high level walkover and scoping surveys.

## 5.4 Water and Soils Environment

5.4.1 There are numerous watercourses throughout the Corridor, the largest of which is the River Esk which meanders in a west to east direction in the northern part of the Corridor passing to the south of Brechin prior to reaching the Montrose Basin. All routes would be required to cross the River Esk (also designated as a SAC), and there will be numerous other (generally smaller) watercourse crossings necessary for each route option. Other notable rivers or bodies of water include Lunan Water, Rescobie and Balgavie Lochs, and Monikie Reservoirs.

5.4.2 There are no surface water drinking water protection areas (DWPA) crossed by any of the route options. Properties with private water supplies are located throughout the Corridor.

5.4.3 Priority peatland mapping<sup>24</sup> highlights that there are several small and discrete areas within the Corridor of Class 5 (peat soils with no peatland vegetation) soils. There is one area of nationally important (Class 1 or 2) carbon rich soils at Dilty Moss, in the southern part of the Corridor (see **Figure 3**).

## 5.5 Cultural Heritage

5.5.1 Baseline information on known cultural heritage assets recorded within the vicinity of route options was obtained in October 2020 from Historic Environment Scotland (HES) datasets and the Angus Council Historic Environment Record (HER) curated by Aberdeenshire Council Archaeology Service (ACAS).

5.5.2 Designated cultural heritage assets within the vicinity of route options include:

- Scheduled Monuments (SM), with statutory protection, of national importance and high sensitivity. Some of these are also Properties in Care of Scottish Ministers (PiC);
- Inventory GDLS, with statutory protection, of national importance and high sensitivity;
- Listed Buildings (LB), with statutory protection comprising Category A (national importance and high sensitivity); Category B (regional importance and medium sensitivity); and Category C (local importance and low sensitivity); and
- Three Conservation Areas (CA), with statutory protection: Dunnichen, Brechin St. Ninian's Square and Brechin Town Centre (regional importance and medium sensitivity).

5.5.3 In addition to these designated assets, the HER contains numerous records of non-designated assets of archaeological and cultural heritage interest within the area.

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<sup>24</sup>Scottish Natural Heritage. (2016). *Carbon and Peatland 2016 Map*. [online] Available at: <http://gateway.snh.gov.uk/natural-spaces/index.jsp>

5.5.4 The baseline is diverse in date and character and reflects continuous human occupation and exploitation of the landscape of the search area since prehistory. The sites identified include prehistoric ritual and settlement sites; Roman camps; medieval castles and ecclesiastical sites; post-medieval agricultural and industrial buildings and other remains; and historic country houses, estate policies and associated buildings.

## 5.6 Landscape Character and Visual Amenity

5.6.1 Landscape character within the Corridor is predominantly agricultural and large in scale, whereby low-lying, open rolling farmland is dispersed with scattered settlement. Elevation increases gradually towards the northwest, where there are isolated hills. These low hills, dominated by moorland, contrast with the surrounding agricultural landscape. Although woodland cover is relatively sparse, there is an extensive tract of woodland around Montreathmont moor. To the northeast, the landscape becomes increasingly flat and open, often with extensive views in many directions.

5.6.2 Settlement within the Corridor is well-established and there are multiple historic and cultural heritage features, including many medieval castles and designed landscapes which contribute to the area's diverse character and create a strong sense of place. The area near the River South Esk, including the town of Brechin, is a particular focus for both cultural and natural heritage, and is popular for recreation. Iron age settlements found on Turin Hill provide evidence for the long history of human habitation in the area. Several contemporary structures are also experienced within this landscape, including small-scale wind turbines, overhead lines (both steel lattice and trident wood pole structures), telecommunications masts and substations at Brechin and Tealing.

### *Designations*

5.6.3 Within the Corridor, there are four areas on the nationally recognised Inventory of Gardens and Designed Landscapes. These include Brechin Castle, Kinnaird Castle, Guthrie Castle and House of Pitmuies GDLs.

### *Landscape Character Types (LCTs)*

5.6.4 There are five Landscape Character Types (LCTs) within the Corridor as classified in the NatureScot Landscape Types published in 2019<sup>25</sup>. Distribution of these LCTs is illustrated on **Figure 6**. Other LCTs outwith the Corridor are also shown on this figure for context.

### *Potential Visual Receptors*

5.6.5 Visual receptors within the Corridor comprise three different types:

- Visual receptors in built properties including residential areas and places of work, for example in Brechin, Letham, Friockheim and other small communities and scattered dwellings;
- Visual receptors on routes including roads and recreational routes, for example on the A90, A935, A933, A932, B9113, B9128, B978, B9127, minor roads, the Caledonian Railway and core paths; and
- Visual receptors in other outdoor locations where the view is considered of recreational importance, for example roadside viewing areas at Carrot Hill and picnic areas and accessible hilltops.

## 5.7 Land Use and Recreation

### *Forestry*

5.7.1 There are scattered patches of woodland in the area, most of these of plantation origin, with some classified as being of semi-natural origin. The largest of these is Montreathmont Forest in the north, which is part of the National Forest Estate and managed by Scottish Government's agency Forestry and Land Scotland. Montreathmont has a diverse composition of conifer plantations mixed with stands of Scots pine and birch.

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<sup>25</sup> 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>

Although still productive, timber felling is focused on thinning rather than clearfell according to the Forestry and Land management plan.

- 5.7.2 **Figure 8** shows the distribution of forest on the National Forest Estate within the Corridor. Private woodland, comprising both a mix of conifer and mixed broadleaf woodland, also exist throughout the Corridor. As previously noted, some areas of woodland throughout the Corridor are categorised as ancient woodland.

#### *Agriculture*

- 5.7.3 Areas of agricultural land are classified by The Macaulay System of Land Capability for Agriculture<sup>26</sup>. As illustrated on **Figure 7**, land within the Corridor is primarily capable of arable agriculture as large areas as defined as Class 2 (capable of producing a wide range of crops) and Class 3.1 (capable of producing moderate to high yields of crops). Large areas are also capable of mixed agriculture, covered by Class 3.2 (capable of average production) and small areas of Class 4.1 (capable of producing a narrow range of crops). Small areas at Turin Hill and Dunnichen Hill are defined as Class 5.1 (capable as use for improved grassland).

#### *Recreation*

- 5.7.4 There are a number of sites of recreational interest within the Corridor, which are valued for their cultural heritage, historic or scenic attributes.
- 5.7.5 There are several castles and designed landscapes in the area, including Brechin Castle, Kinnaird Castle, Guthrie Castle and House of Pitmuies, many of which are open to the public and provide tourism services such as visitor centres or cafes. The town of Brechin is known for its medieval cathedral and its status as a former Royal Burgh, and also provides the starting point for the Caledonian Railway, which is a heritage railway that runs between Brechin and Bridge of Dun. There is a large number of cultural heritage and archaeological features within the Corridor, some of which are also visitor attractions, such as Tealing Earth House.
- 5.7.6 The River South Esk is valued for its natural heritage and is popular for salmon and sea trout fishing. There are also a few smaller lochs and reservoirs in the area, including Balgavies Loch, Rescobie Loch, Monikie Reservoir and Crombie Reservoir, which are appreciated for their natural heritage and scenic qualities and for the recreational opportunities they provide, such as walking, cycling and fishing. The country park at Monikie Reservoir also provides opportunities for many watersports such as kayaking, rafting and windsurfing. Some of the hills within the northwest of the Corridor, such as Turin Hill and Dunnichen, are used for informal recreation.
- 5.7.7 Some walking trails can be found within the Corridor, and there are a few core paths which are found in Montreathmont Forest, around Balgavies Loch, around the reservoirs of Monikie and Crombie and near the settlements of Brechin, Farnell, Friockheim, Guthrie, Greystone, Letham and Tealing, but no long distance trails pass through the area.

## **5.8 Planning**

- 5.8.1 The current Development Plan for the region is set out in the TAYplan Strategic Development Plan (SDP) 2016-2036 (approved 2017)<sup>27</sup> and the Angus Local Development Plan (LDP) (2016)<sup>28</sup>, both of which focus on “*sustainable economic growth and a better quality of life through a stronger and more resilient economy, better quality places, reduced resource consumption and better resilience to climate change*” (Angus LDP: p4). The TAYplan SDP is used as a basis for decision making and provides policy context for the Angus LDP, which sets out detailed policies and proposals to guide development and investment and a basis for determining planning

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<sup>26</sup> The James Hutton Institute. (2020). *Land Capability for Agriculture in Scotland*. [online] Available at:

<https://www.hutton.ac.uk/learning/exploringscotland/land-capability-agriculture-scotland>

<sup>27</sup> Angus Council (Approved 2017). *TAYplan Strategic Development Plan*. Available at: [https://www.tayplan-sdpa.gov.uk/strategic\\_development\\_plan](https://www.tayplan-sdpa.gov.uk/strategic_development_plan)

<sup>28</sup> Angus Council (2016). *Angus Local Development Plan*. September 2016. Available at:

[https://www.angus.gov.uk/directories/document\\_category/development\\_plan](https://www.angus.gov.uk/directories/document_category/development_plan)

applications. Angus Council has begun the process of preparing its revised LDP, which will be called the AngusPlan<sup>29</sup>, which is likely to be adopted in late 2023/ early 2024 <sup>30</sup>.

- 5.8.2 Policy 7 of the TAYplan SDP (Energy, Waste and Resources) is relevant to the development of electricity infrastructure and sets out the strategic considerations for the location of energy, waste and resource management infrastructure. It also notes that *“An energy proposal may be considered strategically significant if ... it will significantly affect the operation, capacity or planned upgrade of energy infrastructure, including regional grid connections ... or the national high voltage electricity transmission network”* (p43)

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<sup>29</sup> Angus Council. *AngusPlan* [online]. Available at: <https://shapingangus.co.uk/angus-plan-home>

<sup>30</sup> Angus Council. *Development Plan Scheme 2020/21*. Available at:  
[https://www.angus.gov.uk/localdevelopmentplan/development\\_plan\\_scheme\\_202021](https://www.angus.gov.uk/localdevelopmentplan/development_plan_scheme_202021)

## 6. COMPARATIVE APPRAISAL

6.1.1 This section provides a summary of the potential environmental, technical and economic effects identified for each route option following the topic areas shown in Table 3.1. Reference should also be made to **Figures 2 to 8** which illustrate potential environmental baseline constraints identified under each topic.

### 6.2 Environmental Topic Areas

#### *Natural Heritage*

##### Designations

- 6.2.1 As shown on **Figure 2**, all route options would pass over part of the River South Esk SAC with qualifying features of Salmon and Freshwater Pearl Mussel. Montrose Basin SPA also lies approximately 5 km east of Brechin substation, and whilst not located within the Corridor, is designated for its large and diverse assemblage of wintering wildfowl including migratory Pink-footed goose, Greylag goose and Redshank, that may forage within the Corridor.
- 6.2.2 In addition, Route Options 1 and 1B would pass Turin Hill, a collection of five small sites, comprising abandoned quarries designated as a SSSI, with notified features limited to geological interest. Route Option 1 would also pass Carrot Hill meadow, a small site north-west of Monikie, designated as a SSSI for important plant communities within spring-fen habitats.
- 6.2.3 Route Options 1, 1A, and 1B would also pass over Rescobie and Balgavies Lochs, wetland habitats designated as a SSSI for habitat and botanical interest, including basin fen, transition open fen and vascular plant assemblages.
- 6.2.4 For Route Options 1, 1A and 1B, the proximity of these designations and presence of a potential pathway for effect present an elevated risk of impact. A **Red** RAG rating has therefore been applied for Route Options 1, 1A and 1B, particularly since it would not be possible to avoid crossing over Rescobie and Balgavie Lochs SSSI within these route options.
- 6.2.5 For Route Options 2, 2A and 3, the potential relationship of the routes with the River Esk SAC, Montrose Basin SPA (as well as Dilty Moss SSSI, a raised bog designated for its peatland habitat, for Route Option 3) elevate potential risk. An **Amber** RAG rating has therefore been applied for these routes.

##### Protected Species

- 6.2.6 For all route options, woodland and woodland edge habitat provides suitable habitat for badger, red squirrel, pine marten and bat species. Riparian zones also provide suitable habitat for otter. Potential for impacts on protected species could be further reduced or eliminated by undertaking pre-construction surveys and adopting appropriate mitigation.
- 6.2.7 There is considered to be potential for all route options to be constrained by the presence of protected species and therefore an **Amber** RAG rating has been applied for all route options.

##### Habitats

- 6.2.8 All route options are dominated by arable farmland field systems. Small areas of woodland, hedges, individual trees and shrubs are scattered at low frequency through agricultural areas. Semi-natural habitats, typically heathland, rough pasture and scrub are limited across all route options. A few of the wetter, undrained areas may be potentially dependent on groundwater.

6.2.9 For all route options, any sensitive habitats identified present modest constraints which could be further reduced or eliminated by micro-siting infrastructure and/or adopting appropriate mitigation. There is therefore considered to be negligible or low potential for these route options to be constrained by habitats and a **Green** RAG rating has been applied for all route options.

#### Ornithology

6.2.10 All route options could potentially result in the loss of small areas of woodland and scrub habitat which supports breeding bird species. Furthermore, wetland areas, which provide habitats of value to breeding waders and wildfowl, are also present. Open field systems within the routes may also be of value to foraging waders and wildfowl and may serve as foraging areas for migratory wildfowl associated with Montrose Basin SPA (outside the Corridor). No species of conservation importance were recorded in the area affected through the course of scoping surveys. Full breeding bird surveys would be required to fully assess the likely ornithological constraints for each route option, including assessing potential disturbance to sensitive and protected bird species that may breed within the vicinity. In the absence of these assessments, a conservative RAG rating of **Amber** for ornithology is applied to all route options given the types of habitats encompassed within the vicinity of each route option and likely bird species anticipated to be present within the wider area.

#### Geology, Hydrology and Hydrogeology

6.2.11 The River Esk is the largest watercourse within the Corridor and this is crossed by all route options. Route Options 1 and 1A are shown to cross Rescobie and Balgavies Lochs respectively, albeit there may be opportunities to avoid directly crossing these water bodies. There are numerous other smaller watercourses or field drains throughout the Corridor.

6.2.12 Private water supplies may also be present along all routes and would need to be identified and protected.

6.2.13 As shown on **Figure 3**, priority peatland mapping highlights a discrete area of Class 1 peatland at Dilty Moss within Route Option 3. A small number of Class 5 (peat soils with no peatland vegetation) areas are located within Route Options 1, 1B and 3.

6.2.14 All route options share similar constraints and have been allocated a RAG rating of **Amber** for Geology, Hydrology and Hydrogeology.

#### *Cultural Heritage*

##### Designations

6.2.15 Whilst there are a number of designated cultural heritage assets throughout the Corridor, taking into account the opportunities for avoidance through design and the adoption of other standard working practices, an **Amber** RAG rating is applied for Route Options 1, 1A, 1B, 2 and 2A.

6.2.16 Based on the potential impacts identified, Route Option 3 was allocated a **Red** RAG rating for Cultural Heritage Designations. This is largely due to a high concentration of Scheduled Monuments and Listed Buildings to the west of Friockheim.

##### Cultural Heritage Assets

6.2.17 Taking into account the opportunities for avoidance through design and the adoption of other standard working practices, it is anticipated that potential impacts could be minimised across all route options. However, given the number of cultural heritage assets recorded, an **Amber** RAG rating is applied to all routes, with the exception of Route Option 3 which includes a greater number of sites and has been allocated a **Red** RAG rating.

## *People*

### Proximity to Dwellings

- 6.2.18 There are numerous dwellings and buildings scattered throughout the Corridor, as shown on **Figure 5**. There are a number of potential pinch points present within each route option, typically comprising scattered properties, albeit in the case of Route Option 2A, there is a concentration of properties within the route option to the north of Friockheim which has the potential to highly constrain an OHL within this route option.
- 6.2.19 All route options have therefore been allocated a RAG rating of **Red** for proximity to dwellings.

### *Landscape and Visual*

#### Designations

- 6.2.20 All route options pass relatively close to the Brechin Castle GDL and Kinnaird Castle GDL. However, given the wooded periphery of these GDLs, it is unlikely that the qualities of these GDLs would be affected by these routes, provided the wooded areas in the vicinity of the GDLs are not affected by an alignment.
- 6.2.21 Guthrie Castle GDL and House of Pitmuies GDL are also situated near Route Options 2, 2A and 3. Wooded peripheries and the nature of the low-lying surrounding landscape are also likely to limit potential effects on these GDLs, although House of Pitmuies appears to be more open on its eastern side. It is unlikely that the qualities of these GDLs would be affected by these routes.
- 6.2.22 Crombie and Monikie Country Park are also situated near to Route Option 3, but would be unlikely to be affected.
- 6.2.23 All route options have been allocated a RAG rating of **Green** for Landscape Designations, assuming effects on GDLs can be avoided by an appropriate alignment (although Route Options 2, 2A and 3 have been weighted slightly towards **Amber** due to potential localised sensitivities of Guthrie Castle GDL and/or House of Pitmuies GDL).

#### Landscape Character

- 6.2.24 Based on an appreciation of the baseline landscape character, an appraisal of landscape sensitivity<sup>31</sup> has been undertaken to inform the appraisal of potential effects.
- 6.2.25 Route Option 1 would pass between areas of *low-medium* and *medium* landscape sensitivity, whereby existing OHLs, substations, wind turbine development and areas of woodland reduce sensitivity and present opportunities for this route. Key landscape sensitivities are present near Brechin Castle GDL, the area west of Montreathmont Forest and near Turin and Dunnichen Hill. However, potential for significant effects is limited, assuming a suitable alignment can be selected and potential effects mitigated. A RAG rating of **Green** has been applied (but slightly weighted towards **Amber** due to some localised landscape sensitivities west of Montreathmont).
- 6.2.26 Route Option 1A is largely similar to Route Option 1 in terms of potential landscape constraints, but perhaps slightly less constrained since Montreathmont Forest may present opportunities for reduced landscape effects in this route. Key landscape sensitivities would be similar to Route Option 1 but also including around Balgavies Loch Nature Reserve, but not around Turin Hill. A RAG rating of **Green** has therefore been applied.
- 6.2.27 Route Option 1B is also similar to Route Option 1 and 1A in terms of potential landscape constraints but additional landscape sensitivities would be present near Carrot Hill. A RAG rating of **Green** has been applied

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<sup>31</sup> Based on guidance from the Guidelines for Landscape and Visual Impact Assessment: Third Edition (GLVIA3)



(but slightly weighted towards **Amber** due to some localised landscape sensitivities, west of Montreathmont and at Carrot Hill).

6.2.28 Landscape sensitivities for Route Option 2 would be broadly similar to Route Options 1, 1A and 1B, although the presence of the existing OHL along the whole of this route, as well as wind turbine development within the route option, has the potential to reduce landscape sensitivity to change. Nevertheless, landscape sensitivities would be present near Brechin Castle GDL, Guthrie Castle GDL and House of Pitmuies GDL. A RAG rating of **Green** has been applied for this route option.

6.2.29 Route Options 2A and 3 are influenced by existing OHLs (including along a large part of Route 2A), wind turbine development and other landscape features including the existing road corridor through Montreathmont Forest which reduces sensitivity and present opportunities for these routes. Key landscape sensitivities are present near Brechin Castle GDL, Kinnaird Castle GDL, Guthrie Castle GDL, House of Pitmuies GDL. A RAG rating of **Green** has been applied for Route Options 2A and 3 (but slightly weighted towards **Amber** due to some localised landscape sensitivities including near Kinnaird Castle).

#### Visual

6.2.30 All routes are unlikely to appear in views from the east of Brechin, due to tree screening. However, due to the well settled nature of this area, there is potential for an alignment in any of the routes to be visible from several properties, roads, core paths and potentially the Caledonian Railway. Visual effects from receptors on most roads may be relatively brief, as the OHL would cross the road, but would nevertheless be seen in a relatively open landscape where views are extensive. From a few roads (e.g. the B978 for Route Option 2 and A933 for Route Option 2A), receptors may experience more prolonged views of the OHL as it runs alongside the road, depending on its alignment and screening from intervening features.

6.2.31 Views from all route options would experience the OHL in combination with other vertical features such as small-scale wind turbines, transmission masts, and other OHLs. Visual sensitivity to change of this type may be reduced for some visual receptors as a result, particularly those within / near to Route Option 2 and part of Route Option 2A. However, within Route Option 2 (and part of 2A), since an existing OHL would be removed and replaced by an alignment in this route, there may be potential for increased visual effects during construction/dismantling compared to other route options, given that this activity would be more concentrated within this route.

6.2.32 Settlement and scattered properties are common across all route options, and the potential for visual effects from these receptors will be given further consideration at the alignment stage.

6.2.33 All route options have therefore been allocated a RAG rating of **Amber** for Visual.

#### *Land Use*

#### Agriculture

6.2.34 Route Options 1B, 2, 2A and 3 would pass through areas of agricultural land consisting of grade 2, 3.1 and 3.2 land which is capable of producing an average to wide range of crops. Route Options 1A and 1B also pass through some areas of grade 4.1 land which is capable of producing a more narrow range of crops.

6.2.35 Therefore a RAG rating of **Amber** has been allocated to all route options for agricultural impacts.

#### Forestry

6.2.36 Route Options 1 and 1B would avoid Montreathmont Forest but may affect other small woodlands in these routes including current conifer plantations regarded as LEPO within the AWI. These routes have been allocated a **Green** RAG rating.



- 6.2.37 Route Option 1A would pass through Montreathmont Forest, a significant National Forest Estate woodland in terms of woodland resource and public access. Large parts of this woodland are LEPO within the AWI and the current woodland structure is predominantly coniferous plantation with broadleaf content and fringes. There are also a number of small woodlands within this route. An **Amber** RAG rating has been allocated for this route due to the potential impact on Montreathmont Forest.
- 6.2.38 Route Option 2 follows the existing OHL and an existing wayleave corridor through the conifer plantation of Montreathmont Moor. This route would affect this woodland as well as a number of small woodlands, some designated as LEPO within the AWI. An **Amber** RAG rating has therefore been applied to this route.
- 6.2.39 Route Options 2A and 3 would also largely avoid Montreathmont Moor woodland, although, depending on an alignment it may affect the edge of this area as well as part of Middleton Wood, both of which are designated as LEPO within the AWI. Other smaller woodlands may also be affected. However, it may be possible to avoid many of these areas with an alignment and it is assumed that where possible, potential impacts on forestry would be kept to a minimum or avoided. These routes have therefore been given a **Green** RAG rating.

#### Recreation

- 6.2.40 There are numerous points of recreational interest along all routes, including tourist sites in and around Brechin, Brechin Castle, the Caledonian Railway and core paths.
- 6.2.41 Route Options 1, 1A and 1B also have the potential to impact on other recreational assets including, but not limited to, Balgavies Loch Nature Reserve and Rescobie Loch. As such, from a recreational perspective, Route Options 1, 1A and 1B have been allocated a RAG rating of **Amber**, whilst Route Options 2, 2A and 3 have been allocated a RAG rating of **Green**.

#### *Planning*

- 6.2.42 Adherence to National, Regional and Local planning policy will in large part depend on avoiding or minimising potential constraints noted, particularly in relation to potential impacts on the natural environment and cultural heritage given the presence of designated sites and cultural heritage assets of national importance.
- 6.2.43 As such, Route Option 1, 1A, 1B and 3 have been given a **Red** RAG rating to reflect the high potential for policy constraints associated with environmentally designated sites and cultural heritage assets. Routes 2 and 2A have been given an **Amber** rating, as opportunities exist to minimise potential impacts.
- 6.2.44 There are a number of planning proposals within the vicinity of route options, including a small number of planning applications for individual residential dwellings within the Corridor, as well as extensions or alterations to existing dwellings. These have not been explored in detailed at this stage due to the scale of the route options (~1-2km). They will however become an important consideration at the alignment stage when a narrower search area is being considered.
- 6.2.45 Of relevance to Route Option 2, an application for a 42MW solar farm in Montreathmont Moor Forest was approved by Angus Council in November 2015 (15/00747/FULM). Given these proposals, Route Option 2 has been allocated an **Amber** RAG rating in relation to Planning Proposals, whilst all other route options have been allocated a **Green** RAG rating.

### 6.3 Engineering Topic Areas

#### *Infrastructure Crossings*

##### Major Crossings

- 6.3.1 Major infrastructure crossings<sup>32</sup> can present many obstacles when designing and constructing an overhead line and therefore, it is advantageous to avoid multiple crossings if possible. The number of infrastructure crossings are important when considering the routing of an OHL as it requires increased electrical clearances and increased design reliability levels, which will have a direct effect on cost.
- 6.3.2 Major crossings along many of the route options include existing 132 kV and 275 kV OHLs, a railway and a dual carriage way (A90). All route options comprise more than two major crossings and as such are allocated a **Red** RAG rating. However, it would also be necessary to divert existing electrical infrastructure if Route Options 1, 1A, 1B and 2 were progressed, in comparison to Route Options 2a and 3.

##### Road Crossings

- 6.3.3 The route option with the least number of minor road crossings is Route Option 1 with a total of 22 crossings and has been allocated a **Green** RAG rating. The Route Options with the maximum number of crossings are Route Options 2, 2a and 3 with 29 crossings each, and have been allocated an **Amber** RAG rating. Whilst there are a fewer number of road crossings with Route Option 1, there are only minor differences between all of the route options, and these are unlikely to have any significant effect during the construction or during the asset life of the OHL.

#### *Environmental Design*

##### Elevation

- 6.3.4 All route options run along relatively flat ground and have a low potential for the development to be constrained due to elevation, therefore all are allocated a **Green** RAG rating.

##### Contaminated Land

- 6.3.5 No known contaminated land or evidence of contaminated land was identified that might impact works during the construction of the OHL, therefore a RAG rating of **Green** has been allocated for all route options.

##### Flooding

- 6.3.6 There are three types of flooding which must be considered; Coastal, Surface and River. As all of the route options are inland from the coast, there is no risk of coastal flooding occurring in this area. While both surface and river flooding events can occur in the region around the proposed routes, the latter is considered the greatest threat to any overhead line.
- 6.3.7 Using the SEPA flood map, it was determined that all routes had between 2-5% of the route within the 1 in 200-year flood zone, and therefore were allocated a RAG rating of **Amber**.

#### *Ground Conditions*

##### Terrain

- 6.3.8 Unfavourable terrain can lead to many design and construction related challenges for new overhead line builds. The terrain has been assessed by reviewing the average gradient and maximum gradients of the terrain along

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<sup>32</sup> Major infrastructure crossings include high voltage transmission lines, rail lines, wide rivers (greater than 200 m), navigable canals, gas pipelines, and hydro pipelines.

the route using Google Earth elevation profile. No notable constraints have been identified and a RAG rating of **Green** has been allocated for all route options.

#### Peat

6.3.9 Construction in areas of peat can pose engineering challenges during both the design and construction stages of an overhead line build. In addition, construction in peat can lead to increased construction costs and therefore, should be reduced or avoided where possible.

6.3.10 None of the route options pass through any notable areas of peat, therefore all route options have been allocated a **Green** RAG rating.

#### *Construction / Maintenance*

#### Access

6.3.11 Adequate access is an important consideration for both construction and maintenance activities. Positioning an overhead line 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.

6.3.12 All route options are within 1 km of existing public roads and have therefore been allocated a **Green** RAG rating.

#### Angle Towers

6.3.13 Angle towers can be important components of an overhead line and are used in various scenarios, such as changes in direction. Angle towers present challenges in both overhead line design and construction requiring more significant foundations as well as more difficult installation.

6.3.14 The number of properties and buildings within the vicinity of all route options has the potential to increase the number of angle towers likely to be required for this project to ensure an appropriate alignment, whichever route option is taken forward. Route Option 1A is predicted to have the lowest number of angle towers and has been allocated a **Green** RAG rating, whilst all other route options have been allocated a **Red** RAG rating. Further review will be carried out at the alignment stage to minimise angle towers where practicable.

#### *Proximity*

6.3.15 The location of an overhead line relative to structures and settlement is an important consideration when selecting a preferred route option. Overhead lines must be an adequate distance from buildings in order to ensure electrical clearance limits are achieved but similarly, in order to reduce the impact on households of the construction of a piece of key infrastructure in their vicinity. From an operability and maintenance viewpoint, wind turbines near overhead lines have been found to potentially increase the occurrence of conditions suitable for aeolian vibration leading to the premature wear of the conductor through fatigue.

#### Clearance Distance

6.3.16 Although clearance distance is more applicable during the alignment stage an assessment have been carried out to see if there are any properties within or near the route boundaries. Given the presence of settlement and properties throughout, all route options have been allocated **Red** RAG ratings. Further review will be carried out at the alignment stage.

#### Proximity to Windfarms

6.3.17 Existing and proposed windfarms in development along the Route Options or within 1 km have been considered. Two turbines are located within 1 km of Route Options 2 and 2A, whilst a proposed windfarm in development (East Skichen) is within the vicinity of Route Option 3.

6.3.18 As a result, Route Options 2, 2A and 3 have been allocated a **Red** RAG rating, while Route Options 1, 1A and 1B have been allocated a **Green** RAG rating.

#### Communication Masts

6.3.19 Communication masts are present within each route option and therefore a **Red** RAG rating has been allocated for all route options.

#### Urban Environments

6.3.20 There are a few urban developments within or in close proximity to the routes, such as Brechin and Letham. All route options almost completely avoid urban developments and therefore a RAG rating of **Green** has been allocated to all route options.

#### Metallic Pipes

6.3.21 Metallic pipes are present near Brechin substation and Tealing substation. These pipes can be avoided and mitigated by spanning or proposing an alignment with reasonable distance. Other metallic pipes are present within the Corridor, and Route Options 1 and 1B have been allocated a **Red** RAG rating, whilst all other routes have been allocated an **Amber** RAG rating.

### **6.4 Cost Topic Areas**

6.4.1 All options have similar capital and operational costs resulting in a RAG scoring of **Green** for all options.

### **6.5 Comparative Analysis Summary**

6.5.1 **Table 6.1** illustrates the environmental, engineering and cost appraisal RAG ratings for the route options considered.

**Table 6.1: RAG Ratings**

	Category	Sub-Topic	Route Option 1 Rating	Route Option 1A Rating	Route Option 1B Rating	Route Option 2 Rating	Route Option 2A Rating	Route Option 3 Rating
Environmental	Natural Heritage	Designations	Red	Red	Red	Yellow	Yellow	Yellow
		Protected Species	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
		Habitats	Green	Green	Green	Green	Green	Green
		Ornithology	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
		Geology, Hydrology and Hydrogeology	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
	Cultural Heritage	Designations	Yellow	Yellow	Yellow	Yellow	Yellow	Red
		Cultural Heritage Assets	Yellow	Yellow	Yellow	Yellow	Yellow	Red
	People	Proximity to Dwellings	Red	Red	Red	Red	Red	Red
	Landscape and Visual	Designations	Green	Green	Green	Green	Green	Green
		Character	Green	Green	Green	Green	Green	Green
		Visual	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
	Land Use	Agriculture	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
		Forestry	Green	Green	Green	Green	Green	Green
		Recreation	Yellow	Yellow	Yellow	Green	Green	Green
	Planning	Policy	Red	Red	Red	Yellow	Yellow	Red
		Proposals	Green	Green	Green	Yellow	Green	Green
	Engineering	Infrastructure Crossings	Major Crossings	Red	Red	Red	Red	Red
Road Crossings			Green	Yellow	Yellow	Yellow	Yellow	Yellow
Environmental Design		Elevation	Green	Green	Green	Green	Green	Green
		Contaminated Land	Green	Green	Green	Green	Green	Green
		Flooding	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
Ground Conditions		Terrain	Green	Green	Green	Green	Green	Green
		Peat	Green	Green	Green	Green	Green	Green
Construction / Maintenance		Access	Green	Green	Green	Green	Green	Green
	Angle Towers	Red	Green	Red	Red	Red	Red	

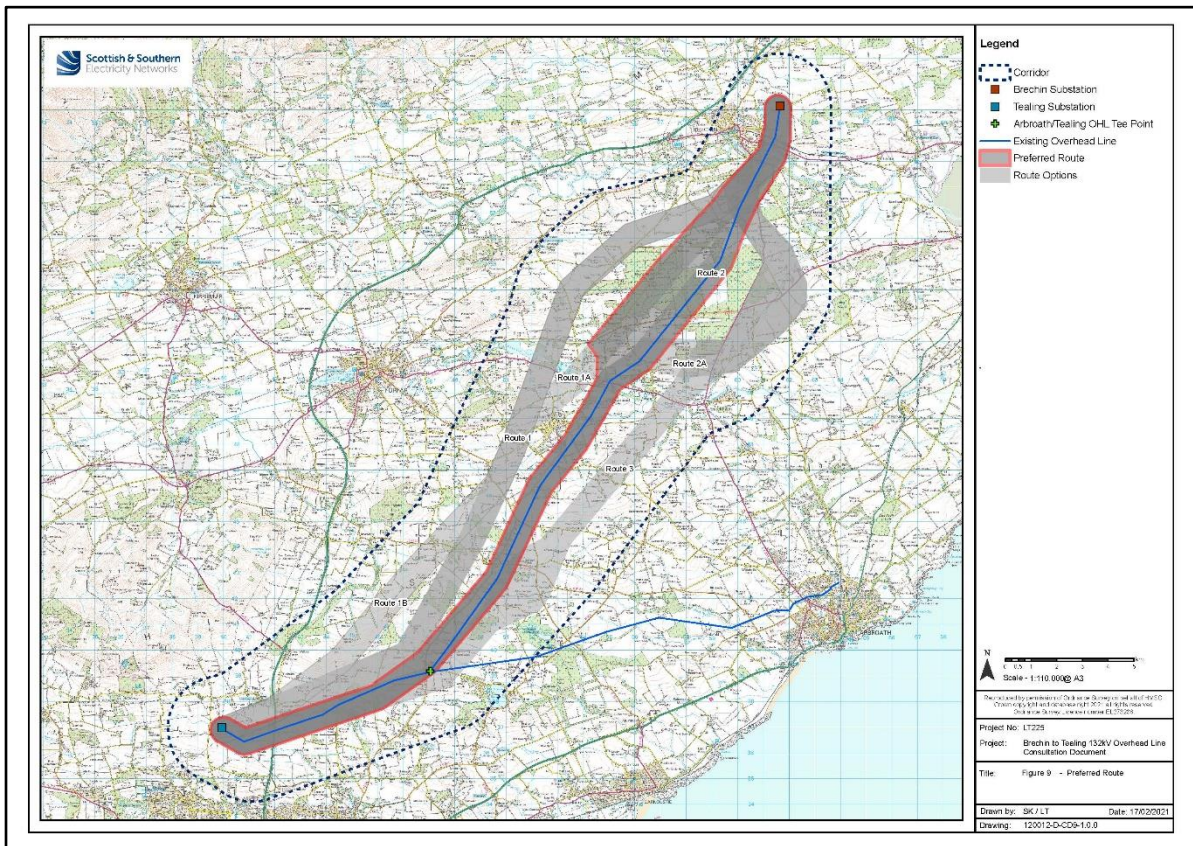
	Category	Sub-Topic	Route Option 1 Rating	Route Option 1A Rating	Route Option 1B Rating	Route Option 2 Rating	Route Option 2A Rating	Route Option 3 Rating
	Proximity	Clearance Distance	Red	Red	Red	Red	Red	Red
		Proximity to Windfarms	Green	Green	Green	Red	Red	Red
		Communication Masts	Red	Red	Red	Red	Red	Red
		Urban Environments	Green	Green	Green	Green	Green	Green
		Metallic Pipes	Red	Yellow	Red	Yellow	Yellow	Yellow
Cost	Capital	Construction, Diversions, Public Road Improvements, Felling, Land Assembly and Consent Mitigations	Green	Green	Green	Green	Green	Green
	Operational	Inspections and Maintenance	Green	Green	Green	Green	Green	Green

## 6.6 Preferred Route

- 6.6.1 A preferred route has been identified following consideration of environmental, engineering and cost considerations.
- 6.6.2 The comparative analysis of route options has highlighted that Route Options 1, 1A, 1B and 3 all have high potential for the development to be constrained by environmental factors and constraints. In the case of Route Options 1, 1A and 1B, constraints are focussed around the Rescobie and Balgavies Loch SSSI which is crossed by Route Option 1 and 1A (and would therefore be required to connect with Route Option 1B). This presents a potential pathway for effect and therefore an elevated risk of impact. Potential effects on native woodland surrounding the loch, waders and recreational interest around the lochs also present notable constraints for these route options. For Route Option 3, there is a concentration of Scheduled Monuments and Listed Buildings to the west of Friockheim which present a high potential for the development to be constrained.
- 6.6.3 All route options have the potential to be constrained by dwellings and further consideration of this will need to be undertaken at the alignment stage of the project.
- 6.6.4 Route Options 2 and 2A provide advantages over Route Options 1, 1A, 1B and 3 given their avoidance of the Rescobie and Balgavies Loch SSSI and cultural heritage features noted for those route options. Both options do however have other constraints of note.
- 6.6.5 In the case of Route Option 2A, there is a concentration of properties within the route option to the north of Friockheim which has the potential to highly constrain an OHL within this route option. Route Option 2A would also result in an increase in the overall length of overhead line required in comparison to the more direct Route Option 2.
- 6.6.6 The presence of the existing OHL within Route Option 2 offers opportunities in terms of utilising an existing wayleave through Montreathmont Forest (albeit one that would require widening) and a perceived reduction in sensitivity in some areas, but also constraints, not least the proposals for a new solar farm in Montreathmont Forest.
- 6.6.7 Engineering constraints and cost considerations are typically consistent across all route options, with the most notable constraints comprising major crossings (road, rail and other electrical infrastructure), clearance distance (properties), proximity to wind farms and communication masts. All of these constraints will require further detailed review at the alignment stage.
- 6.6.8 In determining a preferred route, it is considered that a route through Montreathmont Forest offers fewer constraints in comparison to routeing around the forest, albeit felling would be required to create a new or extended wayleave. On balance therefore, it is determined that **Route Option 2** is the preferred route. However, to ensure flexibility in the consideration of alignment options, it has been determined that the preferred route should encompass a broad area through Montreathmont Forest that includes both Route Option 2, Route Option 1A and the area in between. The preferred route is also broadened to the north east and south west of the forest. For the remainder of the route, the preferred route follows the route of Route Option 2, thus avoiding any direct impacts on the constraints noted for Route Option 1A around Balgavies and Rescobie Loch.
- 6.6.9 The Preferred Route is shown in Plate 6.1 (see also **Figure 9**).



**Plate 6.1: The Preferred Route**



6.6.10 The Preferred Route would require careful consideration during the alignment selection stage of the project to achieve an acceptable alignment with minimal environmental effects. It is acknowledged that the area in between Route Option 2 and 1A has not been specifically referenced in the appraisal of route options to date, but it is anticipated that constraints here will be similar in nature to both adjacent route options and will be considered in more detail during the alignment selection stage. Should further site and desk-based analysis at the alignment selection stage identify a particular constraint, a further review of route or alignment options may be required prior to the identification of a preferred alignment.



## 7. CONSULTATION ON THE PROPOSALS

7.1.1 SSEN Transmission plc 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.

### 7.2 Questions for Consideration by Consultees

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

- Have we explained the need for this Project adequately?
- Have we explained the approach taken to select the preferred route adequately?
- Are there any factors, or environmental features, that you consider may have been overlooked during the preferred route selection process?
- Do you feel, on balance, that the preferred route selected is the most appropriate for further consideration at the alignment selection stage?

### 7.3 Next Steps

7.3.1 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 preferred route option to take forward to the next stage in the routeing process (alignment selection).

7.3.2 All comments are requested by 12 March 2021. A Report on Consultation will be produced which will document the consultations received, and the decisions made in light of these responses.

7.3.3 Following the identification and confirmation of a proposed route, further technical 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.