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July 2026

Additional Information Report

Lairdmannoch Energy Park

Grid Connection Appraisal

Lairdmannoch Energy Park Limited

wind2

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Glossary of Terms

Term	Definition
The Applicant	Lairdmannoch Energy Park Limited
The Agent	Atmos Consulting Limited
The Appraisal	Grid Connection Appraisal
Environmental Advisors and Planning Consultants	Atmos Consulting Limited
Environmental Impact Assessment	Environmental Impact Assessment (EIA) is a means of carrying out, in a systematic way, an assessment of the likely significant environmental effects from a development.
Environmental Impact Assessment Regulations	Electricity Works (Environmental Impact Assessment)(Scotland) Regulations 2017 (the EIA Regulations)
Environmental Impact Assessment Report	A document reporting the findings of the EIA and produced in accordance with the EIA Regulations.
2025 EIA Report	Environmental Impact Assessment Report submitted with application ECU00004900 in May 2025
The Proposed Development	Lairdmannoch Energy Park
The Proposed Development Site	The full application boundary as per Figure 1-1
Detailed Study Area(s)	The area(s) within which significant landscape and visual effects may occur

List of Abbreviations

Abbreviation	Description
AI	Additional Information
AW	Ancient Woodland
DGWELSS	Dumfries and Galloway Wind Energy Landscape Sensitivity Study
ECU	Energy Consents Unit
EIA	Environmental Impact Assessment
G2TWQ	Gate 2 to the Whole Queue
HDD	Horizontal Directional Drill
IGCC	Indicative Grid Connection Corridor
KTR	Kendoon to Tongland Reinforcement
LCT	Landscape Character Type
LVIA	Landscape and Visual Impact Assessment
LCT	NatureScot Landscape Character Type
NESO	National Energy Systems Operator
OHL	Overhead Line
PoC	Point of Connection
RSA	Regional Scenic Area
SPT	Scottish Power Transmission PLC
UGC	Underground Cable
ZTV	Zone of Theoretical Visibility

1. Introduction and Overview

1.1 Overview

1.1.1. Atmos Consulting Ltd ('Atmos') has prepared this Grid Connection Appraisal ('the Appraisal') to support the determination of the application for Lairdmannoch Energy Park (the 'Proposed Development') and provide a proportionate high-level environmental assessment of a reasonably foreseeable grid connection to the National Electricity Grid.

1.1.2. In May 2025, Lairdmannoch Energy Park Limited ('the Applicant') submitted an application (Ref. No: ECU00004900) to the Energy Consents Unit (ECU) seeking consent under Section 36 of the Electricity Act 1989 (the 'Electricity Act') and deemed planning permission under Section 57 of the Town and Country Planning (Scotland) Act 1997 (the '1997 Act') for the construction and operation of the Proposed Development.

1.1.3. The application included an Environmental Impact Assessment Report (the '2025 EIA Report'), prepared in accordance with the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (the 'EIA Regulations').

1.1.4. Following the recent Court of Session judgment in Raeshaw Farms Limited v Scottish Ministers [2026] CSIH 10, which resulted in the consent for Wull Muir Wind Farm being quashed, the ECU Case Officer for this application requested further clarification regarding the implications of the judgement for the Proposed Development in correspondence dated 31 March 2026.

1.1.5. On 1 May 2026, the Applicant submitted a formal response to the ECU's request for further information. This response set out the Applicant's position regarding the implications of the Raeshaw Farms judgment, including consideration of the relationship between the generating station and the associated grid connection infrastructure for Environmental Impact Assessment (EIA) purposes.

1.1.6. The Applicant's response also confirmed their intention to provide a proportionate appraisal of the potential cumulative effects associated with the grid connection infrastructure, to be submitted as part of the Additional Information package.

1.1.7. In accordance with that commitment, this Appraisal has been prepared to provide a proportionate assessment of the likely significant environmental effects of a reasonably foreseeable grid connection, based on information available at the time of writing. The Appraisal is intended to supplement the Additional Information Report and should be read alongside it.

1.1.8. This Appraisal adopts the terminology used within the 2025 EIA Report and AI Report prepared in respect of the Proposed Development.

1.2 Grid Reform

Introduction

1.2.1. Grid reform is being implemented by the National Energy Systems Operator (NESO) in collaboration with the UK transmission network operators to improve the electricity connections process. The objective is to create a streamlined queue comprising only viable projects capable of supporting the UK Government's Clean Power 2030 (CP30) Action Plan, while removing projects that are no longer progressing. This represents a significant shift away from the previous "first-come, first-served" approach to a framework based on projects being "first ready, first needed, and connected". The reforms will enable Scottish Power Transmission PLC ("SPT") and NESO to more effectively plan

and deliver the transmission infrastructure required to meet increasing electricity demand and support the UK's Clean Power and Net Zero ambitions.

1.2.2. The Gate 2 to the Whole Queue (G2TWQ) exercise is a one-off review of all existing transmission connection applications. It applies the new grid reform criteria retrospectively to projects already in the connections queue. Through this process, NESO and the Transmission Owners (TOs) are reassessing and optimising how eligible projects will connect to the transmission system. Consequently, many projects may experience changes to their connection points and associated transmission routes, while ensuring the overall network design remains both efficient and cost-effective.

Lairdmannoch Energy Park Status

1.2.3. Until the Proposed Development receives a new Connection Offer under the Grid Reform process , the connection date, grid connection point and route connecting the Proposed Development to the grid network will not be known.

1.2.4. This document provides a proportionate Environmental Appraisal of a grid connection route within the IGCC between the Proposed Development and the KTR OHL. The grid connection route has been identified on the basis of professional judgement, taking into account standard best practice regarding route selection. However, for the reasons noted above it should not be considered a definite route. The route is considered a reasonable basis on which to undertake this appraisal and identify any potential cumulative environmental effects between the Proposed Development and its grid connection.

1.2.5. The Applicant is not seeking consent for this indicative grid connection route, which will be subject to a separate routeing process, application for consent, and environmental survey and assessment as appropriate, by SPT.

2. Description of the Potential Grid Connection

2.1 Introduction

2.1.1. In response to the ECU's request, the Applicant is submitting this appraisal of potential cumulative environmental effects of the grid connection associated with the Proposed Development.

2.1.2. The connection to the UK grid from the generating station will be managed and owned by SPT in its statutory role as the licensed transmission owner responsible for electricity transmission infrastructure in this region.

2.1.3. Therefore, the assumptions set out in this Appraisal regarding the route and form of connection (UGC/OHL) are the Applicant's own and have been developed on the basis on knowledge of the electricity infrastructure in the area, the environmental constraints in the area and informed professional judgement including an understanding of the application guidance followed when determining potential electricity transmission/distribution line routes.

2.1.4. As such, the route and associated environmental effects are indicative only and subject to change. SPT would not be bound by the contents of this Appraisal when developing any grid connection. The assumptions presented do not represent a fixed proposal and the precise route and design solution is being progressed by SPT.

2.2 Indicative Grid Connection Assumptions

2.2.1. For the purposes of this Appraisal the following assumptions have been made in respect of the grid connection for the Proposed Development:

- Wind farm Connection Point: The onsite substation (as shown on **AI Figure 3-1: Proposed Development Layout**) will accommodate 33 kV equipment to collect electricity from the site;
- National Grid Connection Point: The connection will likely tee into the Glenlee – Tongland section of the Kendoon to Tongland Reinforcement (KTR) OHL as it passes to the west of Laurieston. The KTR OHL received Section 37 consent in February 2025;
- Switching Station: As there are no existing substations on the Kendoon–Tongland route, it is anticipated that a new switching station would be required within the grid connection route search area to facilitate this connection;
- Construction Timescales: Construction of the grid connection is assumed to take less than 12 months and may occur concurrently with construction of the wind farm;
- Grid Connection Route: It is assumed that the grid connection would either be a OHL 132kV line, on a trident type of wooden pole up to approximately 22 m high or UGC. Due to uncertainty regarding the extent of undergrounding versus overhead installation, a worst-case approach has been adopted in considering the potential for likely significant environmental effects associated with either option.
- This Appraisal does not determine the significance of the effect (i.e. major, moderate, minor or negligible). It identifies the key constraints and receptors, and an assessment is made on whether significant effects are likely to arise due to the grid connection on its own or in-combination with the Proposed Development.
- No other cumulative developments other than the Proposed Development have been identified as relevant to this assessment;
- No on-site environmental surveys have been undertaken to inform this Appraisal. These would need to be completed to inform the detailed routeing and assessment of the grid connection;

- No zone of theoretical visibility (ZTV) or viewpoint visualisations are presented, generated and used to analyse and assess the potential visibility of the OHL on nearby landscape receptors or cultural heritage assets at this stage; and
- No noise modelling or baseline noise monitoring has been undertaken for this Appraisal

2.3 Indicative Grid Connection Routeing Exercise

2.3.1. The purpose of this indicative routeing exercise is to identify an indicative technically feasible grid connection corridor between the Proposed Development and the KTR OHL.

2.3.2. The routeing exercise has been informed by established industry guidance and best practice relevant to the routeing and environmental assessment of electricity infrastructure.

2.3.3. In particular, regard has been given to the Holford Rules and subsequent guidance notes (SPEN, 2020), which remain established industry guidance for the routeing of high voltage overhead transmission lines. The Holford Rules seek to minimise potential landscape and visual effects through careful route selection and consideration of landform, settlement pattern and landscape character.

2.3.4. The Holford Rules are as follows:

1. *Avoid altogether, if possible, the major areas of highest amenity value, by so planning the general route of the line in the first place, even if the total mileage is somewhat increased in consequence;*
2. *Avoid smaller areas of high amenity value, or scientific interest by deviation; provided that this can be done without using too many angle towers, i.e. the more massive structures which are used when lines change direction;*
3. *Other things being equal, choose the most direct line, with no sharp changes of direction and thus with few angle towers;*
4. *Choose tree and hill backgrounds in preference to sky backgrounds, wherever possible; and when the line has to cross a ridge, secure this opaque background as long as possible and cross obliquely when a dip in the ridge provides an opportunity. Where it does not, cross directly, preferably between belts of trees;*
5. *Prefer moderately open valleys with woods where the apparent height of towers will be reduced, and views of the line will be broken by trees;*
6. *In country which is flat and sparsely planted, keep the high voltage lines as far as possible independent of smaller lines, converging routes, distribution poles and other masts, wires and cables, so as to avoid a concatenation or 'wirescape'; and*
7. *Approach urban areas through industrial zones, where they exist; and when pleasant residential and recreational land intervenes between the approach line and the substation, go carefully into the comparative costs of undergrounding, for lines other than those of the highest voltage.*

2.3.5. There is no established guidance for the routeing of underground cables. However, the guidance as set out in SPEN's *"Approach to Routeing and Environmental Impact Assessment"* (2020), the approach is based on the premise that the most significant effects are likely to result from the level of ground disturbance required for the construction of cable trenches and associated works.

2.4 Indicative Grid Connection Corridor

2.4.1. An Indicative Grid Connection Corridor (IGCC) has been identified as shown in **Figure 1.** This area is not fixed but shows the approximate area under consideration for the point of connection (PoC). The KTR OHL is proposed to be utilised by other projects in addition to the Proposed Development.

2.4.2. An IGCC has been identified between the Proposed Development Red Line Boundary and the Glenlee – Tongland section of the KTR OHL. This corridor is approximately 8.3 km long and 2.7 km wide and has been guided by the Applicant's assumptions alone. It is assumed that any grid connection routeing design refinement will be located within the IGCC.

2.5 Grid Connection Components

2.5.1. The grid connection for the Proposed Development would be likely to comprise a combination of double circuit 132 kV OHL (supported on 'Trident' wooden poles) and / or UGC, between the Proposed Development substation and the PoC on the KTR OHL.

2.5.2. The specific configuration will be determined once the PoC is confirmed, and will depend on a balance of environmental sensitivity, technical feasibility, operational requirements, maintenance consideration and construction practicalities. The likely infrastructure components and their installation methods are described below.

2.6 Installation of an Underground Cable

2.6.1. Based on similar developments elsewhere in Scotland, the construction activities that could be expected to occur during the installation of an UGC include:

- Establishment of one or more construction compounds;
- Establishment of suitable laydown areas for materials;
- Establishment of a working corridor;
- Installation of an access haul road and temporary bridges where required;
- Strip topsoil to facilitate cable trenching;
- Excavate a trench up to 2 m in depth and 2 m wide, widening through benching and battering where stability and safety concerns arise;
- Clear out all materials likely to damage cable ducts, e.g. clods, rocks, stones and organic debris, and employ use of pumps to remove any water;
- Installation of ducting within the trench, surrounded by engineered backfill in suitable layers for protection, with protection tile and warning tape placed above the cable line, reinstatement to sub-soil level;
- Excavation and formation of power cable joint bays with above ground electrical link pillars and associated demarcation;
- Transportation of and installation of power cable;
- Mobilisation of jointing containers and jointing of power cable;
- Reinstatement of joint bays and installation of fencing at link pillar locations;
- Reinstate excavated surface layers in reverse order; and
- Commissioning of cable system.

2.6.2. For the purposes of this Appraisal it is assumed that the cable ducts would be installed progressively, with the length of time the cable trench would remain open minimised as far as practicable.

2.6.3. It is assumed that arisings from the trench would be stored temporarily adjacent to the trench, ready for use in backfilling and restoration. Standard controls and best practice construction techniques such as the use of silt fences, cut-off drains and temporary cover of the arising stockpiles would typically be deployed to minimise erosion and sedimentation.

2.6.4. Vegetation turves are generally stored separately to the spoil arisings. Once the cable has been installed in the cable trench, arisings are used to restore the trench and backfilled in the same order that the material was excavated. Turves are then replaced on the backfilled trench.

2.6.5. Where the UGC crosses major watercourses or transport routes, it is assumed for the purpose of this Appraisal that these crossings would be undertaken, as is common practice, by Horizontal Directional Drill (HDD). Such techniques involve the use of a directional drill machine to drill along a chosen path beneath the road or watercourse, which avoids the requirement to dig trenches in these locations.

2.6.6. The installation of an UGC would be undertaken in accordance with relevant environmental legislation and best practice construction requirements, and the successful contractor would be obliged to employ its own specialist environmental advisors to undertake relevant pre-construction surveys and on-site monitoring and compliance checks throughout the construction period.

2.7 Installation of an Overhead Line

2.7.1. For the purposes of this assessment, it is assumed that the proposed OHL would comprise a 132 kV circuit supported on 'Trident' timber poles. The poles are anticipated to have an overall height of approximately 10 m to 22 m above ground, including insulators. Span lengths of the overhead line between poles would be in the range of 80 m to 100 m.

2.7.2. It is anticipated that the final grid connection could comprise a combination of OHL and UGC. However, as the detailed connection design has not yet been confirmed, this Appraisal adopts a precautionary worst-case assumption that the entire connection would be delivered as OHL for the purposes of the cumulative effects assessment.

2.7.3. The construction activities of an OHL installation are likely to include:

- preparation of accesses;
- felling of forestry (where required);
- excavation of foundations;
- delivery of poles;
- erection of poles;
- delivery of conductor drums and stringing equipment;
- insulators and conductor erection and tensioning; and
- clearance and reinstatement.

2.7.4. Prior to constructing the OHL, temporary working areas around each pole location will be required for foundation excavation and pole erection. Any vegetation that requires removal will be removed or where it can be retained, it will be carefully pruned in accordance with British Standards such as BS 3998:2010 and other relevant good practice guidance.

2.7.5. The erection of the wood poles will require a small excavation to allow the pole brace block and/or steel foundation braces to be positioned in place. A typical pole excavation will be 3m by 2m deep. The excavated material will be sorted and stored and used for backfilling purposes. No concrete is considered to be required.

2.7.6. Poles are erected in sections, i.e. between angle support poles and/or terminal support pole. The insulator fittings, and wood poles forming the pole support, will be assembled local to the pole site and lifted into position utilising the tracked excavator which excavated the foundations. The pole foundation holes will then be backfilled, and the pole stay wire supports attached to the ground in preparation for conductor stringing, erection and tensioning.

2.7.7. The installation of an OHL would be undertaken in accordance with relevant environmental legislation and best practice construction requirements, and the successful contractor would be obliged to employ its own specialist environmental advisors to undertake relevant pre-construction surveys and on-site monitoring and compliance checks throughout the construction period.

3. Environmental Appraisal

3.1 Scope and Methodology

3.1.1. This Appraisal has been informed by the following sources:

- Relevant online resources to inform the baseline including;
  - NatureScot (2019) National Landscape Character Assessment;
  - SEPA Flood Maps;
  - National Record of the Historic Environment (NRHE) data;
  - Historic Environment Record (HER) data; and
  - NatureScot Carbon and Peatland Map (2016).
- Information from other developments within the area as well as constraints information shown in Figures 1 – 10 and professional experience of likely significant effects of grid connection projects;
- Lairdmannoch Energy Park EIA Report and supporting documents, submitted in May 2025; and
- Lairdmannoch Energy Park Additional Information Report and supporting documents, submitted in July 2026.

3.2 Landscape and Visual

3.2.1. This assessment follows the same methodologies and best practice expressed in the revised Landscape and Visual Impact Assessment (LVIA) (Volume 2, **Chapter 5: LVIA**) for the Proposed Development. It also considers the potential route in the context of the Holford Rules and general grid connection routing guidance for landscape and visual matters. For the purposes of the LVIA assessment, the entire route is assumed to be OHL as a worst case scenario.

Baseline

Landscape Designations

3.2.2. As illustrated in **Figure 2**, the IGCC area does not pass through any areas designated at the local and/or national level for its landscape quality or scenery. There is also a separation distance of over 2 km to the nearest landscape designation, a local landscape area, known as a Regional Scenic Area.

3.2.3. **Figure 6** illustrates that the topography within the IGCC is generally characterised by gently undulating to relatively flat landform. Localised areas of steeper terrain, with slope gradients of between 10% and 14%, occur within Laurieston Forest to the north and around Whiston Hill to the south.

3.2.4. Given the small scale of the potential OHL trident pole grid connection, the potential for significant effects is unlikely on any designated landscapes including the Regional Scenic Areas. Therefore, these receptors are not considered further.

Landscape Character

3.2.5. As illustrated on **Figure 7**, the grid connection route search area is located through two landscape character types (LCTs) identified by NatureScot. Although not directly related to the grid connection element, these LCTs are also considered within the Dumfries and Galloway Wind Energy Landscape Sensitivity Study (DGWELSS) Assessment of Larger Wind Turbines dated October 2024.

LCT 176: Foothills with Forest - Dumfries & Galloway (called LCT 20 Foothills with Forest within the DGWELSS)

3.2.6. The Lauriston unit of this LCT is a large landscape unit stretching in a long band of low, rounded, afforested foothills from Slogarie Hill in the north to the craggier Dow Craig Hill and Meikle Culcaigrie Hill in the south.

3.2.7. There is little settlement within this LCT with little intervisibility, but it does form an important backdrop to the Tarff Valley to the east and the Grobdale Lane valley to the west. The value of this LCT is judged to be Regional. The susceptibility of this LCT is judged to be Medium to the grid connection. Considering susceptibility and value together the sensitivity is judged to be Medium.

LCT 169: Drumlin Pastures (also called LCT 130 Drumlin Pastures within the DGWELSS)

3.2.8. This LCT stretches from Mossdale and above the eastern shore of Loch Ken in the north; to just above Kirkcudbright in the south; and to the Castle Douglas area to the east.

3.2.9. It is a very large landscape area of generally low, undulating hills and knolls (drumlins), mostly under medium-scale improved pasture, interspersed with clumps and copses of coniferous, mixed and deciduous trees and scattered rural settlement. The value of this LCT is judged to be Regional. The susceptibility of this LCT is judged to be Medium to the grid connection. Considering susceptibility and value together the sensitivity is judged to be Medium.

Visual Receptors

3.2.10. As illustrated in **Figures 4 and 9**, there are only a few visual receptors within or which cross through the IGCC search area. These include:

- Residents at Edgarton/Cot Cottage, Beoch/Backfell, Barstobrick, Culrae, Crumbuhill, and Upper Balannan – High/Medium sensitivity;
- Users of the A762 between Laurieston and Ringford – Medium sensitivity;
- Users of a core path within Laurieston Forest – High/Medium sensitivity; and
- Visitors and users of core paths at Barstobrick, including those at Neilson's Monument/hill fort and the Visitor Centre/café – High/Medium sensitivity.

Appraisal of Potential Effects

Construction

Potential Sources of Effects

3.2.11. The construction works required for the installation of the OHL on trident type wood poles between a substation at the Proposed Development and within the Glenlee and Tongland section of the KTR, is likely to result in the following activities:

- Vegetation removal (including hedges, scrub, trees and woodland). Wayleaves may be required through areas of woodland and shelterbelts if they cannot be avoided, although typically they would be avoided where possible;
- Construction of temporary construction compounds and laydown areas, which would be reinstated after use;
- Construction of temporary access tracks, which would be reinstated after use;
- Potential need for watercourse crossings for temporary access track construction;

- Excavation of pits for wood pole foundations, installation of foundations and wood poles, and stringing of the overhead cables; and/or
- Trenching of cables for any sections of undergrounding (cut and fill in progressive sections with cable installation and reinstatement completed before works progress to the next section. Approximate working corridor not within highway assumed to between 10 m and 15 m and less within highway.);
- Construction of a switching station along the consented Glenlee and Tongland section of 132kV overhead line; and
- The presence of people, and movement of associated construction vehicles and plant, including any lighting.

3.2.12. The majority of the sources of effects which could occur during the construction phase would be short-term and largely reversible.

Landscape Effects

3.2.13. Construction effects could affect either LCT 176: Foothills with Forest - Dumfries & Galloway (called LCT 20 Foothills with Forest within the DGWELSS) and/or LCT 169: Drumlin Pastures (also called LCT 130 Drumlin Pastures within the DGWELSS). The sensitivity of both LCTs are similar and the impacts on either or both LCTs would be similar.

3.2.14. Both landscapes within the IGCC search area are a mix of forestry/woodlands and open moorland within LCT 176 and open areas of pasture within LCT 169. The construction of either the overhead or underground line could result in the removal of some landscape features such as woodland/scrub and the effect on either LCTs would be similar and significant effects on the fabric of the landscape during construction are unlikely.

3.2.15. Either overhead or underground routes would result in a very localised geographic extent of effects on landscape character as result of the construction of either the overhead line or the underground route. Given the sensitivity of the LCTs, and duration and reversible nature of much of the construction effects, significant effects would be unlikely on the surrounding landscape character of either LCT, whether it was undergrounded or overhead.

Visual Effects

3.2.16. Depending on the final alignment of the grid connection, there is the potential for construction activity to be visible in views experienced by residents in residential properties. However, these residential properties are well spaced in this landscape, and so it should be possible to avoid locating the grid connection and switching station in close range views experienced from them.

3.2.17. Assuming this is the case, any construction effects would be very localised given the screening by landform and tree cover in the local landscape. Good practice design in siting the grid connection should be able to mitigate any potentially significant visual construction effects on residents.

3.2.18. In terms of the visual effects of road users on the A762 between Laurieston and Ringford, this would mainly occur if the grid connection either crossed the road, or was constructed in the highway verge along the road. If the route crossed the road, then the impacts would be very limited and would not be significant.

3.2.19. If the grid connection was within or alongside the road, then the effects could likely extend for the entire construction period.

3.2.20. However, this is still considered to be short-term in duration. Given the medium sensitivity of road users and short term nature of construction effects, there is the potential for marginally significant

effects for road users, depending on the length of the affected road corridor. If the connection was at the northern end of the search area, then the visual effects for users of the A762 during construction would be largely avoided.

3.2.21. For users of a core path within Laurieston Forest, this is only on the edge of the grid connection search area. Given the extent of forestry and nature of landform, it would largely screen views of construction and considered unlikely to result in any significant effects for users of this route.

3.2.22. For visitors and users of core paths at Barstobrick, if the grid connection was located in the search area to the east of the A762, then these receptors would be affected by the construction effects. The visitor centre is located outwith the search area and the effects would be more limited, but there are panoramic views from the Neilson's Monument/fort and core paths.

3.2.23. If the grid connection was required to cross or disrupt the core paths, in addition to the views of it, then this is likely to result in some potentially localised significant effects for recreational users. However, if the grid connection was placed across Beoch Moor or west of the A762, then significant effects are likely to be avoided on these recreational users.

Operation

Potential Sources of Effects

3.2.24. The effects of the grid connection on landscape and visual amenity, once operational, is likely to be associated with the presence of the overhead line on wood poles and switching station near the Kendoon to Tongland overhead line, in the landscape and views. There would be no operational effects of any underground sections but the switching station is likely to be required whether connection was underground or overhead. These operational effects would be long term.

Landscape Effects

3.2.25. Operational effects could affect either LCT 176: Foothills with Forest - Dumfries & Galloway (called LCT 20 Foothills with Forest within the DGWELSS) and/or LCT 169: Drumlin Pastures (also called LCT 130 Drumlin Pastures within the DGWELSS). The sensitivity of both LCTs are similar and the impacts on either or both LCTs would be similar and very localised for a new switching station along the Kendoon - Tongland overhead line.

3.2.26. There would be no operational effect on these LCTs of any undergrounded sections of grid connection. The linear nature of any new overhead lines would contrast with the complex nature of local topography and landcover. However, this would be very limited given the small scale of the trident type of wooden pole line. Any remaining effects on landscape character would be very localised given the landform and tree cover.

3.2.27. Given the medium sensitivity of the LCTs and limited extent and nature of effects, significant operational effects on landscape character are not predicted.

Visual Effects

3.2.28. Depending on the final alignment of the grid connection, there is potential for operational effects of the OHL which could be visible in views experienced by residents in residential properties. However, these residential properties are well spaced in this landscape and so it should be possible to avoid locating the grid connection and switching station in close views experienced from them.

3.2.29. The operational effects of the switching station and trident wooden pole would be limited. Operational effects would be very localised given the screening by landform and tree cover in the local landscape.

Good practice design in siting the grid connection should be able to mitigate any potentially significant visual construction effects on residents.

3.2.30. In terms of the visual effects of road users on the A762 between Laurieston and Ringford, significant operational effects are considered unlikely, as the overhead line would be relatively small and unlikely to interrupt or distract from any views from the road. The switching station, may or may not be visible from the road, but if it was it would be fleeting only. Given the medium sensitivity of the road users and limited extent and nature of effects, significant operational visual are not predicted.

3.2.31. For users of the core path within Laurieston Forest, this is only on the edge of the IGCC search area. Given the extent of forestry and nature of landform, it is considered unlikely to result in any significant operational effects for users of this route.

3.2.32. For visitors and users of core paths at Barstobrick, the grid connection would be visible from the highest ground - Neilson's Monument/fort. However, views would be looking down across the landscape and the wooden poles are unlikely to breach the skyline and would not be particularly noticeable. Given the nature of relatively elevated views limited influence of the grid connection, significant operational visual are not predicted.

In combination effects with Lairdmannoch Energy Park

3.2.33. The in-combination effects of the grid connection and Lairdmannoch Energy Park could result in both developments being constructed at the same time. This could potentially result in some elevated levels of effect for any host LCTs of both developments.

3.2.34. There is also a chance of some elevated effects at residents at Edgarton/Cot Cottage and Beoch/Backfill, and from Neilson's Monument/core paths around Barstobrick where construction effects could potentially be spread over a wider area.

3.2.35. However, the addition of the potential grid connection construction, combined with the energy park construction, is unlikely to result in significant effects arising which have not already been identified by one assessment or the other.

3.2.36. The in-combination operational effects would not be significant.

Conclusions

3.2.37. This assessment follows the methodologies and best practice expressed in the LVIA for Lairdmannoch Energy Park. It also considers the route in the context of the Holford Rules and good practice grid connection routing for landscape and visual matters. The assumed mitigation for limiting the significant landscape and visual effects include providing suitable separation distances from nearest residents and avoiding the area at Barstobrick and south of Neilson's Monument/fort to avoid potentially significant effects on recreational receptors.

3.2.38. The assessment has considered the potential impacts of a grid connection within a route corridor, rather than an actual alignment. It has also considered the potential impacts of the grid connection being either overhead or undergrounded.

3.2.39. Depending on the final route of the grid connection for the Proposed Development, it may result in some localised effects during construction for users of the A762 if the route followed the road. During operation it is considered that good practice design should be able to fully mitigate any significant operational effects. No designated landscapes are likely to be significantly affected.

3.2.40. In the situation where both the Proposed Development and its grid connection were constructed at the same time, then there is the potential for some elevated effects as a result of a wider area of

construction activity. However, it is unlikely to result in significant effects arising which have not already been identified by one assessment or the other. The in-combination operational effects would not be significant.

3.3 Cultural Heritage

3.3.1. The grid connection has the potential to affect cultural heritage assets in the following ways:

- Direct physical impacts during construction, whereby the UGC or OHL poles and infrastructure intersect with upstanding or buried archaeological remains; and
- Direct setting effects during operation of the OHL through theoretical intervisibility.

Assumptions and Limitations

Figure 3 shows cultural heritage designations against the IGCC search area. The data for the figure is obtained from the production of **Chapter 10: Cultural Heritage**:

- data obtained from publicly accessible archives;
- HER data was received in July 2023 and for the access track in April 2025;
- designated heritage asset and NRHE data was initially downloaded from Historic Environment Scotland (HES) in July 2023 and checked in May 2026.

Baseline

3.3.2. Within the IGCC, the following have been identified:

- 44 HER archaeology points;
- 20 HER areas of archaeological interest;
- One Scheduled Monument - Edgarton Mote,fort 690m SW of Camelon Bridge (Secular: fort (non-prehistoric)) Scheduled Monument;
- No Listed Buildings;
- No Conservations Areas;
- No Gardens and Designed Landscapes; and
- No Canmore Known Site Extents.

3.3.3. Key constraints are likely to relate to the potential for impacts upon the setting of the designated heritage asset of Edgarton Mote (GR NX 67344 63069).

Appraisal of Potential Effects

3.3.4. The construction and operation of an OHL have the potential to result in effects on cultural heritage assets. Construction activities, including excavation for pole foundations, access track construction and associated earthworks, may affect known or previously unidentified archaeological remains. Operational effects may arise where the presence of poles and conductors influences the setting, character or appreciation of designated and non-designated heritage assets.

3.3.5. The construction of an UGC may similarly give rise to direct effects on buried archaeological remains through trench excavation and associated ground disturbance. Following reinstatement, operational effects are generally expected to be limited due to the underground nature of the infrastructure, although any permanent above-ground equipment may have the potential to affect the setting of nearby heritage assets.

3.3.6. Given the nature of the grid connection infrastructure and the small number of known heritage assets within the IGCC, it is likely that physical impacts upon known heritage assets can be avoided by design with the location of wooden poles for the OHL or the UGC, plus any ancillary infrastructure be placed away from the known assets, through application of Holford Rule 1.

3.3.7. An understanding of the potential of impacts upon previously unidentified archaeological remains would be refined through further archaeological and cultural heritage assessment, including a full desk-based assessment and an archaeological walkover survey following identification of the proposed route by SPT.

3.3.8. Where there remains potential for the construction and enabling works to impact upon unrecorded remains this could likely be mitigated by the implementation of a programme of archaeological works, secured via a suitably worded planning condition, which would aim to identify any such previously unrecorded remains and, where they could not be preserved in situ, preserve them by record through archaeological excavation, recording and post-excavation analysis.

Edgarton Mote,fort 690m SW of Camelon Bridge (Scheduled Monument)

3.3.9. As per assessment in the revised **Chapter 10: Cultural Heritage**, the relative sensitivity of Edgarton Mote to changes to its setting is judged to be ***high***.

3.3.10. The fort was found to be identifiable from the Proposed Development Site (Plate 10-34) and indeed **AI Figure 10-8** indicates that eight turbine hubs will be visible from the fort beyond a ridgeline to the northwest. The northern and southern portion of the solar array is predicted to be visible from the fort based on the ZTV.

3.3.11. However, the topographical position and a key relationship of the fort with the fertile plain to the east, which are considered to form a key characteristic of the asset's setting, would be unchanged. As such the Proposed Development was judged to be an alteration to the baseline setting which would not affect the ability to understand, appreciate and experience the fort in its wider landscape which is judged to be a low magnitude of change. The resulting significance of effect was judged to be ***minor*** and not significant in EIA terms.

3.3.12. It is considered that given the impacts of this asset from the Proposed Development, it is unlikely that the grid connection (OHL assumed) would result in cumulative setting impacts and assuming sensitive location and design of the grid connection, located away from this asset, significant setting effects during the operational period are considered unlikely.

3.4 Ecology and Ornithology

Baseline

3.4.1. Within the IGCC, no sites carrying statutory designations lie within the IGCC. Two areas of Ancient Woodland (AW) are present as shown on **Figure 5**.

Appraisal of Potential Effects

3.4.2. Construction of UGC may result in effects on ecological receptors through habitat loss or fragmentation, disturbance from construction traffic and workforce activity, and impacts associated with temporary lighting.

3.4.3. Construction of an OHL may result in effects on ecological receptors through vegetation clearance, establishment of temporary access routes and working areas, excavation of pole foundations, construction traffic, and associated disturbance during construction. Potential effects may include

habitat loss or degradation, habitat fragmentation and disturbance to protected species and other fauna.

3.4.4. It is assumed that ecological walkover surveys (to include a Preliminary Ecological Appraisal Survey) would be undertaken within the IGCC, once a preferred route had been identified, which would serve to identify the presence and/or potential presence of protected species, with appropriate species-specific surveys undertaken where necessary to further inform the requirement for mitigation including route design and/or licencing from NatureScot.

3.4.5. It is also assumed that ornithological surveys would be undertaken for the connection route to establish the baseline bird assemblages (breeding and wintering) within the relevant identified study areas informed by the preferred route; to help inform the route design and ensure any additional mitigation measures are in place.

3.4.6. The potential for habitat loss would be expected to be mitigated through design. Where the grid connection would use UGC, any habitat loss is assumed to be temporary, reversible and guided by an Ecological Clerk of Works (EcoW) such that impacts would be expected to be minimised and managed. It is anticipated that OHL route selection would avoid or reduce the land take on priority habitat or through AW, where possible.

3.4.7. Further to this, standard good practice such as implementing a Construction Environmental Management Plan (CEMP), Species Protection Plans (SPPs) and use of good practice construction techniques to minimise environmental impacts would be implemented for any works for the grid connection.

3.4.8. Given the nature of the development and the limited footprint, direct significant adverse effects for sensitive ecological features would not be anticipated to occur during the operational period for the grid connection (UGC or OHL).

3.5 Hydrology and Hydrogeology

Baseline

3.5.1. Review of the NatureScot Carbon and Peatland Map (2016) indicates that the majority of the IGCC study area is underlain by mineral soils or areas of unknown soil classification. To the north of the IGCC, there is a large area of Class 5 peatland, and in the centre of the IGCC there is an area of Class 3 and Class 1 peatland. There are some more localised patches of Class 3 peatland further to the south (see **Figure 8**).

3.5.2. There are several watercourses within the IGCC, as shown on **Figure 10**.

3.5.3. Review of the SEPA Flood Map[1], shows that the IGCC does not encroach on any mapped SEPA mapped river floodzones (SEPA Flood Risk Areas at 0.5% chance of flooding or above from rivers with catchments >10 km^2).

Appraisal of Potential Effects

3.5.4. Construction activities associated with both UGC and OHL infrastructure have the potential to affect geological, hydrological and hydrogeological receptors through soil disturbance, excavation works, alterations to local drainage patterns, and the mobilisation of sediments. The extent of any effects would depend on the final route alignment, construction methodology and the sensitivity of receptors present.

[1] https://map.sepa.org.uk/floodmaps/FloodRisk/PostCode

3.5.5. The potential for adverse impacts on priority peatland would be expected to be mitigated through design. Therefore, it can be reasonably assumed that the grid connection would avoid the area of Class 1 peatland (Nationally important carbon-rich soils, deep peat and priority peatland habitat) as this area is likely to be of high conservation value. The areas of Class 3 peatland (predominantly peaty soil with some peat soil) could also be avoided through design of the grid routeing, as per Holford Rule 1.

3.5.6. Therefore, significant peat-related effects are considered unlikely.

3.5.7. In addition to mitigation through design, it is assumed that the grid connection will be constructed in accordance with established good practice to avoid pollution, areas of flood risk and unstable ground in full compliance with regulatory requirements. This would be managed through application of best practice and through compliance with relevant legislation to prevent pollution and would likely include measures such as those listed in **Technical Appendix 15-1: Outline CEMP** of 2025 EIA Report.

3.5.8. The operation of the OHL / UGC is not likely to result in adverse effects on soils or hydrology. The operational phase involves no ground disturbance, no changes to subsurface loading or groundwater flow, or activities that could cause soil contamination, erosion or ground instability.

3.5.9. **Chapter 8: Hydrology, Geology and Hydrogeology** of the 2025 EIA Report judges that following successful design and implementation of mitigation measures the significance of effects on all identified receptors are considered negligible and are not defined as being significant.

3.5.10. Therefore, the grid connection is not expected to materially increase the significance of effects on soils or hydrological already identified for the Proposed Development, when considered both in-combination and in addition to the Proposed Development.

3.6 Traffic and Access

Baseline

3.6.1. The wider area is serviced by a number of major and minor roads, which provide access and transport routes to settlements, individual residences, and the wider strategic road network. The IGCC intersects with the A762 road and small sections of a core path to the northwest and south of the search area. Key road links within the IGCC are captured within **Figure 11-1** of the 2025 EIA Report.

Appraisal of Potential Effects

3.6.2. Construction of the OHL and/or UGC would generate additional traffic movements associated with the delivery of construction materials, plant and equipment. This may include the transport of poles, conductors and associated components for OHL construction, and stone, concrete, ducting and cable materials for UGC installation. Temporary increases in Heavy Goods Vehicle (HGV) and workforce traffic may affect the operation of the local road network and access arrangements.

3.6.3. A Construction Traffic Management Plan (CTMP) would be expected to be implemented to manage construction traffic and minimise potential effects on road users, local communities and sensitive receptors.

3.6.4. During operation there would be occasional visits by maintenance teams and therefore significant effects as a result are unlikely to arise.

3.6.5. Decommissioning effects would be similar or less than the construction phase, and subject to a CTMP. On this basis, no notable impacts on traffic and transport would be expected.

3.6.6. Overall, the addition of the OHL and / or UGC is not expected to materially increase the significance of any traffic and transport effects already identified within **Chapter 11: Transport and Access** of the 2025 EIA Report, when considered both in-combination and in addition to the Proposed Development.

3.7 Noise, Vibration and Air Quality

Baseline

3.7.1. **Figure 9** shows residential dwellings located within the IGCC. The IGCC is located in a rural setting, where baseline noise levels are expected to be low. The majority of the time the existing baseline environment is likely to consist of the following, as taken from the revised **Chapter 9: Noise** of the AI Report:

- Wind induced noise from trees and foliage surrounding each dwelling;
- Water flow within nearby burns;
- Traffic noise from the A762;
- Traffic noise from local roads;
- Commercial forestry works;
- Localised sources from human activities; and
- Birdsong and animal activity.

Appraisal of Potential Effects

3.7.2. Construction of the OHL and/or UGC has the potential to generate temporary noise, vibration and dust emissions. Potential sources include excavation works, drilling activities, earthworks, material handling, construction plant, generators and vehicle movements associated with construction activities.

3.7.3. Temporary increases in noise and vibration levels may occur at nearby residential properties and other sensitive receptors because of construction traffic and on-site construction activities.

3.7.4. Dust emissions may also arise from vegetation clearance, topsoil stripping, trench excavation, earthworks and vehicle movements on unsealed surfaces.

3.7.5. It is assumed that the grid connection will be constructed in accordance with established good practice and in full compliance with regulatory requirements to minimise noise, vibration and dust emissions. Appropriate mitigation would be implemented through the application of best practicable means and would likely include measures consistent with those set out in in **Technical Appendix 15-1: Outline CEMP** of 2025 EIA Report.

3.7.6. During operation, noise generated from the grid connection would be negligible for OHL. Due to the underground nature of UGC, no operational noise would be expected.

3.7.7. Noise effects during the decommissioning phase would be expected to be similar to that of the construction phase.

3.7.8. **Chapter 9: Noise** of the AI Report judges the residual noise effects associated with the construction of the Proposed Development during the construction, operational and decommissiong stages are considered to be not significant.

3.7.9. Therefore, the grid connection is not expected to materially increase the significance of effects on noise already identified for the Proposed Development, when considered both in-combination and in addition to the Proposed Development.

4. Conclusions

4.1.1. This Grid Connection Appraisal has been prepared to inform the determination of the Proposed Development in response to the ECU's request for further information.

4.1.2. The Appraisal has considered the potential environmental effects associated with an OHL and/or UGC connection between the Proposed Development and the KTR OHL.

4.1.3. At the time of writing, no confirmed grid connection route, design or construction methodology has been identified. Any future grid connection infrastructure would be designed and delivered in accordance with SPT's requirements. SPT would be responsible for the route selection, detailed environmental assessment, and obtaining any necessary consents through a separate application.

4.1.4. In the absence of route-specific information, this Appraisal has been undertaken based on the Applicant's own assumptions derived from knowledge of the electricity infrastructure in the area, the environmental constraints in the area and informed professional judgement including an understanding of the application guidance followed when determining potential electricity transmission/distribution line routes.

4.1.5. The Appraisal has identified a number of environmental constraints that would require consideration during any future route selection process, including potential effects on landscape and visual receptors.

4.1.6. However, based on the information currently available, no major environmental constraints have been identified that would be likely to preclude the construction and operation of a grid connection within the broad corridor options assessed, subject to detailed routeing, design, and implementation of appropriate mitigation measures.

4.1.7. The Appraisal indicates that potential environmental effects are likely to substantially reduced through careful route selection and design, including, where practicable, the avoidance of sensitive receptors.

4.1.8. The Appraisal has also considered the potential for cumulative effects, either alone or in combinaton with the Proposed Development. Based on the high-level nature of this assessment and the information currently available, no additional likely significant cumulative effects have been identified beyond those reported in the 2025 EIA Report or the AI Report for the Proposed Development.

4.1.9. Overall, no likely significant environmental effects have been identified in relation to the IGCC assessed within this Appraisal. Any potential effects are expected to be appropriately mitigated through detailed routeing and design. Notwithstanding this, a comprehensive, route-specific environmental assessment would be required once a preferred alignment has been identified.

5. Technical Specialist

5.1.1. This Appraisal has been informed by specialist input from an experienced team of environmental professionals that are familiar with the project site and the methods and potential impacts that can occur through the installation of an OHL / UGC. The technical specialists who contributed to this Appraisal are identified in Table 10-1 below.

Table 5-1: Technical Specialists

Discipline	Specialist Assessor	Title	Company	Qualifications and Professional Affiliations
EIA	Freena Garcia	Project Manager	Atmos Consulting	MGeol
	Malcolm Sangster	Technical Director	Atmos Consulting	BSc (Hons), MSc
Landscape and Visual	Kelly Anderson	Director	Stephenson Halliday	BLArch, CMLI

This Appraisal also draws upon the technical assessments presented within the 2025 EIA Report and the AI Report. Details of the wider EIA team responsible for preparing these documents are provided in Table 1-2 of **Chapter 1: Introduction** of the 2025 EIA Report.

6. References

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SP Energy Networks. (2020). *Approach to Routeing and Environmental Impact Assessment*. Available at: https://www.spenergynetworks.co.uk/userfiles/file/SPEN_Approach_to_Routeing_Document_2nd_version.pdf [Accessed 07/07/2026]