

Coire Mashie Substation

Addendum to Consultation Document

(Site Selection): Environmental Appraisal of

Additional Site Options

October 2025

REF: LT000505





TRANSMISSION



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1. INTRODUCTION

1.1 Purpose of Document

- 1.1.1 This Additional Site Options Appraisal has been prepared by ASH design+assessment Limited (ASH), on behalf of Scottish and Southern Electricity Networks Transmission (SSEN Transmission), under licence held by Scottish Hydro Electric Transmission plc, who own, operate and develop the high voltage electricity transmission system in the north of Scotland and remote islands.
- 1.1.2 This document forms an addendum to the Consultation Document (May 2025)¹ for a new 400 kV substation required to facilitate a grid connection for the consented Earba Pumped Storage Hydro (PSH) scheme, near Kinloch Laggan in the Highlands of Scotland. This proposed 400 kV substation is referred to in this document as "Coire Mashie substation". This addendum describes the environmental appraisal of two additional substation site options², further to those appraised and presented within the Consultation Document (May 2025)¹ and at a public consultation event on 28th May 2025. Mott MacDonald Group Limited were also commissioned by SSEN Transmission to undertake a concurrent engineering appraisal of the two additional site options. This will be made available to stakeholders and the public on the project website³ alongside this environmental appraisal. Costs were not assessed in detail for the two new site options in line with the approach taken in the Consultation Document (May 2025)¹.
- 1.1.3 The Coire Mashie substation Consultation Document (May 2025) 1 should be referred to for all information relevant to the need for the project, the technology solution and proposal overview, as well as the key design parameters, and SSEN Transmission's approach to substation site selection. The Consultation Document (May 2025) 1 presented the appraisal of five site options (see Figure 1a-b) and concluded on Site Option 1 as the potential site option that provided the most balance overall across environmental, engineering and cost considerations.
- 1.1.4 The Consultation Document (May 2025) ¹ also described the need for an associated underground cable (UGC) to connect the PSH scheme to the proposed Coire Mashie substation. The UGC would be expected to fall under SSEN Transmission's permitted development rights⁴, and as such, would not require statutory public consultation or specific consent. However, the connection will be subject to a route and alignment selection exercise, in accordance with SSEN's routeing guidance.⁵ The route options that have been appraised thus far can be seen on Figure 1c.
- 1.1.5 Further to the publication of the Consultation Document (May 2025)¹ in May 2025, an in-person consultation event was held by SSEN Transmission on 28th May 2025, at Laggan Village Hall, to seek the views of the local community on the proposals. During the consultation event, several members of the community expressed that other site options should be considered.
- 1.1.6 In particular, it was expressed by the local community that a further site option should be considered within Ardverikie Estate, in addition to Site Option 1 (partially within) and Site Options 3 and 4 (wholly within), as well as a site option within the vicinity of the existing Melgarve substation (possibly forming an extension or being sited adjacent to it).

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¹ SSEN Transmission (2025), *Coire Mashie Substation: Consultation Document (Site Selection)*. Online, available at: https://www.ssentransmission.co.uk/globalassets/projects/new-coire-mashie-400kv-substation-and-earba-psh-connection-downloads/full-consultation-document-site-selection-coire-mashie-substation---combined.pdf, [last accessed 5th October 2025].

² A site area identified as necessary to deliver all the substation infrastructure requirements e.g. platform, internal access tracks, temporary construction area, drainage including Sustainable drainage systems (SuDS), landscaping.

³ SSEN Transmission (2025), New Coire Mashie 400kV Substation and Earba PSH Connection. Online, available at: https://www.ssentransmission.co.uk/projects/project-map/new-coire-mashie-400kv-substation-and-earba-psh-connection/, [last accessed 5th October 2025].

⁴ SSEN Transmission's permitted development rights under Class 40 1(a) of The Town and Country Planning (General Permitted Development) (Scotland) Order 1992.

⁵ SSEN Transmission (2020). *Procedures for Routeing Overhead Lines and Underground Cables of 132 kV and above*, Revision 2.



1.1.7 As a result of the suggestions by the local community, SSEN Transmission undertook an appraisal of two additional site options. These are referred to in this document as Site Option 6 and Site Option 7, and are shown on **Figure 1a-c**.



2. ADDITIONAL SITE OPTIONS

2.1 Overview

2.1.1 The following Section describes the two additional site options that have been appraised. In line with the appraisal of Site Options 1 to 5 within the Consultation Document (Site Selection) ¹, the appraisal of Site Options 6 and 7 assumed an area of 1 km² as an indicative footprint, with the footprint of the substation expected to be around 700 m by 300 m⁶.

2.2 Site Option 6 (Pink)

- 2.2.1 Site Option 6 is situated entirely within Ardverikie Estate, approximately 3 km to the south of Strathmashie and the A86. The site option is located partially within the Cairngorms National Park (CNP) boundary. The southern extent of the site is located in an area of upland moorland, and to the north, within the CNP, is commercial forestry. The River Pattack runs through the north-west corner of the site option.
- 2.2.2 The Falls of Pattack are approximately 1 km north of Site Option 6. Settlement within the vicinity of the site option and wider area is sparse. A small number of properties are present at Gallovie, approximately 2 km to the north, and at Strathmashie and Feagour, approximately 4 km to the north-east of the site option, along the A86.
- 2.2.3 Access to Site Option 6 would likely be taken from the A86, as can be seen on the indicative access drawing uploaded to the project website on 14th July 2025 following public consultation⁷. There are options available at existing access points (that would likely require widening) off the A86. From these access points, there are existing tracks that could be utilised (subject to upgrading) but new tracks would also likely be required.
- 2.2.4 Site Option 6 is located approximately 3 km to the south of the existing Beauly Denny 400 kV OHL⁸ and would therefore require additional OHL infrastructure to divert the existing Beauly Denny 400 kV OHL to the substation and back again to form a connection. This could see a requirement of up to approximately 10 km of additional OHL to allow for deviation from the current Beauly Denny 400 kV OHL to reach the substation and then back again to rejoin the Beauly Denny 400 kV OHL. While this additional OHL requirement has not been specifically appraised in this document, its significance has been noted where appropriate.

2.3 Site Option 7 (Green)

2.3.1 Site Option 7 is located within the vicinity of the site of the existing 400 / 132 kV Melgarve substation which was built in 2017 to facilitate the connection of Stronelairg Wind Farm to the National Grid. Melgarve substation has a footprint of approximately 172 m by 120 m. It is a Gas Insulated Switchgear (GIS) substation built on a platform, comprising control buildings and surrounded by a landscaped area. This appraisal assumes that Site Option 7 would either comprise an extension to the existing Melgarve substation or would be located adjacent to it.

- 2.3.2 Site Option 7 is situated outwith the CNP. It lies directly beside the River Spey Special Area of Conservation (SAC) and Site of Special Scientific Interest (SSSI).
- 2.3.3 There are no properties within the immediate vicinity of the site option. Approximately 2.4 km to the east are dwellings at Garvabeg and Garvamore. The Listed Building, Glenshero Lodge (LB 6901), is approximately 4.4

⁶ This is subject to change during the detailed design stage of the project. Further opportunities to minimise the substation footprint are under review and require additional studies.

⁷ SSEN Transmission, (2025) *Coire Mashie – Substation Options Proposed Access Tracks - July 2025.* Online, available at: https://www.ssentransmission.co.uk/projects/project-map/new-coire-mashie-400kv-substation-and-earba-psh-connection/, [last accessed 19th August 2025].

⁸ Beauly–Denny 400 kV overhead transmission line began pre-construction work in November 2010, with the first tower erected in February 2012, and full energisation occurred in December 2015. The OHL was a joint venture between SSEN Transmission and Scottish Power Transmission Ltd (SP Energy Networks). Balfour Beatty were the main contractor / constructor.



km to the southeast, as well as properties along the non-designated parts of General Wade's Military Road, which cuts through the south of the site option.

- 2.3.4 As can also be seen on the indicative access drawing uploaded to the project website⁷, access to Site Option 7 would likely be taken via existing access tracks that are to the north of General Wade's Military Road built originally for the construction of the Beauly Denny 400 kV overhead transmission line⁸. Other projects have since used these tracks during the construction stages, including Melgarve substation⁹ and Stronelairg Wind Farm underground cable grid connection¹⁰.
- 2.3.5 Only limited diversion of the existing Beauly to Denny OHL to facilitate onward electricity transmission would be required, since Site Option 7 is located adjacent to it.
- 2.3.6 Site Option 7 comprises other electrical infrastructure in the form of the existing Melgarve substation, the existing Beauly to Denny OHL and the underground cable connection for Stronelairg Wind Farm, as shown on **Figure 1a-b**. This infrastructure forms a notable constraint to developing a substation within this site option.

2.4 Other Electrical Infrastructure

- 2.4.1 As described in **Section 1.1**, an UGC would be required to connect the PSH scheme to the proposed Coire Mashie substation. The Consultation Document (May 2025) ¹ included an appraisal of route options to connect with Site Options 1 to 5 (see **Figure 1c**). The previously appraised Route Options 1, 4 and B1 are relevant to Site Option 6, either in whole or in part. For Site Option 7, the appraisal of routes that connected with the previously appraised Site Options 3, 4 and 5 are relevant to this site, although an extension of approximately 5 km would be required to connect with Site Option 7, resulting in a total length of UGC connection of approximately 21 km (depending on route selected).
- 2.4.2 The constraints associated with a UGC connection to these sites, together with other electrical connection requirements, are discussed further in **Section 3.3**.

⁹ An SSEN Transmission project with construction taking place between 2016 and 2018.

 $^{^{10}}$ An SSE Renewables project with construction taking place alongside Melgarve substation construction between 2016 and 2018.



3. ENVIRONMENTAL APPRAISAL

3.1 Overview

- 3.1.1 The environmental appraisal of Site Options 6 and 7 has been undertaken in accordance with the methodology described in the Consultation Document (May 2025)¹.
- 3.1.2 A summary of the environmental constraints identified for Site Options 6 and 7 is provided within this section of the report, together with a Red / Amber / Green (RAG) rating for each environmental topic appraised. The RAG ratings are presented in **Table 3.1**, alongside the previously appraised Site Options 1 to 5 for context (see Consultation Document (May 2025)¹). The appraisal of site options has focussed on the constraints associated with the site options themselves, and their immediate environs. However, as noted in **Section 1.1** and **2.4** of this report, additional electrical infrastructure is required to connect each site with the PSH scheme and the existing electricity transmission network. The additional constraints associated with such connections are discussed further in **Section 3.3** of this report.

Table 3.1: RAG Ratings - All Site Options

Category	Sub-Topic	Site Option 1	Site Option 2	Site Option 3	Site Option 4	Site Option 5	Site Option 6	Site Option 7
Natural	Designations	Α	Α	Α	Α	R	Α	R
Heritage	Protected Species	Α	Α	Α	Α	R	Α	R
	Habitats	Α	Α	R	R	Α	R	Α
	Ornithology	Α	G	R	R	G	Α	Α
	Geology, Hydrology & Hydrogeology	A	A	Α	Α	A	Α	Α
Cultural	Designations	Α	Α	G	Α	Α	G	Α
Heritage	Cultural Heritage Assets	G	R *	G	G	O	G	G
Landscape	Designations	Α	Α	R	R	R	Α	Α
and Visual	Character	Α	G	R	R	R	Α	R
	Visual	G	Α	Α	Α	R	Α	Α
Land Use	Agriculture	G	G	G	G	G	G	G
	Forestry	Α	R	G	G	R	Α	Α
	Recreation	Α	Α	Α	Α	Α	Α	Α
Planning	Policy	Α	Α	R	R	R	Α	R
	Proposals	G	G	R	Α	G	G	R

^{*} Could be reduced to Amber should a footprint that does not directly impact the Druim an Aird township be achieved.

3.2 Environmental Appraisal

3.2.1 The following paragraphs summarise the RAG ratings and environmental constraints associated with Site Option 6 and Site Option 7. Relevant constraints are also shown on **Figures 2 to 8**.

Natural Heritage

Designations

3.2.2 In relation to natural heritage designations, Site Option 6 is partly within the CNP, and partly intersects an area of ancient woodland and smaller areas of native woodland (see **Figure 2a-b**). It is anticipated that any potential impact on the CNP would be localised with potential for mitigation (see Landscape Designations), whilst



impacts on ancient woodland could be avoided depending on site design. As such, an Amber RAG rating is allocated to Site Option 6 for natural heritage designations.

3.2.3 Site Option 7 is located outwith the CNP by approximately 3 km. The site option lies approximately 1.5 km to the north of the Creag Meagaidh SAC and SSSI, and approximately 2.5 km to the north of the Creag Meagaidh SPA and west of the Monadhliath SAC and SSSI. It also lies approximately 4.5 km north of the Creag Meagaidh National Nature Reserve (NNR). It is anticipated that any potential to adversely effect the features of these sites by developing a substation in this location could be avoided by distance and appropriate design and mitigation. However, Site Option 7 lies directly adjacent to the River Spey SAC / SSSI. Whilst it is anticipated that direct impacts on the river would be avoided, construction activities immediately adjacent to the river could pose a significant risk to the qualifying and notified features of the SAC / SSSI. As such, a Red RAG rating has been allocated to Site Option 7 for natural heritage designations.

Protected Species

- 3.2.4 Potential for impacts on protected species involve the loss or fragmentation of suitable habitat, mortality, disturbance, displacement and impacts on watercourses such as pollution or sedimentation from construction activities. These impacts could be reduced or eliminated by undertaking pre-construction surveys, employing control measures and adopting appropriate mitigation.
- 3.2.5 The protected species desk study¹¹ conducted in July 2025, returned one record of red squirrel, located approximately 1.5 km south of Site Option 6. In the vicinity of this site option, the presence of woodlands, heathland, moorland and watercourses provides opportunities for bats, badger, wildcat, otter, water vole, pine marten, red squirrel, mountain hare, reptiles, amphibians, fish and invertebrates. With the implementation of appropriate mitigation measures it is anticipated that effects could be minimised or avoided. As such, an Amber RAG rating for Site Option 6 has been allocated.
- 3.2.6 A similar presence of protected species and therefore potential impacts are also likely for Site Option 7. However, Site Option 7 lies directly adjacent to the River Spey SAC / SSSI, which supports a known population of freshwater pearl mussel and beavers. Construction activities associated with Site Option 7 could pose a significant risk to the qualifying and notified features of the SAC / SSSI, and other protected species. A Red RAG rating has therefore been allocated for Site Option 7.

Habitats

- Site Option 6 comprises a moderate to extensive coverage of Annex I and Scottish Biodiversity List (SBL) habitats, particularly blanket bog, European dry heaths and Northern Atlantic wet heaths (see Figure 3), as well as potential Groundwater Dependent Terrestrial Ecosystems (GWDTE). These habitats are also present within Site Option 7, though their coverage is considered to be less extensive. Furthermore, Site Option 6 displays areas of upland birchwood (an SBL habitat), while Site Option 7 comprises areas of coniferous forestry plantation with only smaller parcels of broadleaved woodland.
- 3.2.8 Although, some impacts could be reduced via appropriate mitigation, Site Option 6 is considered likely to compromise the integrity of Annex 1 habitats and GWDTE and has therefore been allocated a Red RAG rating. Given the lesser coverage of these habitats within Site Option 7, and therefore greater opportunity to minimise impact, an Amber RAG rating is applied.

Ornithology

3.2.9 Both Site Option 6 and 7 would have the potential to impact suitable habitat for several bird species of high conservation concern such as breeding and foraging Hen Harrier, Merlin, Cuckoo, Snipe, and displaying and nesting sites for Black Grouse. There would be a potential risk of displacement or disturbance to displaying,

 $^{^{11}}$ National Wildlife Trust record (2022), obtained via the National Biodiversity Network (NBN) Atlas.



breeding or foraging birds at both site options, although this could be reduced by adopting appropriate mitigation measures and undertaking pre-construction surveys. Therefore, both Site Option 6 and Site Option 7 have been allocated an **Amber** RAG rating for ornithology.

Geology, Hydrology and Hydrogeology

- 3.2.10 Site Option 6 is entirely within the River Spean surface water catchment (see **Figure 4b**), specifically the River Pattack sub catchment. The river flows through the north-western extent of the site option. The north-western extent of Site Option 6 is shown to be at risk of fluvial flooding (now and in the future), however, flood extents are largely confined to watercourse corridors. SEPA flood mapping indicates several surface water flow paths across the site option however these are generally shown to be shallow (<0.3 m deep). Review of the Carbon and Peatland 2016 map¹² highlights that the western and southern extent of Site Option 6 is located within Class 2 priority peatland, whilst the remainder of the site option is not considered to represent peatland habitats (Class 4 and mineral soils) (see **Figure 4a**). Site-specific peat depth probing has been undertaken across the majority of Site Option 6 and peat depths of between 0.1 and 2.6 m were recorded, with an average peat depth of 0.44 m. Review of THC private water supply database indicates there are no private water supplies within Site Option 6 or within 500 m of it. No CAR authorisations are noted within 500 m. Subject to best practice construction and mitigation it is likely that the impacts on soils, peat, geology, and the water environment could be mitigated, and therefore an **Amber** RAG rating is allocated for Site Option 6.
- 3.2.11 Site Option 7 lies entirely within the River Spey surface water catchment (see Figure 4b). The river flows to the south and south-west of the site option and has been designated as part of the River Spey SAC / SSSI. Part of the south-western boundary of Site Option 7 is shown to be at risk of fluvial flooding (now and in the future), however, flood extents are largely confined to the corridor of the River Spey and the majority of the site option is not shown to be at risk from fluvial flooding. SEPA flood mapping indicates several surface water flow paths and areas of ponding across the site option however these are generally shown to be shallow (<0.3 m deep). Review of the Carbon and Peatland 2016 map highlights that the majority of Site Option 7 is located within mineral soils which are not considered to represent peatland habitats. Small areas of Class 1 and 5 peatlands are noted across the north-eastern and north-western extent of the site option respectively (see Figure 4a). Site specific peat depth probing has been undertaken across part of the site option and peat depths of between 0.1 m and 1.5 m were recorded, with an average peat depth of 0.36 m¹³. Review of THC private water supply database indicates there are no private water supplies within Site Option 7 or within 500 m of it. Four CAR authorisations are noted within 500 m of Site Option 7, including three engineering authorisations and one abstraction at Melgarve substation. As per Site Option 6, subject to best practice construction and mitigation it is likely that the impacts could be mitigated and therefore an Amber RAG rating is applied.

Cultural Heritage

3.2.12 There are no scheduled monuments, listed buildings or other designated cultural heritage assets within or within the vicinity of Site Option 6, and it has therefore been allocated a **Green** RAG rating for cultural heritage designations (see **Figure 5**). Similarly, Site Option 6 contains no assets that are recorded on the Highland Historic Environment Record (HER) and the potential for as yet unrecorded features is considered to be low. Approximately 100 m to the west of Site Option 6, is the River Pattack enclosure at NN 5490 8640 (HER ref: MHG27128). This is an incomplete enclosure as recorded on the OS 1st Edition Map, dating to the Early Modern period or later. It is of local significance and low sensitivity to damage. As it is outwith the site option, and any potential impacts are likely to be avoided or minimised, a **Green** RAG rating is allocated for Site Option 6 for cultural heritage assets.

¹² NatureScot (2025) Carbon and Peatland 2016 map, online, Available at: https://soils.environment.gov.scot/maps/thematic-maps/carbon-and-peatland-2016-map/ [accessed 15 July 2025].

¹³ Obtained during peat probing surveys for the SSEN Transmission Melgarve Cluster Project (ECU Reference Number: ECU00004850) in 2022, 2023 and 2024.



3.2.13 Site Option 7 is situated approximately 4.5 km southeast of the Corrieyairack Pass military road, a scheduled monument (SM 6129 at NN 43445 98372 to NN 46303 96106) (see Figure 5). There would be the potential for indirect visual effects, though Site Option 7 would be situated within the context of the already existing Melgarve substation and within the same narrow arc of visibility as the Beauly-Denny OHL. Any development of a substation within this site option is unlikely to extend beyond this arc and there would likely be the potential to minimise effects through mitigation.

In addition, Site Option 7 is within 5 km of five listed buildings, these are:

- Garva Bridge 1.6 km to the southeast¹⁴;
- Garvamore 'Barracks' 2.4 km to the southeast¹⁵;
- Corrieyairack Pass, Bridge over Allt Feith a' Mhoraire 2.7 km to the west¹⁶;
- Corrieyairack Pass, Drummin Bridge 3.2 km to the west¹⁷; and
- Glenshero Lodge 4.7 km to the southeast.¹⁸
- 3.2.14 Site Option 7 would have no direct impacts on these sites. The only potential for indirect, visible impacts would be on Garva Bridge, although this would be seen in the context of the already existing Melgarve substation, and there would be the potential to minimise effects through mitigation. An **Amber** RAG rating has therefore been applied to Site Option 7 for cultural heritage designations.
- 3.2.15 Site Option 7 contains two assets that are recorded on the Highland HER (see Figure 5). These are Coire a'Ghiubhas farmstead at NN 4990 9527 (HER ref: MHG27108) and Coire a'Ghiubhas structure at NN 4986 9536 (HER ref: MHG27109). These two entries refer to the same asset, a small Early Modern farmstead located south of the public road. It is of local significance and low sensitivity to damage. Outwith the site option, between NN 5166 9500 to NN 5000 9532 to the south and to the southeast of the site option is the non-designated asset Dalwhinnie Fort Augustus Military Road (HER ref: MHG34491). No physical remains of the eighteenth-century road are visible as it is overlain by modern surfacing as a public road. It is assumed for the purposes of this appraisal that a substation within this site option would not extend across the road, but it would likely be positioned adjacent to it. A Green RAG rating has therefore been applied to Site Option 7 for cultural heritage assets.

Landscape and Visual

Landscape Designations

- 3.2.16 Site Option 6 lies on the edge of the CNP and exhibits some of the Special Landscape Qualities of the CNP and may be considered of some importance locally as part of the setting. Site Option 6 also sits on the edge of Wild Land Area (WLA) 14 (Rannoch Nevis Mamores Alder) and has a remote, upland character, although any potential effects on wild land would be limited due to the existing influence of forest plantation areas on this part of the WLA (see Figure 6). Given the presence of these designated and protected landscapes, but recognising opportunities to mitigate effects, an Amber RAG rating is applied for Site Option 6.
- 3.2.17 Site Option 7 is not within any designated or protected landscapes though lies just under 2 km from the CNP with the potential to affect the setting and sense of arrival to some extent. Site Option 7 is situated within 1 km of the boundary of WLA 19 (Braeroy Glenshirra Creag Meagaidh). The area is already affected by a number of developments including Melgarve Substation and the Beauly Denny 400 kV OHL. An additional substation development within this area could substantially increase the effects of development on the local area which may lead to some reduction in wildness qualities within the closer parts of the WLA. As such, an Amber RAG rating is applied for Site Option 7.

¹⁴ LB 6900 at NN 5217 9475

¹⁵ LB 6899 at NN 5280 9430

¹⁶ LB 12373 at NN 4687 9609

¹⁷ LB 6895 at NN 4634 9610

¹⁸ LB 6901 at NN 5497 9316



Landscape Character

- 3.2.18 Site Option 6 is located partially within Landscape Character Type (LCT) 87 (Small Craggy Knolls and Hills) and partially within LCT 86 (Smooth Rounded Hills Badenoch and Strathspey) from the National Landscape Character Assessment (see Figure 8a). The northern part of Site Option 6 is situated within LCT 126 (Upland Glen Cairngorms) the specific CNP Landscape Character Area (LCA) is Ardverikie: Pattack Glen/Strath Mashie (see Figure 8b). Locally within LCT 87, Site Option 6 comprises an undulating landscape of alluvial knolls alongside the River Pattack, transitioning into steeper, heather clad slopes within LCT 86. It is a relatively small-scale landscape likely to be dominated by a development of the scale proposed. The steeper slopes would lead to potentially notable cut and fill although surrounding small pine plantations provide some opportunity to mitigate effects on the wider landscape. As such, an Amber RAG rating is applied.
- 3.2.19 Site Option 7 is located predominantly within the LCT 231 (Upland Glen Inverness) (see **Figure 8a**), with a small section of the northeast corner of within LCT 221 (Rolling Uplands Inverness). As the dominant LCT that would be affected by the development of a substation within this site option, LCT 231 is a relatively small scale and remote glen of open, heather-clad slopes with a patchwork cover of small forest plantations through the floor of the glen. However, existing infrastructure such as Melgarve Substation and the 400 kV Beauly-Denny OHL already form notable features. This slightly reduces the sensitivity of this part of the LCT to development of a similar type. However, a substation of the scale proposed would be substantially greater in size than the existing Melgarve substation and would result in a very large extent of development within a concentrated part of the glen. In the context of the scale of the landscape this would likely become a dominating feature, likely to change the character of this part of the glen to one more dominated by infrastructure. As such, a **Red** RAG rating has been applied.

Visual

- 3.2.20 Site Option 6 would be unlikely to be visible from any residential properties, but would form a very visible feature from recreational routes Core Path UBS26 and Scottish Hill Track 155 (Loch Rannoch to Kinloch Rannoch) within and outwith the CNP, both of which follow a track alongside the River Pattack immediately to the northwest (see Figure 6 and 7). There would also likely be views from the summit of Geal Charn, a Munro approximately 6.5 km to the southwest. There may be opportunities to mitigate some of these effects but it is likely that some noticeable visual effects would remain, and therefore an Amber RAG rating is applied.
- 3.2.21 Site Option 7 may be seen from a small number of properties around Garvamore and Garva Beg which are located approximately 2 to 3 km east, although views would be likely to be limited due to the predominant views from these properties being in other directions. There would be potential views from Garva Bridge car park which is an important entry point to the CNP. Views are also likely from General Wade's Military Road which is a popular recreational route for cyclists and walkers. A number of other recreational routes and hills in the area are popular for walking with visual receptors likely to obtain views (see Figure 6 and 7). Given the size of the proposed substation, it would likely be difficult to fully mitigate views, particularly from the Military Road, and it is likely these would be noticeably detracting. An Amber RAG rating is therefore applied.

Land use

Agriculture

3.2.22 There is no prime agricultural land located within either site option and therefore both Site Options 6 and 7 are allocated a **Green** RAG rating for agriculture.



Forestry

- 3.2.23 The northern extent of Site Option 6 is located within an area of commercial forestry, however, it is anticipated that impacts on this area of forestry could be minimised if this site option were taken forward. An Amber RAG rating is therefore applied.
- 3.2.24 There are commercial forestry parcels to the southeast and the west of Site Option 7, whilst an area of recently felled plantation is present to the north. Some loss of commercial forestry is likely within this site option, but depending on site design, opportunities may exist to minimise this loss. As such, an **Amber** RAG rating is applied.

Recreation

- 3.2.25 Scottish Hill Track 115b Loch Rannoch to Kinloch Laggan and Core Path UBS26: Falls of Pattack passes through the northwestern corner of Site Option 6 (see Figure 7). However, it is anticipated that the track could be avoided and any disruption to walkers mitigated during the construction phase to minimise disruption should this site option be progressed. The Falls of Pattack themselves are also approximately 1.5 km to the north of Site Option 6, however the landform surrounding the falls would be expected to block views of the site option. There would also be the potential for some views from the summit of Geal Charn, a Munro which is popular with hillwalkers approximately 6.5 km to the southwest. Given these constraints, but considering opportunities to mitigate effects, an Amber RAG rating is applied.
- 3.2.26 Site Option 7 is crossed by Scottish Hill Track (SHT236a), which also forms part of General Wade's Military Road (see Figure 7). Any potential disruption to users of this route would need to be managed appropriately during the construction stage should this option be taken forward, whilst visibility from this route would also be expected. As such, an Amber RAG rating is applied.

Planning

Planning Policy

- 3.2.27 In relation to planning policy, compatibility 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, sites designated for nature conservation and designated or protected landscapes.
- 3.2.28 Whilst there are a number of constraints noted for Site Option 6, given opportunities to mitigate some of these effects an **Amber** RAG rating is applied for planning policy.
- 3.2.29 For Site Option 7, given the potential impact on the River Spey SAC / SSSI and its qualifying and notified features, as well as other natural heritage, landscape and visual constraints, a **Red** RAG rating has been applied.

Planning Proposals

- 3.2.30 In relation to planning proposals, Site Option 6 is not constrained, as it has no proposed or consented developments nearby and as such has been allocated a **Green** RAG rating.
- 3.2.31 In contrast, Site Option 7 is highly constrained by existing development (as described in Section 2.3), and planned development as it would directly intersect the underground cables of the proposed Melgarve Cluster Project which connects the consented Cloiche Wind Farm to Melgarve substation¹⁹. The application for this development was submitted to Energy Consents Unit (ECU) in the first half of 2024. Site Option 7 would also

¹⁹ ECU (2025) Melgarve Cluster Project - Cloiche and Dell Wind Farm Connections [online] Available at: https://www.energyconsents.scot/ApplicationDetails.aspx?cr=ECU00004850 [Accessed: August 2025]



overlap the existing Melgarve substation mitigation planting area to the south of the substation. There is also the permitted formation of a 140 m link road between the southern end of Glenshero Estate haul road and public road (U2014)²⁰ and the permitted formation of forestry roads²¹ within Site Option 7, though these works would likely be concluded by the time of Coire Mashie substation construction. Given these proposals, a **Red** RAG rating is applied to Site Option 7.

3.3 Consideration of Connecting Electrical Infrastructure

- 3.3.1 As described in Section 1.1 and Section 2.4 of this report, the proposed Coire Mashie substation will require a connection with the consented PSH scheme, proposed to be in the form of an UGC, and a further connection to the electricity network via the existing Beauly to Denny OHL. The extent and impact of these connecting works will differ depending on the location of the substation site.
- 3.3.2 Although Site Option 6 has a shorter connection from Earba PSH scheme in comparison to Site Option 7, it is situated approximately 3 km to the south of the existing Beauly Denny 400 kV OHL. This would require rerouteing the existing OHL to the substation site, before joining the existing the OHL at an appropriate location. Preliminary studies have indicated this would require an estimated 10 km of additional OHL infrastructure.
- 3.3.3 In contrast, Site Option 7 is adjacent to the Beauly Denny 400 kV OHL and would therefore require minimal works to establish a connection onto the existing electricity network. However, Site Option 7 is the furthest site option from the PSH scheme and would therefore require an UGC of approximately 21 km (depending on route chosen) which is significantly longer than other site options resulting in considerable environmental and engineering constraints, whilst also resulting in significantly increased costs compared to other options.
- 3.3.4 These additional electrical infrastructure connection requirements would result in the potential for increased constraints and impact across a number of topic areas. The potential environmental constraints are summarised as follows:
 - Natural Heritage Designations: The requirement for an UGC connection to cross the River Spey SSSI and SAC, as well as its tributaries, to reach Site Option 7 would further increase the potential for direct and indirect (given hydrological connectivity) adverse effects on these designations and their qualifying features.
 - Habitats and Protected Species: For Site Option 6, whilst the UGC cable connection from Earba PSH would be shorter, the requirement to divert the existing Beauly Denny 400 kV line to the substation site would likely result in considerable loss of woodland habitats, much of which is recorded as native woodland. This loss of habitat would also impact wildlife and protected mammal species such as bats, badger, wildcat, otter, water vole, pine marten, red squirrel, and mountain hare. In relation to Site Option 7, the approximately 21 km of UGC would result in increased habitat losses for woodland and Annex 1 habitats of blanket bog and wet heath.
 - Ornithology: For Site Option 6, the diversion of the existing Beauly Denny 400 kV line would likely be routed through areas of native and plantation woodland, which provides suitable nesting opportunities for Schedule 1 bird species such as Goshawk and Crossbill and several woodland bird species of conservation concern²². The open moorland area provides foraging habitat for a range of species, including raptors like Hen Harrier and Merlin. Therefore, there is some potential for disturbance to and loss of suitable habitat for bird species, especially through the construction phase of the project. There is also some low potential for collision risk during the early years of the operational phase before birds have habitualised to the new infrastructure. For Site Option 7, the UGC

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²⁰ The Highland Council, Planning – Application Details 24/03913/FUL [online] Available at:

https://wam.highland.gov.uk/wam/applicationDetails.do?activeTab=details&keyVal=SJP12YIHH2W00~[Accessed: August 2025]

²¹ The Highland Council. Planning – Application Details 24/03910/FUL [online] Available at:

https://wam.highland.gov.uk/wam/applicationDetails.do?activeTab=details&keyVal=SJOZWBIHH2N00 [Accessed: August 2025]

²² Including Song Thrush, Spotted Flycatcher, Tree Pipit, Bullfinch, Lesser Redpoll and Mistle Thrush.



would likely lead to direct impacts on displaying, nesting and foraging habitats of a range of protected bird species, including Black Grouse, Hen Harrier and White-tailed Eagle. These impacts would be difficult to mitigate against and would lead to probable disturbance and displacement events through the construction phases of the project in particular.

- Geology, Hydrology and Hydrogeology: Should an UGC connection be required to reach Site Option 7, the crossing of the River Spey as well as its tributaries, would increase the potential for direct and indirect (given hydrological connectivity) adverse effects on the river's designations. Additional watercourse crossings and floodplains associated with larger water courses would also be required to be within the UGC route and the potential for passing through areas of peat would be increased. In relation to Site Option 6, the diversion of the existing Beauly Denny 400 kV line could have the potential to cross the River Pattack and tributaries of it, as well as pass over additional Class 1 and 2 peatlands.
- Landscape and Visual: Site Option 6 would require a diversion of the existing Beauly Denny OHL away from its current alignment through the CNP which would have the potential to affect some of the SLQs within this area. The steel lattice towers of the diverted Beauly Denny OHL may be seen from some of the paths and tracks around Ardverikie Estate, although it is likely that forest cover would reduce potential visual effects. The diverted OHL and associated felling may also have some visibility from residential properties at Feagour and along the A86. Site Option 7 would require a lengthy UGC connection though the CNP and the Ben Alder, Laggan and Glen Banchor SLA with potential to affect some sensitive areas, particularly through Strath Mashie where it would be likely to be difficult to achieve an alignment without loss of features such as native woodland. Some other open peatland areas through the Spey Glen and Glen Shirra may also be difficult to fully restore and there is potential for effects on some CNP SLQs. Properties at Garvamore, Sherramore and Glenshero Lodge may have visibility of the UGC corridor and it would also be visible from General Wade's Military Road which is a popular recreational route, and other surrounding tracks through Glen Shirra. However, any visual effects associated with an UGC on recreational paths and properties would be largely temporary, during construction only.
- Forestry: Site Option 6 would require extensive additional felling to allow for the 10 km of additional
 OHL infrastructure to divert the existing Beauly Denny 400 kV OHL through the forestry blocks
 around the River Pattack. Given its increased length, an UGC for Site Option 7 would likely require
 increased felling of commercial forestry.
- 3.3.5 In summary, both site options would lead to increased environmental constraints as a result of the additional electrical infrastructure connection requirements. Site Option 6 would require a diversion of the existing Beauly–Denny OHL, with impacts likely across a number of environmental topic areas, including woodland / forestry, protected species, landscape and visual receptors. Site Option 7 would necessitate a considerably longer underground cable route, crossing sensitive habitats, peatlands and watercourses. These additional potential effects of the connection requirements to Site Options 6 and 7 represent important environmental considerations that are critical to the overall suitability of these site options.



4. **CONCLUSIONS**

4.1 Summary of Environmental findings

- 4.1.1 This addendum to the Consultation Document (May 2025)¹ has summarised the results of an environmental appraisal of two additional substation site options that were identified following community consultation feedback for the proposed 400 kV Coire Mashie substation project.
- 4.1.2 The appraisal identified that both Site Option 6 and Site Option 7 present considerable constraints across a number of environmental topic areas. Whilst Site Option 6 offers some potential for mitigation and carries fewer constraints than Site Option 7 overall, the option intersects areas of ancient and native woodland, would affect Annex 1 habitats including blanket bog and wet heath, and would likely be visible from a number of recreational routes. The proximity of Site Option 7 to the River Spey SAC / SSSI increases the potential for this site to both directly and indirectly adversely affect the qualifying / notified features of these designated sites. Furthermore, Site Option 7 is constrained by existing infrastructure and further substation development of the scale proposed would likely result such infrastructure becoming a dominating feature in the local landscape, with visual effects difficult to mitigate.
- 4.1.3 The additional electrical infrastructure connection requirements (deviation of the existing Beauly Denny
 400 kV OHL in relation to Site Option 6 and up to 21 km of UGC through a sensitive environment for Site Option
 7) would also lead to the potential for increased constraints across a number of environmental topic areas.
- 4.1.4 Thus, from an environmental perspective, the introduction of Site Option 6 and Site Option 7 does not affect the conclusions of the May 2025 Consultation Document (May 2025)¹. As can be seen from **Table 3.1**, **Site Option 1** remains the preferred option on an environmental basis, as reflected in the RAG ratings.

























