Appendix D

Preferred Route Option Appraisal

Table D.1: Overall Preferred Route Option Appraisal

Table D.1: Overall Preferred Route Option Appraisal

Criterion	Sub-Criteria	Overall Route Option 1	Route Option 2	Overall Route Option 3	Overall Route Option 4	Preferred Route Option
		- Comprising 1A-1B-1D-1F		- Comprising 3A-3B-3D-3E	- Comprising Route Option 4A-4B-4C	
Length of Route Option (km)	Length of Route Option (Holford Rule 3)	c. 39.7 km	c. 25km	c. 41km	c. 40.2km	Route Option 2 is the shortest Route.
Landscape and Visual Amenity	Locally Designated Landscapes, including Special Landscape Areas (SLAs) and the Pentland Hills Regional Park (Holford Rule 2) Landscape Character Types (LCT) (Holford Rules 4, 5, 6 and 7), including Landscape Susceptibility Residential Visual Amenity with '150m trigger for consideration zone' (similar to Holford Rule 4) Visual Amenity (similar to Holford Rule 4) Tourism and recreation: potential for views from OS promoted viewpoints, Sustrans routes, Core Paths, long distance promoted trails, tourist attractions and recreational areas such as golf courses (Notes on Clarification to the Holford Rules)	Overall Route Option 1 crosses through Pentland Hills SLA and Route Options 1A, 1B and 1D also cross through Black Mount SLA. Route Options 1B, 1D and 1F cross through LCTs with a medium to high susceptibility to OHL development. There are a number of visual amenity and residential receptors located in the Route Options: residential receptors (scattered settlements), tourists visiting the users of core paths, to factor into the OHL detailed routeing stage. There is potential for cumulative effects from the OHL/ above ground pipeline and impact on visual amenity. There are opportunities to route more than 150m from the dwellings at detailed routeing stage and by avoiding higher land the route will be less visible in the skyline for other sensitive visual receptors.	The majority of the Route Option passes through several regionally and locally designated landscapes including SLAs and the Pentlands Regional Park and a Conservation Area. The LCAs within Route Option 2 have a medium to high susceptibility to OHL development, particularly across the prominent Pentland Hills. The sections of Route Option 2 to the north and south of the Pentlands are likely to result in less concern with relation to visual amenity. However, routeing across the Pentland Hills raises greater concerns as the OHL would be visible from many hills and along popular walking routes in the Regional Park. There are several well-used trails within the Pentlands. There are no promoted viewpoints or other tourism and recreational facilities along this route, though it is noted that the Pentland Hills Regional Park is popular and well visited by hill walkers, cyclists and cross-country skiers in winter.	Overall Route Option 3 crosses the Pentland Hills SLA, the Pentlands SLA and the northern edge of the Pentlands Regional Park and Bonaly Country Park. Route Option 3A also passes through the Swanston Conservation Area and the Morton Mains Conservation Area. The Route crosses through LCTs of medium to high susceptibility to OHL development. A number of towns and scattered settlements are located in and around all the overall Route Option, including around Currie and Balerno, and then Penicuik and Lamancha. There are comparable impacts on residential (150m trigger for consideration zone), visual amenity, tourism and recreational receptors across the entire route option. Route Options 3A and 3B both cross a number of core paths. None of the overall Route Option crosses any OS promoted viewpoints, long distance trails, or tourist attractions of note. Route Option 3D is located c. 32m east of Gowk Stone which may attract visitors for its heritage importance.	Route Option 4A passes through the Pentlands SLA and the northern edge of the Pentlands Regional Park and Bonaly Country Park, whilst the remainder of the route option does not pass through any landscape designations. Route Option 4A and 4B also pass through the Swanston, Morton Mains and Howgate Conservation Areas. There are no Local or regional landscape designations in Route Option 4C. The LCAs within Route Options 4A-4C have a mixture of medium and mediumhigh susceptibility to OHL development, particularly across the prominent Pentland Hills. There are a number of scattered settlements within Route Option 4A – 4C, and whilst the '150m trigger for consideration' should be achievable at the detailed routeing stage, there are areas within Route Option 4A and 4B which are unlikely to be avoided, and this distance might need to be reduced. In terms of visual amenity of sensitive receptors (residential, tourism and recreation) the OHL will impact key views across the landscape, forestry, core path users, road users and users of the Glencorse Golf Club. Cumulative impacts of the proposed OHL with existing infrastructure will also need to be factored in at the detailed routeing stage.	All route options are challenging with respect to landscape and visual amenity. They all pass through the Pentland Hills SLA and LCTs with a medium to high susceptibility to OHL development. There are also a number of sensitive receptors (residential, tourism and recreation) in close proximity to all the route options, and in some cases, it will not be possible to avoid the 150m 'trigger for consideration' zone. In this regard there is no clear overall preference, however, Route Option 2 is of greatest concern given the route taken across the Pentland Hills, noting that this route was carefully drawn up to represent the likely 'least worst crossing' of the Pentland Hills.
Biodiversity	Ramsar Sites (Holford Rule 1)	Route Option 1A includes part of the Cobbinshaw Reservoir SSSI but this can be avoided through detailed routeing.	Two SSSI are located in Route Option 2: North Esk Valley SSSI and the Carlops Meltwater Channels SSSI. The full width of Route Option 2 crosses the North	Route Options 3D and 3E may result in direct impacts to the Auchenforth Moss SSSI. Route Options 3D cannot span the full SSSI and therefore will result in	The overall Route Option does not contain any Ramsar sites, SPAs, SSSIs, or SACs.	There are a number of Ramsar sites, SPAs, SSSIs, SPAs, SACs, SWTs and LNCS/LWS in

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		- Comprising 1A-1B-1D-1F		- Comprising 3A-3B-3D-3E	- Comprising Route Option 4A-4B-4C	
	SPA (Holford Rule 1) SSSI (Holford Rule 1) SAC (Holford Rule 1) SWT (Holford Rule 2) LNCS (Holford Rule 2)	Route Option 1F contains an approximate 2.5 km length of the River Tweed SAC which spans the width of the route option, but the OHL could span the width of the SAC to avoid any direct impacts. Route Options 1A, 1B and 1D do not contain any SACs. There are four LNCs noted in Route Option 1A; two of which can be avoided through detailed routeing. The Dalmahoy Hill LNCS cannot be spanned or avoided. Route Options 1D & 1F also contain LNCs which also can be avoided through detailed routeing. The overall Route Option does not contain any Ramsar sites, SPAs, or SWTs.	Valley SSSI which cannot be avoided through routeing. Dalmahoy Hill / Kaimes Hill / Ravelrig Quarry Quarry (biodiversity / geodiversity) LNCS crosses the width of the Route Option and cannot be avoided or spanned. There are nine LNCSs partly within Route Option 2 and most can be avoided through routeing. There are no Ramsar, SPAs, SACs, or SWTs within Route Option 2.	unavoidable impacts to the SSSI. Route Option 3E is also partly located within Whim Bog SSSI; Route Option 3E may be able to span both SSSIs through detailed routeing. The overall Route Option does not include any Ramsar sites, SPAs, or SACs. Route Options 3B, 3D and 3E do not contain any SWT reserves, whilst Route Option 3A partly covers the Erraid Wood SWT, which can be avoided through detailed routeing. There are 15 LNCS crossed within Route Options 3A, 3B & 3D, four of which cannot be spanned or avoided, but one which could be spanned: Dalmahoy Hill / Kaimes Hill / Ravelrig Quarry Quarry (biodiversity / geodiversity) LNCS (Route Option 3A)- cannot be avoided or spanned. Hare Moss and Auchencorth Moss LNCS (Route Option 3D) – cannot be avoided or spanned. River North Esk - Drumbuie to Brunston Castle LNCS (Route Option 3D) – cannot be avoided or spanned. River North Esk - Dalkeith to Carlops NCS (Route Option 3D) – cannot be avoided but could be spanned. Route Option 3E does not contain any LNCs.	Route Options 4A partly covers the Erraid Wood SWT and Route Option 4B entirely covers the Milkhall Pond, however both can be avoided through detailed routeing. Route Options 4A-4Ccross, either entirely or partially, 15 LNCS. The Dalmahoy Hill / Kaimes Hill / Ravelrig Quarry (biodiversity / geodiversity) LNCS cannot be avoided or spanned. The following cannot be avoided, but could be spanned: Harelaw Reservoir/Water of Leith/Bavelaw Burn/Black Springs/Threipmuir & Harlaw Reservoirs (biodiversity / geodiversity) Howden Burn/Redford Brae & Laverock Dale/Torduff Reservoir & Bonaly Burn Glencorse Valley and Logan Burn (biodiversity) Bush Estate and Glencorse Burn (biodiversity) Bonnyrigg to Penicuik Railway (biodiversity) River North Esk – Dalkeith to Carlops (biodiversity) Beeslack Wood and Haughhead (biodiversity) Leadburn Community Woodland (biodiversity) Route Option 4C does not contain any SWTs within the Route Option.	proximity to the Route Options. Whilst careful placement and mitigation at the detailed routeing stage can avoid/minimise impacts on many of these designations, they cannot be avoided in their entirety. It has been assumed for the purposes of this appraisal that distances of 80-100m can be spanned by a wood pole line. All options cross at least one LNCS which it will not be possible to span or avoid. Route Option 2 and 3 cross an SSSI which cannot be avoided through routeing.
Cultural Heritage	Scheduled Monuments (Holford Rule 1) Listed Buildings (Holford Rule 1) Conservation Areas (Holford Rule 1) Inventory of Gardens and Designed Landscapes (GLD) (Holford Rule 1) Inventory of Historic Battlefields (Holford Rule 1)	There are no Scheduled Monuments, Conservation Areas, GLDs, or Historic Battlefields within the overall Route Option. There are 23 Listed Buildings (21 Cat B, 2 Cat C) and 167 known non-designated heritage assets throughout overall Route Option, with Route Option 1F containing the most Listed Buildings (12) and Route Option 1A containing the most non-designated heritage assets (65). Therefore, there is likely to be unavoidable impacts on the setting of Listed Buildings and non-designated heritage assets.	There are no Scheduled Monuments, GDLs or Historic Battlefields within Route Option 2. There are 15 Listed Buildings (11 Cat B and 4 Cat C) located in Route Option 2. 13 of the Listed Buildings are situated in the Carlops Conservation Area, which is also party located within Route Option 2. Route Option 2 does not appear to be located on key views through and towards these Conservation Areas and so is unlikely to affect how this Conservation Area and Listed Buildings are experienced or perceived. There are 109 known non-designated heritage assets located within the Route Option 2, and these constraints will be further established through more detailed routeing.	There are two Scheduled Monuments located within Route Option 3A and 3B, however careful placement and design, is likely to mitigate any potential significant effects. Route Options 3D and3E do not contain any Scheduled Monuments. A total of 13 listed buildings (3 Cat A, 6 Cat B, and 4 Cat C) are located within Route Options 3A, 3B and 3E, which may be susceptible to a change in setting as a result of the introduction of grid infrastructure. There are no listed buildings within Route Option 3D. Route Option 3A crosses two Conservation Areas, however, careful route alignment, tower placement and design, is likely to mitigate any potential significant effects. There are no further Conservation Areas located within Route Options 3B, 3D and 3E. The only GLD is located within Route Option 3D. This should be avoided. There	Route Option 4A has one Scheduled Monument, however as this asset is below ground it is unlikely that it will be subject to significant changes in its setting as a result of an OHL. Route Options 4B and 4C do not contain any Scheduled Monuments. There are 27 Listed Buildings (3 Cat A, 6 Cat B, 18 Cat C) within Route Options 4A – 4C. There are likely to be unavoidable impacts on Listed Buildings within the route option, which will need to be minimised through the detailed routeing phase. There are three Conservation Areas within Route Options 4A (two) and 4B (one); careful alignment, pole placement and design, is likely to mitigate any potential significant effects. There are no GDLs, and Historic Battlefields within the overall Route Option. There are 136 known non-designated heritage assets within the overall Route Option, and further assessments would be	There are a number of designated cultural heritage features (Scheduled Monuments, Listed Buildings, Conservation Areas, GDLs, Historic Battlefields), and nondesignated heritage assets in all the Route Options. Whilst careful placement and mitigation at the detailed routeing stage will minimise a number of impacts on setting, unavoidable impacts on the setting of cultural heritage features are likely with all options. On balance, Route Option 2 is least favoured from a cultural heritage point

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		– Comprising 1A-1B-1D-1F		- Comprising 3A-3B-3D-3E	- Comprising Route Option 4A-4B-4C	
	Non- Designated Heritage Assets (Holford Rule 2)	- Comprising TA-TB-TD-TF		are no further GDLs located within the other Route Options. The Battle of Rullion Green Historic Battlefield is located within Route Option 3B. There are no further Historic Battlefields located within the remaining Route Options. It is unlikely that the Historic Battlefield can be spanned or avoided, and the OHL will result in changes in setting, and how the asset is experienced. Undergrounding will be at risk of damaging below-ground heritage assets. This area should be avoided. There are 131 non-designated heritage assets located within the overall Route Option and these constraints will be further established through more detailed routeing.	required to establish if there would be any impact on their setting through the careful routeing of the OHL.	a view due to impact on historic landscapes.
Forestry and Woodland	 AWI (Holford Rule 1) NWSS (Holford Rule 2) NFI (Holford Rule 5) 	The overall Route Option contains 18 AWI records (17 in route option 1A and one partly within route option 1D); totalling 33.6ha. Careful detailed design could avoid impacts on AWI. There are 31 records of NWSS within or partially within the overall Route Option (16 in route option 1A, one in route option 1D and 14 in route option 1F); totalling 44.9ha. Careful detailed design could avoid impacts on NWSS. There are 241 records of NFI within or partially within the overall Route Option (99 in route option 1A, 48 in route option 1D and 94 within route option 1F); totalling 772.8ha. Some loss of NFI forest cover would be unavoidable in the overall Route Option.	There are 21 AWIs (totalling 62.1ha) within or partially within Route Option 2, which can be avoided through detailed routeing. Otherwise, there are 19 NWSS records (totalling 24.4ha) and 90 NFI records (totalling 190.1ha) within, or partially within, Route Option 2. There may be some unavoidable impacts to forestry, but some can be avoided through detailed routeing.	The overall Route Option contains 35 AWI records (19 in route option 3A, 14 within or partially within 3B and one partly within each of route options 3D and 3E); totalling 115.2ha. Not all AWI records can be avoided through detailed routeing; some loss to AWI will be unavoidable. There are 29 records of NWSS within or partially within the overall Route Option (13 in route option 3A, 14 in route option 3B and 2 in route option 3D); totalling 39.627ha. There are no NWSS records within route option 3E. Careful detailed design could avoid impacts on NWSS. There are 215 records of NFI within or partially within the overall Route Option (90 in route option 3A, 57 in route option 3B, 12 in route option 3D and 56 within route option 3E); totalling 405.8ha. Some loss of NFI forest cover would be unavoidable in the overall Route Option.	The overall Route Option contains 27 AWI records (19 in route option 4A and eight within or partially within 4B); totalling 80.5ha. There are no AWI records within route option 4C. Not all AWI records can be avoided through detailed routeing; some loss to AWI will be unavoidable. There are 21 records of NWSS within or partially within the overall Route Option (13 in route option 4A and eight in route option 4B); totalling 37.7ha. There are no NWSS records within route option 4C. Careful detailed design could avoid impacts on most of the NWSS, however one area within route option 4B cannot be avoided. There are 197 records of NFI within or partially within the overall Route Option (90 in route option 4A, 56 in route option 4B, and 51 in route option 4C); totalling 413.3ha. Some loss of NFI forest cover would be unavoidable in the overall Route Option.	There may be unavoidable impacts on forestry and woodland with all route options. However, Route Option 4 contains AWIs which are unlikely to be avoided through detailed routeing and is least preferred.
Peat, Geology, Hydrology & Hydrogeology	 NatureScot Priority Peatland Habitats (Class 1 and Class 2) (Holford Rule 1). NatureScot Peatland Habitats (Classes 3, 4 and 5). Geological Conservation Review Areas Waterbodies / Watercourses 	There is evidence of peatland throughout the overall Route Option however, none of this peatland is priority peatland habitat. There are no Geological Conservation Review (GCR) Areas within the overall route option. The overall Route Option crosses named and unnamed watercourses. The main flood risk area of note is within Route 1F, but this can be spanned with careful alignment in the south of the route, where the flood risk area it is at its narrowest (~120m wide). Route Options 1A, 1B and 1D also cross areas of fluvial flood risk, however it is thought that these areas can be spanned or avoided.	There is evidence of peatland throughout the overall Route Option however, none of this peatland is priority peatland habitat. Some areas cannot be avoided or spanned. Route Option partly crosses the Gutterford Burn GCR and the Carlops GCR. It is likely possible to span much of this area; discussions required with NatureScot re detailed routeing. Route Option 2 crosses numerous named and unnamed watercourses along its extent. The upper extent of the River North Esk also runs through Route Option 2, and the North Esk Reservoir is also noted. However, the reservoir could be avoided through detailed routeing.	Route Option 3E crosses over a large area of Class 1 priority peatland southeast of Deepsyke Forest. This area is between 460m and 1.1km long and extends the full width of the route. The Class 1 peatland cannot be spanned or avoided. There is also Class 3-5 peat within Route Options 3D and 3E which cannot be avoided. Route Option 3D crosses the northern boundary of the Carlops GCR; this could be avoided through detailed routeing. The overall Route Option crosses named and unnamed watercourses. Route Option 3B passes through a Drinking Water Protected Area which cannot be avoided through routeing.	There is evidence of peatland throughout the overall Route Option however, none of this peatland is priority peatland habitat and it can be avoided or spanned through detailed routeing. There are no Geological Conservation Review (GCR) Areas within the overall route option. The overall Route Option crosses named and unnamed watercourses. Route Option 4C does not include any areas of fluvial flood risk, however Route Options 4A and 4B both include areas prone to flooding, however these can be spanned or avoided through careful routeing.	There is Class 1 priority peatland within Overall Route Option 3 which cannot be spanned or avoided, and is therefore the least preferred route. Route Options 2 crosses the Carlops GCR and Gutterford Burn GCR, which is now an SSSI. Route Options 1, 2, and 4 all cross non priority peatland habitat, most of which may not be avoidable, and therefore there is no overall

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	Flood Zones and Drinking Water Protection	The overall Route Option crosses through DWPAs; some of the DWPA in 1A can be avoided through detailed alignment.	There are some areas of flood risk located within Route Option 2. However, they are considered sufficiently narrow that they can be spanned or avoided through	The overall Route Option contains areas of flood risk which can be spanned or avoided through detailed design. Route Option 3D process aver priority.	Route Option 4B crosses the Glencorse Burn DWPA which cannot be avoided through routeing.	preference between Route Option 1, 2 and 4. Whilst all route options cross flood risk areas, it should be possible to span these through careful routeing. All route options with the
	Areas (DWPA)		routeing.	Route Option 3D crosses over priority peatland habitat in the south of the routes. There is scope within Route Option 3D to avoid the Class 1 priority peatland habitat.		
						exception of route option 2 cross DWPAs which cannot be avoided.
Planning and Development	Planning and Development: Local Development Plan (LDP) Allocations. (Holford Rule 7) Committed Development (Consented and Undetermined1 Planning Applications) since 2019². Scotland Land Capability for Agriculture Classes 1, 2 and 3.1 (Holford Rule 7) Coal Authority Reporting Area for Planning	The overall route option contains several City of Edinburgh Local Development Plan (LDP) housing allocation sites (Riccarton Mains Road, Curriehill Road, Newmills Road and Ravelrig Road), a cycleway footpath allocation and a minerals site which can be avoided though detailed routeing. The overall route option contains the following City of Edinburgh Council committed developments which can be avoided through detailed routeing: 18/09397/FUL – permission granted at appeal for demolition of existing barn and formation of new kennels at Currievale Farm, Currie 21/01053/FUL – permission granted for 2 new dwellinghouses at The Mill House 22/03017/FUL – permission granted for a new electricity feeder station from the railway at the proposed electricity substation, Riccarton Mains Road, Currie 23/00373/FUL – permission to reposition the house plots at The Mill House The overall route option contains the following West Lothian Council committed developments which can be avoided through detailed routeing: 0311/FUL/20 – permission granted for a second access to Camilty Wind Farm, at Camilty Plantation 0320/FUL/21 – permission granted for 6 turbines at Camilty Plantation 0300/FUL/23 – pending determination for eight houses near Kirknewton The overall route option contains the following Scottish Borders Council committed developments which can be avoided through detailed routeing:	Within the City of Edinburgh Council there is one committed development for the installation of a new electricity feeder station at Riccarton Mains Road, Currie (22/03017/FUL). This will be considered at the detailed routeing stage as appropriate. Within Scottish Borders Council, a pending planning application for a holiday leisure centre for 150 holiday lodges (ref. 19/00153/FUL) can be avoided through detailed routeing. Route Option 2 includes small sections of prime agricultural land (Class 2 & 3.1) either side of Currie's railway line which cannot be avoided through detailed routeing. There is no prime agricultural land in the rest of Route Option 2. The route is located within a Coal Authority consultation area and falls partly within a 'development high risk area'. Development high risk areas should be avoided as best possible through detailed routeing however it is possible to avoid or span areas of concern.	Within the City of Edinburgh Council there is one committed development for the installation of a new electricity feeder station at Riccarton Mains Road, Currie (22/03017/FUL). This will be considered at the detailed routeing stage as appropriate. Within Midlothian Council there is a planning consent for the erection of three self-catering holiday pods at Old Rullion Cottage, Penicuik (20/00736/FUL) and a live peat extraction site at Auchencorth Moss (16/00202/ROMP) which can be spanned or avoided during detailed routeing. Route Options 3A and 3B includes small sections of prime agricultural land (Class 2 & 3.1) either side of Currie's conurbation and railway line and around Easter Howgate, which are unlikely to be avoidable or spanned through detailed routeing. The overall route option falls within the Coal Authority Mining Reporting Area with some potential development high risk areas within route options 3D and 3E. Within route options 3D and 3E the presence of mine entries will require further site investigation to determine the depth and condition to inform detailed routeing.	Within the City of Edinburgh Council there is one committed development for the installation of a new electricity feeder station at Riccarton Mains Road, Currie (22/03017/FUL). This will be considered at the detailed routeing stage as appropriate The overall route option contains several Midlothian Council LDP allocations for: Midlothian Snowsports Centre, strategic housing land allocations, Midlothian Science Zone which can be avoided through detailed routeing. Route Option 4B contains two Midlothian Council housing developments and one tourist development which can be avoided through detailed routeing: Housing development for 395 new dwellings on land south-east of Auchendinny Brae (MC refs: 20/00089/DPP, 22/00848/DPP, and 23/00474/DPP). Housing development for 45 dwellings on land of former Wellington School, south of Penicuik (MC ref: 20/00144/DPP). 23/01488/FUL DPP – permission granted for the erection of three glamping pods and associated infrastructure at land West Of Old Station Cowdenburn West Linton Scottish Borders There is an approved application (Scottish Borders ref: 23/00678/HAZ for 48 tonnes of overground Liquid Petroleum Gas (LPG) storage in relation to agricultural heating, which can also be avoided during detailed routeing. Route Options 4A and 4B contain some prime agricultural land either side of Currie's conurbation and the railway line, and around Hillend and Seafield. This is unlikely to be avoidable or spanned in Route Option 4B.	There is no overall preference in planning and use terms. All route options include consented or submitted planning applications which can be avoided through detailed routeing. All route options contain small sections of prime agricultural land which it may not be possible to avoid or span and will require further investigation regarding Coal Authority high risk areas.

¹ Undetermined planning applications are those which have been validated, i.e. are 'live' applications, but have not yet been decided. ² It is not considered that development prior to 2019 should be included.

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		 21/01619/FUL – permission granted for 6 self-contained accommodation units on land south of Willow House, Garvald. 22/01744/FUL - permission granted for a slurry lagoon at Hyndfordwells Farm, West Linton. The site area for the development is 0.78ha and it is not clear if this permission has been implemented / completed. Route Options 1A and 1D include some small areas of mineral allocations for construction aggregates. Route Option 1A includes small sections of prime agricultural land (Class 3.1) either side of Currie's conurbation and railway line. The OHL is not likely to impact the ability of the surrounding land to remain in agricultural use. Part of route options 1A and 1F are located within a Coal Authority consultation area and a Coal Authority Mining Reporting Area. Development high risk areas and mine entries should be avoided as best possible through detailed routeing. 			The overall route option falls within the Coal Authority Mining Reporting Area with some potential development high risk in route option 3B. Part of route option 3C broadly follows the Southern Upland fault line, some of which is classed as a high risk area. Placing any infrastructure directly over or in vicinity of the fault line should be avoided where possible through detailed routeing.	
Technical (provided by SPEN)	 Altitude and topography Existing infrastructure SP Energy Networks Land Use Risks 	Almost the entire Route Option 1 has an altitude above 200m, except Route 1A of which approximately 95% is less than 200m. The maximum altitude within Route 1 is approximately 430m. Given the long length of this route, the slope varies significantly throughout, Route 1A has the most even ground with around 80% having a gradient of less than 6°, although this rises to a maximum of 24° in some sections. Route 1B and 1D have a more uneven terrain with roughly 50% of this section having a gradient less than 6° with a maximum gradient of 28°. Route 1F has a varied gradient along its route, with a long stretch of the route having a gradient of less than 6° and has a maximum gradient of 32°. Curriehill Railway Station lies within Route Option 3A with a possibility of a double crossing between Currie S/S and National Cycle Route 75. Cognisance of statutory clearance requirements for rail crossings are to be considered. The overall route contains a number of existing OHL transmission and distribution infrastructure crossings including 11kV, 275kV, 132kV and 400kV; mostly located within route option 1A. There are several A roads, private access tracks and minor roads within the overall route option which will need to considered during detailed routeing. Route options 1A contains a high-pressure gas pipeline which would be crossed twice.	Most of Route Option 2 has an altitude above 200m. The maximum altitude within Route 2 is approximately 400m. Given the length of this route, the slope varies significantly throughout, the first section remains mostly below 6°, before becoming more uneven along the rest of the route, with only approximately half of the route with a gradient less than 6°. Around 5% if this route has a technically difficult gradient above 22°, with a maximum of approximately 39°. Curriehill Railway Station lies at the start of Route Option 2, with a possibility of a double crossing between Currie SIS and National Cycle Route 75. Cognisance of statutory clearance requirements for rail crossings will be required during detailed routeing. Route Option 2 crosses the Tarmac Ravelrig Quarry, which has an amber risk rating due to known presence of mine workings. There are a number of minor road/track crossing along this route in which statutory clearance requirements will need to be considered. Deanfoot Road and the A701 are also crossed within this route. The A70 road runs along the most northern boundary of Route Option 2. The A702 road runs north-south across the middle of Route Option 2. A high-pressure gas pipeline is crossed near Buteland farm, a full utility search would be required to establish extents of	Most of Route 3 is at altitude above 200m, which in Scotland, altitudes above 200m AOD are technically, by design, considered to be an extreme environment due to high wind and ice loading. The maximum altitude within this corridor is approximately 375m. Given the long length of this route, the slope varies significantly throughout, although a lot of this corridor has a more even surface with approximately 75% of the corridor with a gradient less than 6°. As previously mentioned, there is a lot of topographical variety throughout however, reaching a maximum of 50°, a gradient of this magnitude can cause significant technical challenges during construction as well as operation. Curriehill Railway Station lies within Route Option 3A with a possibility of a double crossing between Currie S/S and National Cycle Route 75. Cognisance of statutory clearance requirements for rail crossings are to be considered. Route Option 3A crosses the Tarmac Ravelrig Quarry, which has an amber risk rating due to known presence of mine workings. The MOD Castlelaw and Dreghorn Training Area and Ranges (c. 775ha) runs to the south of Dreghorn Training Area and Barracks to Castlelaw Hill. Whilst some public access is allowed through public rights of way, some of the area is fenced off and it is unlikely that the development will be allowed to run through this area.	Route 4C has an attitude above 200m. Some sections of Routes 4A and 4B have an altitude below 200m although these routes are mixed, with a maximum altitude reaching 300m in Routes 4A and 4B and reaching 375m in Route 4C. Given the long length of this route, the slope varies significantly throughout, Routes 4A and 4B are more even, with around 80% of these sections having a slope below 6° and reaching a maximum gradient of around 30°. Route 4C is slightly more challenging, with a maximum slope of around 39°. Curriehill Railway Station lies within Route Option 3A with a possibility of a double crossing between Currie S/S and National Cycle Route 75. Cognisance of statutory clearance requirements for rail crossings are to be considered. Route Option 4A crosses the Tarmac Ravelrig Quarry, which has an amber risk rating due to known presence of mine workings. The MOD Castlelaw and Dreghorn Training Area and Ranges (c. 775ha) runs to the south of Dreghorn Training Area and Barracks to Castlelaw Hill. Whilst some public access is allowed through public rights of way, some of the area is fenced off and it is unlikely that the development will be allowed to run through this area. Route Option 4A has a number of larger roads which will require crossing including a double roundabout and junctions on the A702 into Biggar Road, as well as Old	All route options cross altitudes above 200m, which is considered to be an extreme environment due to high wind and ice loading. All route options cross the Tarmac Ravelrig Quarry, which has an 'amber risk' rating due to known presence of mine workings. However, it may be possible to avoid this through detailed routeing. Statutory rail crossing clearance ratings will need to be considered for all route options, with other considerations including road crossings and high-pressure gas pipelines. Routes 3 and 4 have an additional constraint in terms of the MOD training area whilst Route Option 4 also crosses the Glencorse Golf Club. This is considered to carry a red (High risk) rating for technical feasibility.

Criterion	Sub-Criteria	Overall Route Option 1	Route Option 2	Overall Route Option 3	Overall Route Option 4	Preferred Route Option			
		- Comprising 1A-1B-1D-1F		- Comprising 3A-3B-3D-3E	- Comprising Route Option 4A-4B-4C				
		Route Option 1A crosses the Tarmac Ravelrig Quarry, which has an amber risk rating due to known presence of mine workings.	all utility services found within the route option.	A number of larger roads would require crossing including a double roundabout and junctions on the A702 into Biggar Road, Old Pentland Rd, A703 and running parallel to A702 and A766. Route Options 3A and 3B cross or are in proximity to a large amount of OHLs (total of 31). There are 2 high pressure gas pipeline crossings along this route which cannot be avoided.	Pentland Rd, A703 and running parallel to A702. Route Option 4 is in proximity to a number of existing OHLs. A high-pressure gas pipeline spans the whole width of Route Option 4B and cannot be avoided. Route Option 4B crosses the Glencorse Golf Club. This is considered to carry a red (High risk) rating for technical feasibility.				
Overall Preference		The overall preferred route option for the	Cloich Forest Wind Farm Connection Pro	ject is Overall Route Option 1.					
		All route options are considered challenging with respect to landscape and visual amenity. They all pass through the Pentland Hills SLA and LCTs with a medium to high susceptibility to OHL development. There are also a number of sensitive receptors (residential, tourism and recreation) in close proximity to all the route options, and in some cases, it will not be possible to avoid the 150m 'trigger for consideration zone. Furthermore, all route options have potential impacts on peatland, and it is likely that impacts on forestry are unavoidable with all route options. The comparative appraisal of all the Overall Route Options has identified that at approximately 25km, Route Option 2 is considerably shorter than the other three options which are all approx. 40km in length. However, Route Option 2 raises the greatest concerns (and consenting risk) from a landscape and visual amenity perspective given that it traverses the centre of the Pentland Hills, albeit at the 'least worst' crossing point in landscape and visual amenity terms. Route Option 2 also crosses the North Esk Valley SSSI which cannot be avoided. Route Option 2 is also least favoured from a cultural heritage point of view due to the potential impact on historic landscapes. Furthermore, due to the higher altitude, there would be a requirement for shorter span lengths to cross the Pentland Hills as a result of the steeper topography, with increased infrastructure as a result. The topography within Route Option 2 would also make accessing the line for construction and maintenance particularly challenging.							
				dscape and visual amenity around Penicuik and heritage perspective, Route Options 3 and 4 cr					
		Route Option 3 also crosses a large swathe of Class 1 priority peatland which cannot be avoided; and an SSSI which cannot be spanned; and the Battle of Ruillion Inventory of History Bat also cannot be avoided. Furthermore, Route Options 3 and 4 raise additional 'technical' concerns in terms of the existence of an MOD training area, and the requirement to cross a golf councerns of the existence of an MOD training area, and the requirement to cross a golf councerns of the existence of an MOD training area, and the requirement to cross a golf councerns of the existence of an MOD training area, and the requirement to cross a golf councerns of the existence of an MOD training area, and the requirement to cross a golf councerns of the existence of an MOD training area, and the requirement to cross a golf councerns of the existence of an MOD training area, and the requirement to cross a golf councerns of the existence of an MOD training area, and the requirement to cross a golf councerns of the existence of an MOD training area, and the requirement to cross a golf councerns of the existence of an MOD training area, and the requirement to cross a golf councerns of the existence of an MOD training area, and the requirement to cross a golf councerns of the existence of an MOD training area.							
		Route Option 1 presents its own challenges, as would be expected with a route of this length and in this location. For example, it crosses an LNCS which cannot be spanned or avoided, crosses two SLAs and LCTs with a medium to high susceptibility to OHL development and would potentially impact a number of visual amenity receptors (residential, recreational and tourist), subject to detailed routeing. There are likely to be unavoidable impacts on the setting of Listed Buildings and non-designated heritage assets and there are a number of existing and consented developments which would have to be taken into account at the detailed routeing stage.							

However, it is considered that Overall Route Option 1 is the preferred route option. This is because Overall Route Option 1 is considered to best meet the routeing objective in that, on balance, it causes the least disturbance to the environment and the people who live, work and enjoy recreation within it. It will henceforth be referred to as the 'Preferred Route Option'.