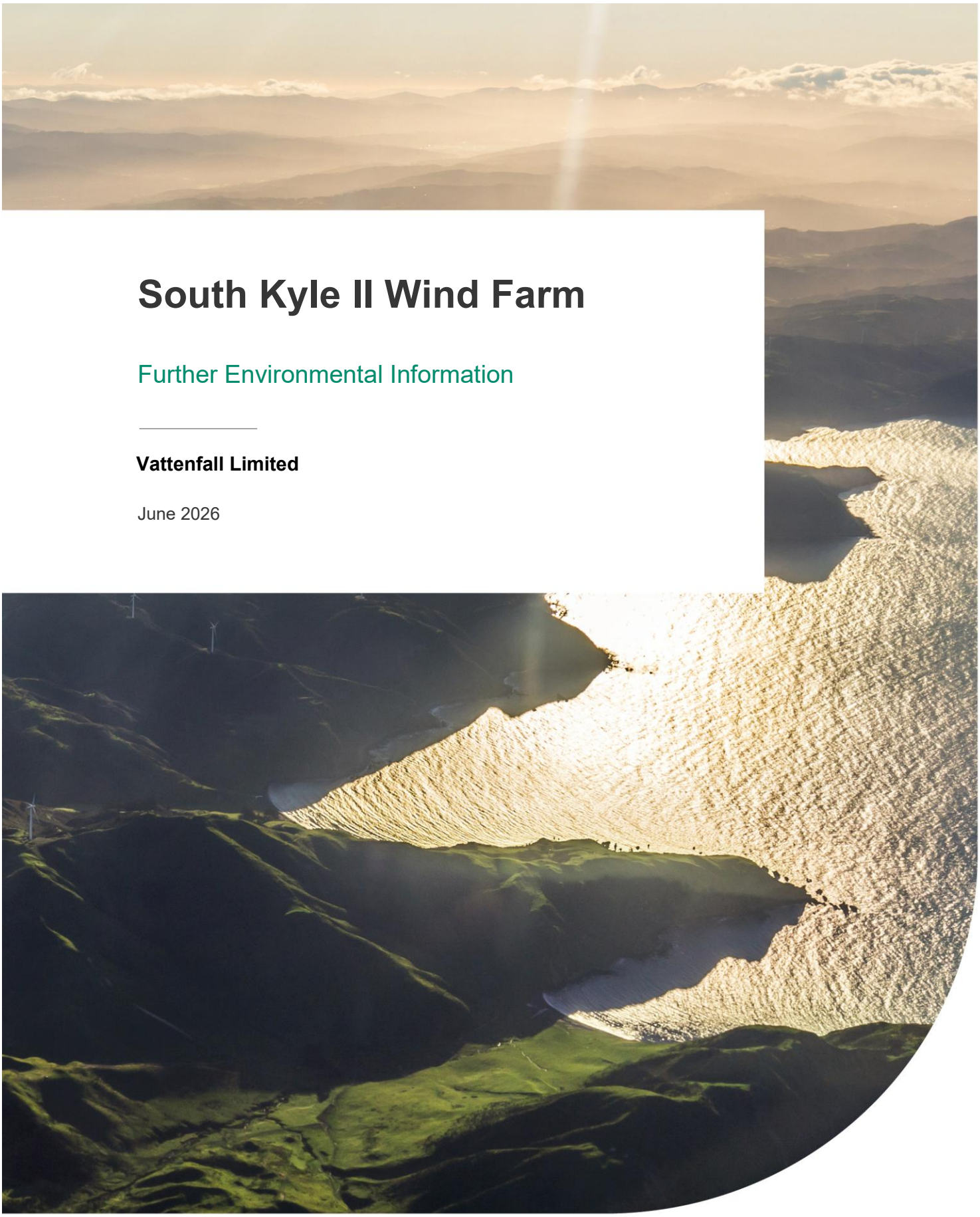

South Kyle II Wind Farm

Further Environmental Information

Vattenfall Limited

June 2026

OUR VISION

Working to create a world powered by renewable energy

natural power

Contents

Glossary

Term	Definition
Amended Proposed Development	The South Kyle II Wind Farm 'Amended Proposed Development' which is described fully in Section 2 of this FEI.
Amended Proposed Development Construction Felling	The plan illustrating the areas of felling required to facilitate construction of the Amended Proposed Development. This is presented as **FEI Figure 3.7.1**.
Amended Proposed Development Felling Plan	Shows how this felling relates to the associated Forest Plan.
Designated Landscape	Areas of landscape identified as being of importance at international, national or local levels, either defined by statute or identified in development plans or other documents.
Effect	Effects are the consequence of impacts on environmental resources or receptors.
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	The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (EIA Regulations).
Environmental Impact Assessment Report (EIAR)	A document reporting the findings of the EIA and produced in accordance with the EIA Regulations.
Feature Assessment	A process used to evaluate the importance, condition and ecological functionality of bird-related features within the Proposed Development Area.
Further Environmental Information Report	Supplementary document submitted during an environmental assessment process to provide additional or clarified information on a project's environmental impacts (i.e, this Report).
Impact	Change that is caused by an action; for example, land clearing (Action) during construction which results in habitat loss (impact).
Landscape Character	The distinctive and recognisable pattern of the key constituent elements and features of a landscape that makes it distinct from other landscapes and how this is perceived by people. It reflects particular combinations of geology, landform, soils, vegetation, land use and human settlement. It creates the particular sense of place in different areas of the landscape
Landscape Effect	The consequence of change in the elements, characteristics, qualities and overall character of the landscape as a result of development. These effects can be beneficial, neutral or adverse.
Magnitude (of change)	A term that combines judgements about the size and scale of the impact, the extent of the area over which occurs, whether it is reversible or irreversible and whether it is short or long term in duration.
Micrositing	The process of positioning individual structures to avoid localised environmental or technical constraints
Proposed Development	The South Kyle II Wind Farm development

Term	Definition
Proposed Development Area	The area of the "Site boundary" as amended and illustrated on **FEI Figure 1.1** within which the Proposed Development will be located
Landscape and Visual Receptor	Physical landscape resource, special interest or individual or group experiencing view liable to change as a result of the Proposed Development.
Significant Effect	An effect which is considered by the assessor to be likely to be "significant" in terms of the EIA Regulations
Visual Amenity	A particular composition of landscape elements that contribute to a view, or views.
Visual Effect	The consequence of change in the appearance of the landscape as a result of development, which may be beneficial or adverse.

List of Abbreviations

Abbreviation	Description
BoCC	Birds of Conservation Concern
BESS	Battery Energy Storage System
CEMP	Construction Environment Management Plan
CIEEM	Chartered Institute of Ecology and Environmental Management
CIRIA	Construction Industry Research and Information Association
CRM	Collision Risk Modelling
CRZ	Collision Risk Zone
EAC	East Ayrshire Council
EASR	Environmental Authorisations (Scotland) Regulations 2018
EcIA	Ecological Impact Assessment
ECoW	Environmental Clerk of Works
ECU	Energy Consents Unit
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
FEI	Further Environmental Information
FSA	Forestry Study Area
GPA	Glasgow Prestwick Airport
GPP	Guidance for Pollution Prevention
GWDTE	Ground Water Dependant Terrestrial Ecosystem
Ha	Hectares
HES	Historic Environment Scotland
HLC	Habitat Loss Calculations
HRA	Habitats Regulations Appraisal
IGDL	Inventory Garden and Designed Landscape
IEF	Important Ecological Feature
IOF	Important Ornithological Feature
kV	Kilovolt

Abbreviation	Description
km	Kilometre
LBAP	Local Biodiversity Action Plan
LCT	Landscape Character Type
LPA	Local Planning Authority
LUPS-GU 31	Land Use Planning System Guidance Note 31
LVIA	Landscape and Visual Impact Assessment
m	Metre(s)
MW	Megawatt
NHZ	Natural Heritage Zone
NPF4	National Planning Framework 4
OBERP	Outline Biodiversity Enhancement and Restoration Plan
OS	Ordnance Survey
PCH	Potential Collision Height
PWS	Private Water Supply
SBL	Scottish Biodiversity List
SPA	Special Protection Area
SPP	Species Protection Plan
SSSI	Site of Special Scientific Interest
UGC	Underground Cable
UKTAG	UK Technical Advisory Group
VP	Vantage Point
ZOI	Zone of Influence
ZoC	Zones of Contribution
ZTV	Zone of Theoretical Visibility

1. Introduction

1.1. Purpose of Report

1.1.1. Vattenfall Wind Power Ltd (the Applicant) has submitted an application to the Scottish Ministers under Section 36 of the Electricity Act 1989 (as amended), together with a request for deemed planning permission under Section 57(2) of the Town and Country Planning (Scotland) Act 1997, for the construction and operation of the proposed South Kyle II Wind Farm (the Proposed Development).

1.1.2. The application (Reference: ECU00003429) was submitted to the Energy Consents Unit (ECU) on 16 May 2025 and was accompanied by an Environmental Impact Assessment Report (EIAR). Following receipt of EIAR consultation responses, most notably an interim response from the Scottish Environment Protection Agency (SEPA) on the 20th June 2025, the Applicant reviewed the matters raised and undertook further design refinement and assessment. As a result, this Further Environmental Information (FEI) has been prepared in accordance with the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (the EIA Regulations).

1.1.3. SEPA's interim response to the South Kyle II Wind Farm application cited the following key areas where clarification or additional information was sought:

- Additional information to assess risks to Private Water Supplies (PWS) (e.g. source location and type);
- Further evidence of application of mitigation hierarchy in NPF4 Policy 5 relating to peat and carbon-rich soils;
- Layout design changes to further avoid areas of deep peat, particularly around Turbines T1 and T3;
- Concerns regarding impacts arising from the proposal to extend the existing construction compound and borrow pits, including deep peat disturbance and clarification on restoration proposals; and
- Verge widths requiring further justification.

1.1.4. In response, the Applicant has reviewed the site layout. The main design changes include the relocation of Turbines 1, 3 and 6, the rotation of the construction compound to avoid the areas of deeper peat on Site, a modification to the hard stand for T2, and modifications to several site tracks. The updated layout for the Amended Proposed Development is shown in **FEI Figure 1.1** and further details provided in section 2.1 of this FEI.

1.1.5. Furthermore, the Applicant is proposing a grid connection route from the onsite substation of the Proposed Development via an underground 132kV aluminium buried cable adjacent to the existing access track to the New Cumnock electricity substation (**FEI Figure 1.1.1**). This proposed grid route forms part of the application to the Scottish Ministers and as such consent is sought for the export cable to the New Cumnock Transmission sub-station.

1.2. Scope of the FEI

1.2.1. This FEI report forms an addendum to the submitted EIAR and should be read in conjunction with the original EIAR, including all figures and appendices.

1.2.2. For clarity, the Amended Proposed Development now includes the Underground Cable (UGC) works associated grid connection and therefore in this case are considered collectively as a single project for the purposes of this FEI. The wind farm itself has already been subject to full assessment within the submitted EIAR. This FEI therefore provides an updated assessment of the wind farm only where design amendments have occurred subsequent to the EIAR.

1.2.3. In contrast, the proposed grid connection was not included within the original EIAR and has now been incorporated into the Amended Proposed Development. As such, this FEI introduces and assesses the grid connection for the first time, proportionate to its scale and potential for environmental effects.

1.2.4. The updated FEI assessment for the wind farm relates only to those environmental topics with the potential to be affected by the design amendments. These include:

- **Ecology and Ornithology** – updated Collision Risk Modelling (CRM) and Habitat Loss Calculations (HLC).
- **Hydrology, Hydrogeology and Geology** – updated Phase II peat surveys, revised Groundwater Dependent Terrestrial Ecosystem (GWDTE) assessment, and clarification regarding Private Water Supplies (PWS).
- **Landscape and Visual** – confirmation that the design amendments do not alter the conclusions of the Landscape and Visual Impact Assessment (LVIA), supported by updated wirelines and Zone of Theoretical Visibility (ZTV) analysis.
- **Cultural Heritage** – updated assessment reflecting the amended layout.
- **Noise** – revised operational noise predictions based on updated turbine locations and an updated Operational Noise Technical Appendix.
- **Forestry** – updated forestry assessment.
- **Carbon Balance** – updated carbon balance calculations.

1.2.5. This FEI also responds to consultee comments received up to the date of publication (see Section 2) and provides updated or additional planning conditions (see FEI Appendix A), where appropriate. FEI Appendix B is the updated Planning Statement.

1.2.6. With respect to the newly included grid connection, a review of environmental constraints has been undertaken to identify the potential for likely significant effects. Based on this review:

- Habitat Loss Calculations have been updated and are reported within the Ecology section of the FEI.
- The hydrological review indicates that effects on peat are expected to be minimal. The route largely follows an existing road corridor where peat, if present, is anticipated to be of limited quality. Excavated peat would be reinstated within the trench in accordance with standard construction practice.
- Appropriate mitigation measures for watercourses are detailed within the FEI.

1.2.7. Furthermore, informed by the constraints review it is considered unlikely that the grid connection will result in additional likely significant effects in relation to:

- Noise - due to the short-term and localised nature of construction activities associated with installation of the underground cable over a route of approximately 0.5 km.
- Landscape and visual - as the grid connection would comprise an underground cable and permanent above-ground infrastructure would not be required along the route.
- Cultural heritage - as the cable route is limited in extent and would be installed within a shallow trench, reducing the potential for significant impacts on known heritage assets or their settings.
- Forestry - due to the limited extent of land required for installation of the underground cable and the absence of additional tree felling requirements.
- Ornithology - as the underground grid connection would not introduce overhead lines or other structures that could give rise to collision or displacement effects.
- Peat - as discussed in the preceding text the grid route largely follows an existing road corridor where peat, if present, is anticipated to be of limited quality.
- Traffic and transport - due to the short duration, localised nature and relatively limited vehicle movements associated with cable installation works.

1.2.8. Accordingly, the only additional assessment required in respect of the grid connection relates to:

- **Ecology –** habitat loss calculations
- **Hydrology –** confirmation and application of mitigation measures

1.2.9. These matters are addressed within the relevant sections of this FEI.

1.3. The Applicant

1.3.1. The Applicant Vattenfall AB, the ultimate owner of Vattenfall Wind Power Ltd, is a leading European energy company with approximately 20,000 employees, owned by the Swedish state. For more than 100 years Vattenfall has powered industries, supplied energy to people's homes and modernised the way its customers live through innovation and cooperation.

1.3.2. Vattenfall aims to make fossil-free living possible within a generation and is leading the transition to a more sustainable energy system through growth in renewables and climate-smart energy solutions for its customers.

1.3.3. Vattenfall has over 50 wind farms, onshore and offshore, across five countries and pioneered co-locating wind with solar and batteries. Vattenfall has been in the UK since 2008, investing over £3.5 billion in enough wind to power nearly a million British homes. Vattenfall owns the largest onshore wind farm in England and Wales, Pen y Cymoedd, and in Scotland operates wind farms on the Isle of Skye and in Aberdeenshire. At a local level Vattenfall developed the consented South Kyle wind farm, near Dalmellington, lying within both East Ayrshire and Dumfries and Galloway, which began commercial operation in early 2023.

1.4. Consultants

1.4.1. Natural Power Consultants Limited (Natural Power), the lead consultancy on the project, has been providing expertise to the renewable energy industry since the company was formed in 1995 and is one of the UK's leading renewable energy and infrastructure consultants. As well as development and EIA services, Natural Power also provide expert advice and due diligence consultancy, site construction management and site operation and maintenance.

1.4.2. Natural Power currently employs over 400 people working full time on providing renewable energy services internationally. In Scotland, Natural Power has offices in Glasgow, Stirling and Inverness, and its headquarters 'The Green House' is an award winning, environmentally friendly office building located in Dumfries and Galloway, just 21 km from the Proposed Development.

1.4.3. Testimony to Natural Power's experience and ongoing commitment to competency and continual improvement, its Planning and Environment department is accredited by the Institute of Sustainability and Environmental Professionals and EIAs prepared by Natural Power display the ISEP quality mark. In addition, Natural Power also operates in formally accredited health and safety (ISO 45001), environmental (ISO 14001) and quality (ISO 9001) management systems.

1.4.4. Other consultants involved in the FEI have provided independent professional input for Noise, Cultural Heritage, Forestry, Socioeconomics and LVIA:

- TNEI – Noise
- GUARD Archaeology Limited – Cultural Heritage
- DGA Forestry – Forestry
- WSP - LVIA

1.5. Terminology

1.5.1. The Proposed Development – the submitted EIA layout of 11 turbines and all associated infrastructure required for South Kyle II Wind Farm.

1.5.2. The Amended Proposed Development - consists of an updated layout incorporating 11 turbines and all associated infrastructure and the grid connection route for the South Kyle II Wind Farm. Full details of the Amended Proposed Development have been described fully in Section 2 of this FEI.

1.5.3. The Proposed Development Area - all land within the current application Site Boundary, including the main wind farm area (see **FEI Figure 1.1.2**).

2. Overview of the Proposed Development

2.1.1. The Amended Proposed Development is located south-east of the B741, south east of Dalmellington and south-west of New Cumnock. The Amended Proposed Development lies within the East Ayrshire Council (EAC) Local Planning Authority (LPA) area. The maximum elevation within the Proposed Development Area is approximately 516 m (metres) above sea level. The Proposed Development Area covers an area of approximately 2,262 hectares (ha).

2.1.2. The Proposed Development Area is occupied predominantly by commercial plantation forestry. As such, changes to the existing landowner's plans for forest felling and replanting will be undertaken to facilitate the Amended Proposed Development.

2.1.3. The Amended Proposed Development's generating capacity of renewable electricity is not fixed and will be subject to final wind turbine availability and procurement but is anticipated to be around 92.4 MW, with an additional capacity of up to 50 MW of battery/energy storage also proposed within the substation compound.

2.1.4. The Amended Proposed Development comprises the following main elements:

- Up to 11 wind turbines;
- Turbine foundations;
- External transformer housing;
- Crane pads;
- Substation, control building and compound;
- Battery/energy storage infrastructure;
- Upgraded and new access tracks;
- Underground cables;
- Grid Connection Route (underground cable);
- Signage;
- Temporary batching plant area(s);
- Temporary construction and storage compounds, laydown areas and ancillary infrastructure; and
- Drainage and drainage attenuation measures (as required).

2.1.5. The public road network up to the site entrance is considered capable of utilisation, although certain parts of the public road may be subject to upgrades where necessary. Habitat management and enhancement measures will also be undertaken. The Amended Proposed Development is expected to have an operational life of up to 40 years. For the purpose of assessment, the Applicant has considered turbines with a maximum height (base to blade tip) not exceeding 200 m.

2.1. The Amended Proposed Development

2.1.6. **FEI Figure 1.1.1** illustrates the Amended Proposed Development's site layout. Locations (subject to micro siting) and maximum tip height dimensions of the proposed turbines are shown in **Table 2.1.1.**

Table 2.1: Indicative Turbine details and co-ordinates for the Amended Proposed Development

Turbine ID	Easting	Northing	Maximum Tip Height (m)
1	251586	606353	200
2	251796	606892	200
3	252126	606495	200

Turbine ID	Easting	Northing	Maximum Tip Height (m)
4	252210	605653	200
5	252292	607281	200
6	252614	606862	200
7	253406	606364	200
8	253283	605872	200
9	253962	606846	200
10	254043	605697	200
11	252533	606114	200

Source: Natural Power 2026

2.1.7. Three turbines located in the north-east of the Site (T1, T3 and T6) have been micro-sited relative to the original EIAR layout. T1 has been relocated by 154.87 m, T3 by 179.15 m, and T6 by 82.55 m. **FEI Figure 2.1.2** illustrates the revised turbine locations in comparison to the original layout. In addition, the crane hardstanding at T2 has been subject to a minor realignment to accommodate amended access track layouts. The construction compound has been rotated by 90 degrees, to facilitate a relocation away from areas underlain by peat depths greater than 2.5 m. The relocated construction compound will now be sited within an area where peat depths are generally less than 1 m. In addition, a number of proposed new access tracks have been locally adjusted to reduce peat excavation and disturbance, while remaining consistent with construction design requirements and operational practicality.

2.2. Grid Connection Route

2.2.1. The proposed grid connection route comprises an underground cable installed within a trench extending approximately 0.5 km in length (**see FEI Figure 1.1.1**). The route runs from the Proposed Development's on-site substation to the New Cumnock electricity substation. Electricity generated by the Proposed Development would be exported to the National Grid via a likely 132 kV underground cable, installed within a trench to a depth of no more than 1 m. The grid connection point into the sub-station aligns with schematic diagram within the grid connection contract.

2.3. Consultee Comments

2.3.1. This section sets out the Applicant's response to the consultation responses received to date in relation to the application submitted to the ECU (reference ECU00003429) for the Proposed Development.

Table 2.3.1: South Kyle II Wind Farm Consultee Responses

Consultee and Date	Consultee Comments	Our Response
ACCON UK on behalf of East Ayrshire Council (EAC), 15th July 2025	The methodologies used in the noise assessment represent good practice and are in line with ETSU-R-97 and the IOA Good Practice Guide for wind turbines. The Site Specific Noise Limits (and thereby the approach taken in deriving them) would be appropriate to form part of a noise conditions should The Proposed Development be consented. Subject to the adoption of appropriate operational noise limits, there would be no over-riding reason for refusal in respect of noise.	The methodology undertaken to establish any potential noise impacts arising from the Amended Proposed Development is consistent with that undertaken for the Proposed Development.
ACCON UK on behalf of East Ayrshire Council (EAC), 15th July 2025	Given the proximity of other wind farms, it is recommended that a planning condition should require that a protocol be submitted to EAC setting out the methodology to investigate any noise complaints. The protocol should be suitably worded to consider the cumulative context such that any breach of the Noise Limits from the Proposed Development can be determined. The noise condition should require the submission of such a protocol and agreement of its content by EAC within a set timescale following the commencement of the operation of the development.	Planning conditions were submitted for the Proposed Development based on the ECU Standard Onshore Wind Conditions (February 2025) including the usual operational noise condition. Within that condition are provisions for complaint led compliance monitoring, the methodology of which should adhere to a protocol which will have been submitted and approved by the Planning Authority. Updated conditions (**FEI Appendix A**) have been proposed to reflect any changes for the Amended Proposed Development.
ACCON UK on behalf of East Ayrshire Council (EAC), 15th July 2025	It is stated that a condition to control amplitude modulation would also be an appropriate addition to the noise condition should the Proposed Development gain consent.	As detailed within Section 3.2 of **FEI Appendix H** (and Technical Appendix 10.1 of the 2025 EIAR), current best practice is to not assign a condition relating to amplitude modulation. Until such time that this position changes, we do not agree that the inclusion of an amplitude modulation condition is appropriate or necessary.

Consultee and Date	Consultee Comments	Our Response
Historic Environment Scotland – 4th June 2025	HES stated that they expected to see a structured approach presented for the assessment of any impacts from the proposed development detailing construction, operational and cumulative effects on our interests The applicant's assessment comprises a table (Table 9.8 Setting Impact Assessment), however there is no structured assessment or supporting narrative provided to substantiate the outcomes presented within this table. As a result, it is difficult for us to understand how these conclusions have been reached. In addition, it is unclear whether the assessment outcomes presented in the table relate to Construction, Operation or Cumulative impacts from the proposed development.	Construction effects are addressed under assessment of direct effects in Section 3.5. Operational effects are assessed through the setting assessment (Section 3.5). Cumulative context is considered within the assessment where relevant, including reference to existing and consented wind farms in the wider landscape. The Cultural Heritage Assessment adopts a structured approach to the assessment of potential setting impacts. This comprises two strands: (1) direct effects (physical impacts), and (2) effects on setting. The assessment outcomes presented in Tables 3.5.1 and 3.5.2 are supported by detailed narrative in Section 3.5, which explains the conclusions reached for each asset.
Historic Environment Scotland - 4th June 2025	No cultural heritage visualisations have been provided within the submission; however the use of wirelines is repeatedly referenced throughout the chapter. We request clarification from the applicant if visualisations have in fact been prepared and if so, we request that these should be provided to support the assessment. For example, we note that the assessment of Craigengillan House (LB18793) states: "it is unlikely that the Proposed Development would have a significant adverse impact on the setting of this category A Listed Building. At time of writing, the photomontage is not yet available and the assessment may need to be revised once this illustration has been created" (paragraph 9.8.10). It is unclear if an appropriate and complete assessment of impacts from the proposed development on Craigengillan Inventory Designed Landscape (GDL00111), Craigengillan House (LB18793) and Craigengillan Stables (LB18794) has been	Visual assessment has been undertaken using ZTV mapping and wireframe visualisations. These were used to identify which assets required detailed assessment and to inform the evaluation of setting effects. In relation to Craigengillan House and associated assets, the Cultural Heritage FEI section acknowledges that additional photography from an optimal interior viewpoint had not been completed at the time of writing. However, ground-level photography from the entrance forecourt and surrounding areas was undertaken and used to inform the assessment (EIAR Figures 9.4 and 9.5; FEI Figures 3.5.6 and 3.5.7.) The assessment concludes that intervening woodland and limited intervisibility would restrict views towards the Proposed

Consultee and Date	Consultee Comments	Our Response
	undertaken. To support any assessment, as a minimum we request a photomontage showing the view towards the proposed development from the entrance forecourt of Craigengillan House. We understand that the principal rooms of the house are at ground level so this view should illustrate both the predicted view from the entrance elevation house and from the principal rooms Craigengillan House. We understand that the principal rooms of the house are at ground level so this view should illustrate both the predicted view from the entrance elevation house and from the principal rooms	Development and would not result in a significant adverse effect on the setting of Craigengillan House or Craigengillan Stables. The wireline for Craigengillan IGDL (CHS CHS 60; **FEI Figure 3.5.4**) showed that up to 11 turbines could be visible. However, the setting assessment found that views from the IGDL out to the surrounding countryside are largely interrupted by the woodland within the IGDL itself, and that the Amended Proposed Development would not result in a significant adverse effect upon the setting of Craigengillan IGDL.
Historic Environment Scotland	"It is unclear if an appropriate and complete assessment of impacts from the proposed development on Craigengillan Inventory Designed Landscape (GDL00111), Craigengillan House (LB18793) and Craigengillan Stables (LB18794) has been undertaken. To support any assessment, as a minimum we request a photomontage showing the view towards the proposed development from the entrance forecourt of Craigengillan House. We understand that the principal rooms of the house are at ground level so this view should illustrate both the predicted view from the entrance elevation house and from the principal rooms."	Viewpoint 6 submitted with the EIA Report includes a photomontage from Craigengillan House, close to the front door and within the fore court. Viewpoints 5, 7, 8, and 10 are also located within the GDL boundary. A detailed LVIA assessment of effects on views from these viewpoints is provided in Technical Appendix 5.2 of the EIA Report. This assessment relates to landscape and visual effects rather than effects on cultural heritage significance. Specific concerns from HES are noted and addressed within Section 3.5 (Cultural Heritage).
Historic Environment Scotland - 4th June 2025	As per our response dated 18 June 2024, we request that wirelines should be provided for the following assets: • Craigengillan Inventory Designed Landscape (GDL111) • Craigengillan House Category A listed (LB18793) • Craigengillan Stables Category A listed (LB18794) • Dalnean Hill, Farmstead and Field System Scheduled Monument (SM4390) • Loch Doon Castle Scheduled Monument (SM90203)	Wirelines have been prepared and used to inform the assessment for the assets identified. These include Craigengillan IGDL (CHS 60; **FEI Figure 3.5.4**), Craigengillan House (CHS 67; **FEI Figure 3.5.6**), Craigengillan Stables (CHS 68; **FEI Figure 3.5.7**), Dalnean Hill (CHS 63; **FEI Figure 3.5.5**), Waterside Bing (CHS 165; **FEI Figure 3.5.9**), Miners' Villages and Mineral Railways (CHS 173; **FEI Figure 3.5.10**), Cairn Avel (CHS 360; **FEI Figure 3.5.11**), and Loch Doon Castle (CHS 71; **FEI Figure 3.5.8**).

Consultee and Date	Consultee Comments	Our Response
	• Waterside Bing, iron slag bing, Dalmellington Ironwork Scheduled Monument (SM7544) • Waterside, Miners' Villages and Mineral Railways N of Scheduled Monument (SM7863) • Cairn Avel, cairn 800 m S of Carsphairn Scheduled Monument (SM1006) Please note that we may require photomontage illustrations if we consider any of the potential impacts raise significant concerns for our historic environment interests.	
NatureScot – 20th August 2025	We agree that appropriate use of buffer distances could reduce the risk to Pipistrelle species but not to Nyctalus species of bat. We therefore advise the following mitigation: Retain an open buffer between turbines and surrounding trees, woodland, watercourses and buildings. The extent of the proposed standoff area should be re-assessed once the exact turbine model is known to ensure that the buffer continues to meet best practice requirements.	In line with Chapter 6: Ecology of the Submitted EIAR: • As shown on **FEI Figure 1.1** all the proposed turbine locations are 100 m from bat features (watercourses, trees and buildings) which is in excess of the 93.5 m buffer required under NatureScot guidance (as detailed in Section 6.7.6 of the EIAR Chapter 6: Ecology); • Following finalisation of the turbine models and micrositing (part of our micro-siting planning condition (part D)) we would confirm any additional felling required to maintain the open buffer zone between turbines and bat features including watercourses and trees. • A minimum buffer of 50 m is included from watercourses as part of the micrositing planning condition (part D) Within the **FEI Figure 3.7.3** 'Proposed Development Restock Species Composition' illustrates the buffers from surrounding trees, showing open ground around each turbine with a radius of 100 m from the WTG.

Consultee and Date	Consultee Comments	Our Response
	'Feather' all turbines to reduce rotation speed whilst idling during the active bat season (dusk – dawn from 1 April to 31 October) from the outset of the operation of the development. – Implementation of seasonal smart curtailment of at least some of the turbines from the start of operation	The following text will be incorporated within the Operational Bat Protection Plan which will be produced and agreed prior to construction: *'Feathering of wind turbines will be implemented to reduce rotation speed whilst turbines are in idle mode from dusk to dawn during the period from 1st April to 31st October.'*
NatureScot – 20th August 2025	A detailed post-construction bat monitoring plan should be submitted to and approved by the planning authority prior to development commencing. The plan should have the aims of determining whether the above mitigation measures are being effective and to inform any additional, or altered, mitigation requirements (including changes to the turbine curtailment regime) that may be required. The requirement for any altered or additional mitigation identified as being necessary by the monitoring to be implemented should be reflected in any consent given. The plan should set out the proposed programme of postconstruction monitoring, which should cover both acoustic monitoring and checking for carcasses using a method and sampling locations that will allow direct comparisons to be made with the results of surveys carried out pre-construction. The monitoring methodology should consider the guidance given in Bats and Onshore Wind Turbines: Survey, Assessment and Mitigation or other such updated guidance as may be relevant. A minimum of 3 years post-construction monitoring should be carried out. We request that the results of the monitoring are shared with NatureScot on an annual basis to determine if a change is required to the mitigation in a timely manner.	We agree that an Operational Bat Protection Plan should be submitted and approved to address matters set out in NatureScot's response. We therefore suggest the following planning condition be attached to any consent granted. <u>Bat Condition</u> Prior to the Final Commissioning of the Development, a post-construction Operational Bat Protection Plan (the Plan) for bat activity and mortality within the Site shall be submitted to and approved in writing by the Planning Authority in consultation with NatureScot. The Plan shall provide for: (a) Post-construction monitoring, for a period of 3 years, which includes acoustic monitoring and checking for carcasses using a method and sampling locations that will allow direct comparisons to be made with the results of surveys carried out pre-construction. The monitoring methodology should consider the guidance given in Bats and Onshore Wind Turbines: Survey, Assessment and Mitigation or other such updated guidance as may be relevant at the time. (b) Feathering of wind turbines to reduce rotation speed whilst turbines are in idle mode from dusk to dawn during the period from 1st April to 31st October.

Consultee and Date	Consultee Comments	Our Response
	We recommend that these elements are incorporated into a comprehensive Operational Bat Protection Plan which should be finalised in consultation with the local authority prior to the commencement of the operational phase of any consented development.	(c) Details of any seasonal curtailment of wind turbines during the period 1st June to 31st August inclusive, setting out which wind turbines shall not operate for a period of three hours after sunset if wind speeds fall below 6 metres per second or such other parameters agreed in writing by the Planning Authority as informed by the results and recommendations of the approved Plan. (d) Monitoring results shall be provided to the Planning Authority and NatureScot annually during the monitoring period. The Plan once approved shall be implemented in full from the date of final commissioning of the Development or such other time as is agreed in writing by Planning Authority. Reason: in the interests of protecting and monitoring bats.
NatureScot – 20th August 2025	Pre-construction surveys should be undertaken prior to development commencing, as per section 6.7.18 of the EIAR). Species protection plans should be produced for each protected species present, or potentially present, on site whether a specific species licence 6 is required or not and included with the CEMP to be submitted for the approval of the planning authority. Species protection plans should incorporate the full range of protection measures identified in the EIA Report, alongside any additional mitigation and/or compensatory measures identified as necessary as a result of the pre-construction surveys. We welcome this approach and advise that the timing of pre-construction surveys depends on whether it is possible to survey a species at any time of year (e.g. otter and badger) or if there is restricted window within which a survey can be undertaken (e.g. breeding birds, bats and water vole). For species that can be surveyed at any time of year, preconstruction surveys should be undertaken as close to the construction period as possible, and	Species protection plans would be produced as part of the CEMP. These will include details of pre-construction surveys to be undertaken, including suitable timings based on recommended survey windows for each species. Surveys would be undertaken as close to the construction period as reasonably practicable, as recommended by NatureScot.

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	no more than 3 months before the start of works. For species that have a restricted survey window the pre-construction surveys should be undertaken as close to the start of works as possible, and always within the most recent survey window.	
NatureScot – 20th August 2025	**Ailsa Craig Special Protection Area (SPA)** The proposal could affect the Ailsa Craig SPA classified for its migratory gannet and lesser black-backed gull and seabird assemblage. Information on the SPA can be found on the SiteLink pages of our website. The status of the SPA means that the requirements of the Conservation (Natural Habitats, &c.) Regulations 1994 as amended (the "Habitats Regulations") or, for reserved matters, The Conservation of Habitats and Species Regulations 2017 apply. Consequently, Scottish Ministers will be required to consider the effect of the proposal on the SPA before it can be consented (commonly known as Habitats Regulations Appraisal). Advice on this process is available on our website. In assessing whether there are processes or pathways by which a proposal may influence the qualifying interests of an SPA, it is important to consider the distances that some species may travel beyond the boundary of the protected area. The proposal site is located approximately 52 km from the SPA which is within the mean maximum foraging distance of lesser black - backed gull Larus fuscus and within the foraging distance of herring gull Larus argentatus (a component of the SPA's seabird assemblage). We welcome the species evaluation detail provided within the EIAR in relation to the qualifying species of interest of the SPA that are found at this proposal site (lesser black-backed gull and herring gull) (Table 7.9 and 7.10 of the EIAR). Assuming all	The updated impact assessment detailed within this FEI Report does not alter the conclusions of the EIAR and therefore there will be no change to the result of the assessment on this SPA. The updated collision risk assessment detailed within Section 3.1 presents collision risk modelling outputs based on updated methods detailed within NatureScot (2025)[8] guidance and Band Report (2024)[7]. Assuming all recorded flight activity was by individuals associated with the SPA populations, the estimated, worst case, collision rates as a result of the Proposed Amended Development (taking into account the updated methods) would not change: • Herring gull = zero • Lesser black-backed gull = <0.0001 birds per year As a result the conclusion that it is "*unlikely that the proposal will have a significant effect on either the lesser black-backed gull or herring gull qualifying interest, either directly or indirectly*" still stands.

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	recorded flight activity was by individuals associated with the SPA populations, the estimated, worst case, collision rates would equate to the following annual mortality rates: • Herring gull = zero • Lesser black-backed gull =<0.0001 birds per year Given the distance from the SPA, and the lack of/minimal number of flights observed in the surveys, even if it assumed that all observed records of these species relate to SPA birds, in this case the modelled average collision mortality rate for (lesser black-backed gull was negligible. Our advice is that it is unlikely that the proposal will have a significant effect on either the lesser black-backed gull or herring gull qualifying interest, either directly or indirectly. An appropriate assessment is therefore not required.	
NatureScot – 20th August 2025	**Ailsa Craig Site of Special Scientific Interest (SSSI)** Ailsa Craig SSSI is of national importance for its geology, seabirds (including lesser black-backed gull) and invertebrates. For similar reasons to those set out in respect of the SPA, we advise that the development will not compromise the objectives of designation or the overall integrity of the area.	The updated impact assessment detailed within this FEI Report does not alter the conclusions of the EIAR and therefore there will be no change to result of the assessment on Ailsa Craig SSSI.
NatureScot – 20th August 2025	**Wider Countryside Birds** We recommend that the ornithology mitigation proposed for each of the felling, construction and operation phases is undertaken as summarised in sections 7.7.3-7.7.18 of the EIAR.	There are no proposed changes to the mitigation summarised in sections 7.7.3-7.7.18 of Chapter 7 of the EIAR.
NatureScot – 20th August 2025	"We consider that the proposed development is unlikely to raise issues of national interest in relation to landscape and visual matters, therefore we are not providing advice on this case. This is not to say that the introduction of the proposed development would not cause some significant landscape or visual effects,	Noted. Section 5.6.9 of the EIAR and technical appendix 5.5 of the EIAR has assessed dark skies and found none of the viewpoints would be significantly affected by the proposed visible aviation warning lights.

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	rather that we consider it unlikely that potential effects would meet our threshold in respect of our national remit for landscapes. Some designated Local Landscape Areas (LLAs) and the Dark Skies Park are likely to be affected by the proposed development. However, we do not intend to offer advice on the effects on these designations as the respective local authorities are best placed to comment."	Local Landscape Areas (LLAs) have been assessed throughout chapter 5 of the EIAR.
Glasgow Prestwick Airport – 25th June 2025	The development raises aviation safety concerns which have the potential to have an operational impact on the Airport as an Air Navigation Services Provider (ANSP). The Airport has engaged in early dialogue and engagement with the Developer to address the issues which have arisen and are detailed in this response. As part of that engagement, the Airport is continuing its ongoing Operational Impact Assessment and the Technical Safeguarding Assessment(s) to consider the various impacts of the proposal and whether resolutions acceptable to both the Airport and Developer are possible. The Airport believes there is a way forward on both radar and IFP issues (subject to appropriate mitigation agreement and aviation conditions imposed at consent) which would allow the Airport to remove its holding objection. The nature of the radar mitigation required cannot be confirmed until completion of the Terma Radar Modelling Assessment and Operational Impact Assessment. Consequently, the Airport must submit a holding objection to the proposed development until all technical and operational aviation safety matters detailed above are addressed to the satisfaction of the Airport, and a mitigation agreement is put in place for the life of the windfarm.	Response provided to most recent communications with GPA dated 5th March 2026.

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Glasgow Prestwick Airport 5th March 2026	Since this initial objection was raised GPA has undertaken and disclosed to Vattenfall the Terma Radar Modelling Assessment and its Operational Impact Assessment. GPA confirmed by email on 5th March 2026 that their position is as follows: ***Terma Radar Modelling Assessment*** 1. *The assessment and corresponding ATS operational impact assessment discussions have identified that the South Kyle II windfarm introduces a cumulative impact into a key sector of airspace used on a regular basis by GPA ATC – due to the proximity of nearby existing and consented windfarms.* 2. *Consequently, this results in the increased likelihood of loss of primary radar track for an extended period. This is not acceptable to GPA without additional mitigation in the form of a suitable additional primary radar data feed.* 3. *GPA do not currently have access to a suitable additional primary radar data feed.* 4. *However, we are working with a Developer who is willing to procure, operate and own a primary surveillance radar that would be suitably specified – and fed into GPA's Windfarm radar Mitigation System (WFRMS) - Multi Radar Tracker (MRT) – to provide GPA with the level of safety assurance necessary to address cumulative impacts – in particular reduce significantly the likelihood of dropping a primary surveillance radar aircraft track for an extended period of time - in a critical sector of airspace used regularly by GPA ATC while providing air traffic services.*	Vattenfall is willing to progress matters with the other Developer who is looking to procure, operate and own a primary surveillance radar and we have been in discussions with this party. Vattenfall is also willing to enter into a full mitigation agreement with GPA which we expect to receive from GPA end of July. GPA in their response to us on the 5th March 2026 have made it clear that solutions for both radar and VHF mitigations (if ultimately required for VHF) can be implemented in a straightforward manner. Vattenfall considers that GPAs initial objection can easily be dealt with by the imposition of a suitably worded planning condition on the planning consent to ensure such mitigation is agreed with GPA prior to the erection of any of the turbines. We recommend the planning condition below as being appropriate for this purpose: Proposed updated conditions following this engagement with GPA and the output of modelling assessments undertaken by or on behalf of GPA. Note, the VHF condition is based on an equivalent condition attached to the section 36 consent issued by Scottish Ministers for the Craiginmoddie wind farm. **Radar Mitigation** 1. No blade shall be fitted to any turbine until the Scottish Ministers is satisfied that the Company has agreed a Windfarm Radar Mitigation Scheme with the Airport Operator. 2. The Development shall be constructed, commissioned and operated fully in accordance with the approved Windfarm Radar Mitigation Scheme. For the purposes of conditions 1 and 2:

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	5. *We respectfully request you engage with this Developer and agree the appropriate contractual terms with them - that would allow Vattenfall to gain access to this radar data feed – that would allow GPA to be confirm to the CAA that it has sufficient level of mitigation necessary to meet its aviation safety management system obligations under its current Aerodrome and ANSP licenses.* ***ILS Modelling Assessment*** 1. *The attached ILS assessment confirms that the proposed South Kyle II Windfarm will have no impact of the Airport's Runway 30 Instrument Landing System.* ***VHF Modelling Assessment*** 1. *The assessment and corresponding ATS operational impact assessment discussions have determined that while impacts have been identified in both CAP 670 C/I threshold breaches at 1000ft AGL, together with intervisibility (physical shadowing caused by the turbines) regions of potentially degraded VHF comms above and behind the windfarm at various altitudes and ranges, when considering the windfarm in isolation the impacts are expected to be operationally manageable.* 2. *However, when considering VHF impacts from a cumulative proliferation of windfarms perspective – there remains concerns that South Kyle II Windfarm (and nearby windfarms) could contribute to the degradation of VHF communications, particularly as more and more windfarms are consented in large sectors of airspace*	"**Windfarm Radar Mitigation Scheme**" means a scheme whereby the Company meets the demonstrable and reasonably incurred costs of the Airport Operator in procuring such services and resources including equipment, software, procedural or technological measures and technical and professional services, as the Airport Operator demonstrably identifies as necessary and sufficient to prevent the operation of the development, or of any turbines forming part of the development, causing or contributing to adverse impacts on the probability of detection capability of the Airport Operator's installed Terma Scanter 4002 primary surveillance radar to such an extent that there is a likelihood of dropping a primary surveillance radar aircraft track over critical airspace for an extended period of time. For the purposes of conditions [1] – [4]: "**Airport Operator**" means Glasgow Prestwick Airport or any successor as holder of a license under Article 205 of the Air Navigation Order 2016 from the Civil Aviation Authority to operate air traffic service equipment at Glasgow Prestwick Airport. VHF Mitigation 3. There shall be no Commencement of Development unless and until the Scottish Ministers have confirmed in writing that they are satisfied that the Company has put in place binding undertakings to pay the Airport Operator such sums as are, or will be, demonstrably and reasonably incurred by the Airport Operator: (a) in procuring baseline flight trials ("baseline flight trial(s)") (the methodology for which and results of which shall be shared with the Company) to determine the preconstruction VHF coverage in the vicinity of the Development; and

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	used by GPA ATC when providing an air traffic service to aircraft. 3. *Consequently, GPA must maintain its position as articulated (and accepted by the Reporter) at previous public inquiries that should it be demonstrated that South Kyle II Windfarm (post construction) results in a reduction in VHF communications quality – then some form of mitigation will be required to restore the level of service to that which existed prior to the windfarm becoming operational.* *In conclusion – we believe there are solutions for both radar and VHF mitigations (if ultimately required for VHF) that can be implemented in a straightforward manner.*	(b) in procuring flight trial(s) after construction of the Development (the methodology for which and results of which shall be shared with the Company) to determine the adverse impact (if any) on the quality of the VHF coverage in the vicinity of the Development compared to the baseline and current state flight trials; 4. In the event that the post construction flight trials demonstrate that there has been a quantified reduction in the VHF coverage as compared to the pre-construction baseline as a result of the Development and that, following an operational impact assessment (the methodology for which and results of which shall be shared with the Company), the Development is causing a demonstrable operational impact on the Airport Operator's services that that is not operationally manageable and requires to be mitigated, then the Company shall put in place a binding undertaking to pay the Airport Operator such sums as are, or will be, demonstrably and reasonably incurred by the Airport Operator in: (a) taking steps to either restore the level of VHF communications service to that which existed prior to the windfarm becoming operational or such alternative mitigation as may be necessary to ensure that the VHF communications service level is operationally manageable; (b) following the installation and commissioning of such mitigation, in procuring flight trial(s) (the methodology for which and results of which shall be shared with the Company) to establish that the Development's demonstrable impact has been addressed; (c) if necessary, having the safety case for the Airport Operator's VHF Receiver and Transmitter updated and approved by the CAA or alternatively, creating and having approved, a new safety case for the mitigation determined to be required by this condition as the CAA may require; and

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		(d) in arranging and facilitating points (a) to (d) above.
Scottish Forestry – 21st May 2025	Given that this development is entirely within FLS managed property, we would also request that the forest plan encompasses the full ownership area (including the section of woodland covered by South Kyle 1 development which was also Vattenfall.) To enable this to happen, we anticipate that part of consent condition for South Kyle 1 may need to be discharged as the forest plan was incorrectly approved by ECU as part of the south Kyle windfarm which means that the normal forest regulatory processes are compromised. Given this development there is an now a clear opportunity to correct this error and have a forest plan covering the full ownership of FLS in this location.	It would be inappropriate for the South Kyle II Wind Farm application to include a forestry plan that extends beyond the application Site Boundary (Proposed Development Area) and into land associated with the consented and operational South Kyle Wind Farm. Any forestry plan approved under planning conditions for South Kyle Wind Farm is entirely separate and should not form part of the consideration for South Kyle II Wind Farm planning application.
Scottish Forestry – 21st May 2025	The proposed development forest plan has been submitted but this should NOT be approved as part of this consent. Instead, this should be approved by Scottish Forestry which can be aligned with the planning consent if this project is consented. This is to ensure that the forest plan can be assessed against UKFS, will be subject to normal review periods and amendments throughout the lifecycle of the forest.	We consider that this matter is adequately addressed through Condition 30, which requires the preparation and approval of a Forest Plan in consultation with Scottish Forestry. This plan may differ from the version presented in the EIAR. This requirement would sit alongside Planning Condition No. 30 (Forest Felling Plan), which states: (1) No felling (except such as is required as part of site investigation works) shall take place until a Forestry Felling Plan (FFP) has been submitted to and approved in writing by the Planning Authority in consultation with Scottish Forestry. The FFP shall cover the Development site and shall provide: (a) details of felling and restocking proposals; (b) details of the management measures to reduce the amount of felling required to accommodate the Development;

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		(c) measures to deal with forest waste including brash in line with the UK Forestry Standard; (d) timelines for implementing the plan; (e) details setting out the frequency of monitoring of the felled area and reporting procedures to be carried out by a qualified expert; (f) details of forestry management practices; and (g) details demonstrating compliance with The UK Forestry Standard and the Scottish Government's Policy on Control of Woodland Removal (as amended or replaced from time to time) and [insert any local woodland strategy]. (2) The approved FFP shall be implemented in full upon Commencement of Felling. Reason: to minimise and manage the effects of forestry felling required to accommodate the Development.
ScotsWay – 27th August 2025	Before the Scottish Government determines the South Kyle II application, we would expect it to require the applicant to assess the cumulative impact of the development with the proposed Back Fell wind farm However, in addition, we request the prospective developer connects the Site into the wider public access network via right of way SCD18 at grid reference NS523086 and Page 4 of 5 rights of way SCD16 and SCD17 at NS494067, thereby creating greater opportunities for off-road public access Suggest planning condition to cover	We recognise the importance of maintaining appropriate public access where it is safe and practicable to do so. However, the proposed planning conditions are not appropriate, reasonable or required, and many of the elements are either not applicable to these proposals in respect of core paths, as core paths are not impacted, or relate to matters such as diversion of rights of way, which the Applicant is not proposing and in any case is covered by other legislation. The Applicant therefore does not agree with these conditions other than (4) being attached to the planning consent. The Proposed Development Area ('the Site') is presently an operational commercial forest and, if consent is granted, will also function as an active construction site for a wind farm.

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	(1) That all obvious, defined access routes within the Site shall remain available for use and - so far as is reasonably practicable – free from obstruction or encroachment during the construction, operational and decommissioning phases of the proposed development, to preserve continuity of opportunity for public access into and through the site;	In both contexts, public access must be carefully managed for operational and safety reasons. Forestry operations involve heavy machinery, frequent vehicle movements, and periods of active felling and timber haulage. This includes areas crossed by, or connected to, the rights of way identified by ScotWays, namely SCD18 at NS523086 and SCD16 and SCD17 at NS494067. In such circumstances, unrestricted access presents a clear and significant health and safety risk. We prioritise safe working practices and the protection of both staff and members of the public under the Land Reform (Scotland) Act 2003. This will at times require temporary restrictions, diversions, or managed access.
ScotsWay – 27th August 2025	(2) That prior to the commencement of the development, an AMP[1] shall be prepared in consultation with, and thereafter submitted to, and approved by, East Ayrshire Council (the Council) as local access and planning authority. The AMP shall identify all paths and tracks through the site and take account of how the statutory right of access currently affects the Site, showing any areas currently outwith or excluded from statutory access rights under part 1 of the LRSA; and consider the range of users involved (which might include walkers, cyclists, horse-riders). The AMP shall set out the effect the proposed development will have on the access resources identified, during its construction, operational and decommissioning phases, including showing clearly (preferably in map form) any areas proposed for exclusion from statutory access rights; all paths and	Not required. East Ayrshire Council has confirmed that there are no core paths within, or directly intersecting, the Proposed Development Area ('the Site')[2]. There are also no public rights of way that will be directly affected by the Proposed Development. For these reasons, we do not consider a standalone Access Management Plan (AMP) to be necessary. Because no core paths, recorded rights of way, or promoted routes fall within the Proposed Development Area, there is no statutory public access asset at risk, the primary obligation is simply to manage public access safely in accordance with the Land Reform (Scotland) Act 2003, and access considerations can be satisfactorily addressed through standard construction

[1] Access Management Plan

[2] Available at: https://www.east-ayrshire.gov.uk/PlanningAndTheEnvironment/Development-plans/Rights-of-Way-core-paths-and-footpaths.aspx [Accessed 22/05/2026]

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	tracks proposed for construction, for active travel users; and any diversions of paths - temporary or permanent - proposed for the purposes of the development. Such a condition would serve to clarify those areas where access rights will be exercisable and ensure continuity of public access through the Site at all stages of the proposed development;	environmental management procedures (CEMP) rather than a separate AMP.
ScotsWay – 27th August 2025	(3) that should it prove necessary to close or divert temporarily to public passage any obvious, defined access route within the Site, to facilitate construction, maintenance or decommissioning of the development, the extent and duration of the closure/diversion shall be kept to an absolute minimum and, in the event the closure/diversion is likely to exceed 2 weeks in duration, the affected route shall not be closed or diverted until the Council, as local access authority, has made a temporary traffic regulation order under S.14 of the Road Traffic Regulation Act 1984 (in respect of the right of way), or followed an equivalent, non-statutory procedure (for any other route), and a temporary alternative route has been provided nearby, with signs erected at either end of the affected route, stating the rationale for, and expected duration of, the closure/diversion and directing users along the temporary alternative route, all to the satisfaction of the Council as access and planning authority. Such a condition would ensure continuity of public access through the site at all stages of the proposed development;	Not required. The Proposed Development Area contains no core paths, no public rights of way that will be directly affected, and no promoted routes. In such circumstances, EAC would typically not require formal access diversion processes or alternative route provision. Requiring the creation and maintenance of temporary alternative routes within an active forestry environment, where access tracks are used by heavy plant and timber lorries would introduce risks and could itself create unsafe situations.
ScotsWay – 27th August 2025	(4) That any gates erected to manage legitimate, non-vehicular public access or deer management structures shall be designed to permit access by all user categories (walkers, cyclists and equestrians);	The Applicant is content to add a planning condition to this effect and agree that any gates and any deer management structures will be designed and installed to ensure unrestricted access for all legitimate non-vehicular users, including walkers, cyclists, and equestrians.

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ScotsWay – 27th August 2025	(5) That the turbine access tracks should be blinded with whin dust, to encourage safe use by equestrians; and	This request is not considered necessary or reasonable. The access tracks will continue to be used for forestry operations, including timber felling, and it would therefore be inappropriate for them to be blinded with whin dust. As the Site is an operational commercial plantation with regular forestry activity, it would also be unwise to encourage equestrian use in an environment where heavy machinery and active forestry work are ongoing.
ScotsWay – 27th August 2025	(6) That the turbines shall be sited at least the maximum blade tip height away from all obvious, defined access routes within the Site, inclusive of any micro-siting allowance.	Not applicable. East Ayrshire Council has confirmed that there are no core paths within, or directly intersecting, the Proposed Development Area ('the Site')[3]. There are also no public rights of way that will be directly affected by the Proposed Development.
ScotWays	"We are gratified the applicant has assessed the cumulative effects of the proposed development with other operational, under construction, consented and 'in the planning process' wind farms within a 45 km radius of the Site (see sections 6.176 and 6.179 of the Report). However, we note from Table 5.3 of the LVIA and Figure 5.9 – Wind Farms considered in the Cumulative Assessment that the applicant appears to have neglected to assess the cumulative impact of the proposed development with Back Fell Wind Farm which falls within 20 km radius of the Site and is currently the subject of a S.36 application. Before the Scottish Government determines the South Kyle II application, we would expect it to require the applicant to assess the cumulative impact of the development with the proposed Back Fell wind farm." "ScotWays is satisfied the applicant has properly assessed the impact of the proposed windfarm on public access resources and, given the predicted extent and nature of that impact, offers no objection to the S.36 application. However, we do have wider concerns about the concentration of wind farms in the Doon and	The Back Fell Wind Farm application was at a pre-application stage during the cumulative assessment for the Proposed Development and could not therefore be included. Noting that the application is approximately 20 km distance from the proposed Development, beyond Dersalloch, there would be no significant cumulative effects.

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	Water of Girvan Valleys and the impact they are exerting, and will exert, on the character of the landscape, through which various popular recreational access routes pass, to the detriment of the access taker's amenity."	
		Noted.
SEPA – 20th June 2025	Private Water Supplies (Groundwater Abstractions) Insufficient information has been provided to enable a review of the potential risk to identified Private Water Supplies (PWS). There has been no attempt to characterise, or risk assess the PWS listed in Table 8.10. In particular the source locations and type e.g. borehole, well, spring, surface water etc have not been provided. We refer you to the checklist of supporting information set out in Appendix A of our standing guidance (Guidance on Assessing the Impacts of Developments on Groundwater Abstractions). This sets out the minimum information that must be submitted.	The FEI now includes a detailed qualitative risk assessment undertaken using a Source–Pathway–Receptor conceptual model. The assessment identifies the type of supply serving each receptor (borehole or holding tank), confirms whether supplies serve single or multiple properties, and records the proximity of each abstraction to proposed infrastructure. Consultation questionnaires were issued to PWS owners and returned, allowing confirmation of supply type and use. Each supply has been assessed in relation to hydraulic connectivity, distance from construction activities, topographic position and SEPA buffer zones. The probability of impact and magnitude of change have been defined using a structured significance matrix, with all identified PWS assessed as Low Likelihood and Insignificant magnitude, resulting in a Negligible residual risk. Embedded mitigation measures are specified, including silt control, drainage management, fuel handling protocols, environmental supervision and contingency planning, in accordance with current SEPA groundwater abstraction guidance (2024). On this basis, the

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		FEI concludes that the Amended Proposed Development does not present a significant risk to any identified PWS. Check-list information set out in Appendix A of the standing guidance has been provided.
SEPA – 20th June 2026	Peat / Carbon Rich Soils We have a number of concerns regarding compliance with NPF4 Policy 5 – soils: In general, it appears that impacts on peat have not been minimised, and as such we are of the view that the mitigation hierarchy of NPF4 Policy 5 has not been met. As the development currently stands there is a surplus of some 5,000 m3 of peat which may require to be taken off site (or require a waste management licence).	The Amended Proposed Development has undergone further iterative design supported by additional Phase 2 peat depth surveys (April 2024, August 2024 and October 2025). The updated peat survey dataset demonstrates that over 75% of recorded peat depths across the Site are less than 1.0 m, with only 0.2% exceeding 3.0 m. The revised layout has sought to avoid deep peat deposits (>1.0 m) where practicable. Turbines T1, T3 and T6 are now located on areas with average peat depths of approximately 0.5 m, and access tracks have been aligned to remain predominantly within shallower peat. The temporary construction compound utilises previously disturbed land associated with the operational South Kyle Wind Farm and is located on shallow peat. An updated Peat Management Plan (**Technical FEI Appendix D**) details excavation volumes and confirms that excavated peat can be accommodated on site through reinstatement and restoration measures, thereby minimising the need for off-site disposal. The design amendments and updated management approach demonstrate adherence to the avoidance and minimisation principles embedded within NPF4 Policy 5.
SEPA – 20th June 2026	Fig 8.4 Interpolated peat depths. The layout doesn't seem to have avoided some deeper pockets of peat, especially around T3 and the access track to and from. Also, T1 and the associated track there. Section 3.3 of the PMP states that an iterative design has been used to minimise peat excavation. T3 and to a lesser extent T1 does not accord with this statement. Based on the	The amended layout has been informed by additional peat depth survey data to refine turbine and track positioning. The revised siting places T3 within an area with an average peat depth of approximately 0.50 m and T1 within an area averaging 0.51 m, thereby avoiding deep peat (>1.0 m) where practicable. Track alignments have also been refined to reduce peat disturbance and

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	information that is available, we consider it unlikely that the location of T3 will be considered acceptable in terms of peat impacts, and we request that consideration is given to removing this turbine as well as refining the layout more generally to avoid the deeper pockets of peat.	to make use of existing access infrastructure where feasible. The temporary construction compound utilises previously disturbed land and has been rotated 90 degrees to avoid the deeper area of peat to the east. The updated assessment concludes that deep peat deposits have been avoided through iterative design and that residual impacts on peat are minor and not significant. The conclusions are supported by updated survey data and the revised Peat Management Plan, which provides for restoration and reinstatement of excavated material.
SEPA – 20th June 2026	Floating tracks - Section 3.3 of the PMP also details the use of floating roads but no further details are provided in this section or anywhere else in the document. We require more details and a map to demonstrate the use of floating roads for all new tracks crossing peat >0.5 m along with further mitigations to be implemented. While pre-existing roads are being utilised in part, many of the tracks will be new and cross areas of deeper peat. Section 3.2 of PMP does not list floating roads as a construction activity.	Floating track construction relies on the peat mass acting as a continuous, deformable, low-shear-strength foundation that can distribute imposed loads without punching failure, shear rupture, or uncontrolled consolidation. Where peat depths are less than approximately 1.0 m, these assumptions no longer hold. 1. <u>Increased Risk of Translational Slip on Sloping Ground</u> Shallow peat deposits (<1 m) are commonly underlain by competent mineral soils or bedrock. This creates a thin, low-strength layer sandwiched between higher-stiffness materials, which is a classic condition for translational sliding. • The introduction of dead load (track construction) and live load (traffic) increases shear stresses within the peat. • On sloping ground or where cross-fall exists, the peat can act as a lubricated slip plane, particularly when saturated. • Thin peat layers have insufficient thickness to develop internal shear resistance and are therefore more susceptible to failure along the peat–substrate interface. • This mechanism is exacerbated during periods of high pore water pressure, where effective stress is reduced.

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		This failure mode is significantly less likely in deeper peat where shear stresses are distributed through a larger deforming mass rather than concentrated at a single interface. 2. Insufficient Peat Thickness to Act as a Homogeneous Load-Distributing Mass Floating roads rely on peat behaving as a single, compressible mass that spreads applied loads laterally.Where peat depth is shallow: • Vertical stresses from the track are transferred rapidly to the underlying hard layer. • The peat is unable to deform uniformly and instead undergoes lateral extrusion (“squeeze”), leading to differential settlement and track sinking. • Edge instability becomes more pronounced as peat is displaced sideways from beneath the track footprint. • Bearing-type failures occur rather than controlled floating behaviour. In contrast, peat depths ≥1 m allow stresses to attenuate within the peat mass, reducing stress concentrations and limiting deformation to tolerable levels. 3. Disruption of Natural Groundwater Flow and Drainage Pathways Peatlands function as highly sensitive hydrological systems, with lateral groundwater movement occurring throughout the peat profile. In shallow peat:

Consultee and Date	Consultee Comments	Our Response
		• Construction of a floating track can effectively block or constrict groundwater pathways, as the peat layer does not have sufficient vertical thickness to allow flow beneath the formation. • This leads to water impoundment upslope of the track and drying downslope, increasing instability and peat degradation. • Restricted flow increases pore water pressures within the peat, further reducing shear strength and increasing failure risk. For shallow peat deposits, it is generally more appropriate to adopt founded construction with: • Controlled excavation to formation level, • Regular cross-drainage to maintain hydraulic connectivity, • Explicit management of surface and subsurface water flows. 4. Long-Term Performance and Maintenance Risk Floating tracks on shallow peat exhibit: • Increased differential settlement, • Higher likelihood of progressive deformation, • Greater ongoing maintenance requirements, • Elevated risk of sudden failure following extreme rainfall events. These risks are inconsistent with sustainable infrastructure design and whole-life cost considerations.

Consultee and Date	Consultee Comments	Our Response
		5. Conclusion From a geotechnical and hydrological perspective, peat depths less than approximately 1.0 m are insufficient to support floating track construction. Shallow peat does not provide: • Adequate shear resistance, • Sufficient mass for load distribution, • Reliable long-term hydrological continuity. In such conditions, founded road construction with appropriate drainage measures represents a more stable, predictable, and maintainable engineering solution. As a result, floating tracks have not been included in the design of the Amended Proposed Development.
SEPA – 20th June 2026	The proposed temporary construction compound – section 4.2 (of PMP) states that this is an existing area of hardstanding remaining from the South Kyle I Wind Farm but will be expanded. This looks to be entering areas of very deep peat and impinges on an area with some of the deepest peat across the whole site, in excess of 3 m. We would request that the size of this be re-assessed, or it be relocated off deeper peat. Ideally if relocated this would also be taken outwith the 50 m buffer zone of the nearby watercourse.	It is acknowledged that the compound will utilise an existing area of hardstanding associated with the South Kyle I Wind Farm, which reduces the need for disturbance of previously undisturbed ground. While the compound footprint will be expanded to accommodate construction activities associated with the Amended Proposed Development, the design has been amended after further phase 2 peat probing and the compound has been rotated 90 degrees of the area of deeper peat (>3 m) onto peat <1 m. Please see **FEI Figure 3.3.4 Interpolated Peat Depths.**
SEPA – 20th June 2026	Borrow pit – Some clarity around this is required. It is currently proposed to use an existing borrow pit/quarry area. Table 3.1 Proposal for re-use lists borrow pit as being the existing quarry that will remain open beyond construction and will not be reinstated with peat. However, under amorphous peat in section 3.4.3 it states -The peat may also be used in the restoration of the borrow pit beneath an acrotelmic layer to create conditions	The Amended Proposed Development proposes to utilise an existing quarry area as a borrow pit for the extraction of construction materials. The intention is to make use of this previously disturbed area to avoid the requirement for new borrow pits elsewhere within the Site. The borrow pit will remain operational beyond the construction phase and therefore will not be fully reinstated with peat following construction. This is due to the

Consultee and Date	Consultee Comments	Our Response
	which will support development of a mire habitat. Section 4.4 also mentions borrow pit restoration in the context of finding alternative ways to utilise the excess excavated peat. Section 5.4 At the borrow pits, peat will be stripped and temporarily stored as close as possible.	borrow pit being utilised by FLS and is required for ongoing track maintenance.
SEPA – 20th June 2026	PMP Table 3.1 references verges approx. 6 m wide which appears excessive. The planned track width will be 8.5 m wide (section 4.2 PMP). Justification for this verge width must be provided. Any peat re-use needs to provide an ecological benefit and also be able to ensure that the peat continues to function as peat. Verges must not be used to dispose of excess peat.	Please see **FEI Appendix D** for the updated Peat Management Plan. • The verges of new cut access tracks will be reinstated to ensure visible tie-in with surrounding vegetation and habitat but also to ensure stability and functionality of the re-used peat. • The reinstatement area will be ~4 m wide along either side of the track and ~1 m high. • The use of catotelmic peat will only be where it will be in contact with the water table (lower sections of the slope) and would still require to be covered with acrotelmic peat / turves.
East Ayrshire Council	No response received.	
Dumfries and Galloway Council	No comments post-scoping.	
South Ayrshire Council	No response received.	
South Lanarkshire	No response received.	

Source: Natural Power, 2026

3. Further Environmental Information

3.1. Ecology

Statement of Competence

3.1.1. The author of this chapter has 12 years of experience in the environmental sector working in ecological consultancy. During this time, they have been involved with management of onshore wind development projects, production of Environmental Impact Assessment Report (EIAR) ecology chapters, scoping reports, Habitats Regulations Appraisals (HRAs) and technical baseline reports as well as client and consultee liaison. They are an experienced ecologist, having conducted many ecological survey types, including Phase 1, UKHab and National Vegetation Classification (NVC) habitat surveys, protected mammal surveys and bird surveys at numerous wind farm sites including sites in southwest Scotland.

Summary of Ecology FEI

3.1.2. This section of the FEI assesses the impacts of the Amended Proposed Development (for an overview of the project, please see Section 2 of this FEI) on ecological features. This is limited to the effects of habitat loss on ecological features. The only Important Ecological Feature (IEF) identified within Chapter 6 of the EIAR was bats with a medium or high collision risk (common pipistrelle (Pipistrellus pipistrellus), soprano pipistrelle (Pipistrellus pygmaeus), Leisler's (Nyctalus leisleri), noctule (Nyctalus noctule) and Nyctalus sp.). The changes comprised in the Amended Proposed Development do not alter the conclusions of the Feature Assessment within the EIAR (see section 6.7 – Table 6.16) with regard to predicted impacts on protected species (including bats). The changes to infrastructure are minor and as a result there are no new features identified within the Feature Assessment of the Amended Proposed Development. Therefore, protected species (bats, protected mammals, reptiles, amphibians and fish) are not re-assessed within this FEI.

3.1.3. This section refers to **FEI Figures 3.1.1 – 3.1.7** originally produced in support of the EIAR, which have been updated in light of the movement of three turbines and associated access track routes in the Amended Proposed Development.

3.1.4. There has been no updated desk study or survey effort carried out to support this section of the FEI, which draws on surveys undertaken between April 2022 and December 2023. All surveys were undertaken following the most relevant industry guidelines and incorporated relevant scoping responses.

3.1.5. This FEI assessment predicted no likely significant effects on habitats, the only ecological features affected by the changes comprised in the Amended Proposed Development.

3.1.6. Following the updated Ecological assessment, no significant effects are anticipated upon ecological features. However, controls will be put in place during construction through creation of a site-specific Construction Environment Management Plan (CEMP), Species Protection Plan (SPP) and appointing an Environmental Clerk of Works (ECoW) to monitor adherence to such plans. In addition to this, an Outline Biodiversity Enhancement and Restoration Plan (OBERP) has been developed and will be implemented alongside the construction phase of the Amended Proposed Development.

Contents of Ecology FEI

3.1.7. This ecological section of the FEI has been prepared by Natural Power Consultants Ltd (Natural Power) on behalf of Vattenfall (the Applicant) in respect of the Amended Proposed Development.

3.1.8. This section does not provide a detailed description of all the baseline ecological conditions within the Proposed Development Area and the immediate surrounding environment. This is provided, along with a

desk-based review, in Chapter 6 of the EIAR. The identified features comprising the ecological baseline are also described within Chapter 6 of the EIAR but are re-assessed within this FEI using recognised criteria, in accordance with industry guidelines (e.g. that produced by the Chartered Institute of Ecology and Environmental Management (CIEEM[3])) as per the original assessment.

3.1.9. In line with the principles of proportionate EIA, embedded mitigation is considered at the outset of the assessment of likely significant effects (see section 6.7 of Chapter 6 of the EIAR). Furthermore, to ensure proportionality based on the likelihood of effects, only ecological features for which it is considered there may be significant effects in the absence of mitigation are identified as IEFs and are taken forward for a full Ecological Impact Assessment (EcIA).

3.1.10. This section refers to the following Chapters within the original EIAR and updated sections within this FEI:

- EIAR Chapters (Volume 1):
  - Chapter 2: Site selection and design evolution;
  - Chapter 3: Project Description; and
  - Chapter 6: Ecology.
- FEI sections:
  - FEI section 2: Overview of the Proposed Development.
- Appendices:
  - EIAR Chapter 6 – Technical Appendix: 6.1: Ecology;
  - EIAR Chapter 6 – Technical Appendix: 6.2: Confidential Ecology; and
  - EIAR Chapter 6 – Technical Appendix 6.3: Outline Biodiversity Enhancement and Restoration Plan;
- Figures:
  - FEI Figure 3.1.1: Site Location and Survey Areas;
  - FEI Figure 3.1.2: Site Location and Designated Sites;
  - FEI Figure 3.1.3: Phase 1 Survey Results;
  - FEI Figure 3.1.4: NVC Survey Results;
  - FEI Figure 3.1.5: Protected Mammal Survey Results;
  - FEI Figure 3.1.6: Fish Habitat Results; and
  - FEI Figure 3.1.7: Bat Detector Locations.

3.1.11. All scientific names for species mentioned in this section are presented in the text. Survey results are given in EIAR Technical Appendix 6.1: Ecology. Confidential survey results are in EIAR Technical Appendix 6.2: Confidential Ecology.

Legislation, Policy and Guidance

3.1.12. There have been no changes to legislation or policy since the submission of the EIAR in May 2025 and hence is not repeated here.

Method of Assessment

3.1.13. The only change to the method of assessment outlined in Chapter 6 of the EIAR, is an update to the Habitat Loss Calculations (HLC). No additional baseline data in addition to that in the EIAR has been collected (as this is still considered to be in date i.e. within the last five years) nor any desk study information updated.

[3] CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.3. Chartered Institute of Ecology and Environmental Management, Winchester.

Habitat Loss Calculations

3.1.14. Habitat loss calculations were carried out using a bespoke tool developed in QGIS (version 3.40). This tool imports shapefiles representing the different infrastructure features constituting the Amended Proposed Development, as well as a shapefile containing the Phase 1 habitat classifications across the Site based on the field surveys carried out in 2022 (details of the survey method are in EIAR Technical Appendix 6.1: Ecology). Each infrastructure polygon was intersected with the habitat shapefile to allow calculation of the area of each habitat type that would be lost due to construction of that infrastructure feature. Any overlap in infrastructure features was dealt with in a hierarchical way to avoid inclusion of the same areas of habitat twice. Loss attributed to permanent infrastructure features, such as the substation and battery storage, hardstandings, new tracks, widening existing tracks and the borrow pit is calculated first, followed by additional loss associated with temporary structures such as the construction compound and earthworks. Temporary infrastructure relates to features that would be fully reinstated and therefore do not reflect permanent habitat loss.

3.1.15. Habitat loss was calculated separately for:

- Permanent substation and battery storage (100 x 180 m);
- Permanent hardstanding (Approx 8,532 m^2 each);
- Permanent new track (Approx 5.5 m wide);
- Permanent widening of existing track (Approx 5.5 m wide);
- Permanent existing access track (Approx 5.5 – 8 m wide);
- Permanent borrow pit (Approx 75,935 m^2);
- Temporary construction compound (100 x 150 m);
- Temporary grid connection corridor trench (1 m wide);
- Temporary grid connection corridor earthworks (2 m either side of trench); and
- Temporary earthworks (various dimensions around new track, hardstanding and substation and battery storage).

3.1.16. Total habitat loss was calculated by summing the loss associated with each individual feature. Additionally, for each habitat type, the proportion of the total area of that habitat type recorded within the survey area lost was calculated. The surveyed area used in calculations was the area within the Site boundary covered by Phase 1 habitat survey area. See **FEI Figure 3.1.1** for the Phase 1 habitat survey area and Site boundary.

Application Consultation Responses

3.1.17. Consultation relating to the 2022 Scoping Report is presented within Chapter 6 of the EIAR (Section 6.5, Table 6.7) and is not repeated here. NatureScot responses pertaining to ecology in relation to the EIAR are summarised in **Table 2.3.1.1** herein.

Baseline

3.1.18. Other than the updated HLC, there has been no change to the baseline outlined within section 6.6 of Chapter 6 of the EIAR.

Habitat Loss Calculations

3.1.19. The updated results of the HLC are presented in **Table 3.** alongside results of the HLC presented in the Chapter 6 of the EIAR (Section 6.6, Table 6.9) and a calculation of the difference between the two results in hectares. The difference has been calculated in such a way as to show whether the Amended Proposed Development would cause additional habitat loss to the Proposed Development (positive numbers) or less habitat loss than the Proposed Development (negative numbers), or no change (zero value).

Table 3.1.1: HLC for Amended Proposed Development compared with HLC for Proposed Development (from EIAR Chapter 6 Table 6.9)

Phase 1 Habitat Type	NVC Community	Conservation Designation	GWDTE Potential	Habitat in surveyed area (ha)	Permanent habitat loss FEI		Permanent habitat loss EIA		Change (ha)
					Area (ha)	%	Area (ha)	%	
A1.1.1 - Broadleaved woodland - semi-natural	Not surveyed	Annex 1; SBL	None	4.18	0.03	0.72	0.03	0.72	0
A1.1.2 - Broadleaved woodland - plantation	Not surveyed	LBAP	None	45.86	2.02	4.40	2.03	4.44	-0.01
A1.2.2 - Coniferous woodland - plantation	Not surveyed	LBAP	None	948.85	11.39	1.20	11.97	1.26	-0.58
A1.3.2 - Mixed woodland - plantation	Not surveyed	LBAP	None	5.22	0.03	0.52	0.03	0.52	0
A2.1 - Scrub - dense/continuous	Not surveyed	N/A	None	2.92	0	0	0.05	1.71	-0.05
A4.2 - Coniferous woodland - recently felled	Not surveyed	N/A	None	305.10	5.16	1.69	5.47	1.79	-0.31
B1.1 - Acid grassland - unimproved	Not surveyed	LBAP	None	56.60	0.14	0.25	0.19	0.33	-0.05
B1.2 - Acid grassland - semi-improved	Not surveyed	N/A	None	0.51	0	0	0	0	0
B2.1 - Neutral grassland - unimproved	Not surveyed	SBL; LBAP	None	17.46	0.003	0.02	0.003	0.02	0
B2.2 - Neutral grassland - semi-improved	Not surveyed	SBL	None	8.84	0	0	0	0	0
B5 - Marsh/marshy grassland	M23: *Juncus effusus/ acutiflorus-Galium palustre* mire	SBL	High	57.17	0.08	0.15	0.38	0.66	-0.30
	M25: *Molinia caerulea-Potentilla erecta* mire	N/A	Moderate						
B6 - Poor semi-improved grassland	Not surveyed	N/A	None	3.60	0	0	0	0	0

Phase 1 Habitat Type	NVC Community	Conservation Designation	GWDTE Potential	Habitat in surveyed area (ha)	Permanent habitat loss FEI		Permanent habitat loss EIA		Change (ha)
					Area (ha)	%	Area (ha)	%	
C1.1 - Bracken - continuous	Not surveyed	N/A	None	0.27	0	0	0	0	0
C3.1 - Other tall herb and fern - ruderal	Not surveyed	N/A	None	2.74	0.13	4.68	0.15	5.64	-0.02
D1.1 - Dry dwarf shrub heath - acid	Not surveyed	Annex 1; SBL; LBAP	None	12.57	0	0	0	0	0
D5 - Dry heath/acid grassland	Not surveyed	Annex 1; SBL; LBAP	None	11.36	0.02	0.22	0.03	0.22	-0.01
E1.6.1 - Blanket sphagnum bog	Not surveyed	Annex 1; SBL; LBAP	None	150.84	0.30	0.20	0.30	0.20	0
E1.7 - Wet modified bog	Not surveyed		None	6.73	0	0	0	0	0
E1.8 - Dry modified bog	Not surveyed	Annex 1; SBL; LBAP	None	39.76	0.04	0.11	0.04	0.11	0
E2.1 - Flush and spring - acid/neutral flush	M6 *Carex echinata - Sphagnum recurva/auriculatum* mire	Annex 1; SBL; LBAP	High	1.94	0	0	0	0	0
F1 - Swamp	M4 *Carex rostrata - Sphagnum recurvum* mire	N/A	None	0.28	0	0	0	0	0
	S9 *Carex rostrata* swamp	LBAP							
G1.2 - Standing water - mesotrophic	Not surveyed	LBAP	None	0.0002	0	0	0	0	0

Designation Key:

Annex 1 – Habitats listed under Annex 1 of the Habitats Directive

SBL – Scottish Biodiversity List Species

LBAP – Listed on the East Ayrshire or Dumfries and Galloway LBAP

Assessment of Likely Significant Effects

General Impacts

3.1.20. The assessment of potential effects within this FEI is limited to assessing habitat loss as a result of the Amended Proposed Development.

Embedded Mitigation

3.1.21. Embedded mitigation measures are proposed at the outset of the Amended Proposed Development, to reduce impacts associated with construction, operation and decommissioning, are outlined within section 6.7 of Chapter 6 of the EIAR and are not repeated here.

Feature Assessment

3.1.22. No additional permanent habitat loss is predicted for the Amended Proposed Development compared with the Proposed Development, with permanent habitat loss actually reducing by 1.33 ha in total. The grid connection corridor will result in additional temporary habitat loss. However, the corridor comprises a very small area (0.25 ha total) and has been situated next to the existing track, meaning that additional effects will be minimal. Additionally, temporary habitat loss is limited to habitats of low conservation value: conifer plantation (standing and felled), neutral grassland and marshy grassland. The majority of the grid connection (0.21 ha) is situated in conifer planation (standing or felled), which has no conservation value, or lies within the existing track, meaning the impacts are not significant. The remaining impacts of habitat loss of 0.04 ha of neutral and marshy grassland as a result of the grid connection are negligible.

3.1.23. Therefore, the feature assessment undertaken within Chapter 6 of the EIAR (Table 6.16 in Section 6.7) is unchanged and no further assessment is required.

Impact Assessment

3.1.24. No new IEFs were identified with respect to the Amended Proposed Development.

Cumulative Assessment

3.1.25. Predicted cumulative effects on bats from the Proposed Development along with all other plans or projects within an appropriate Zone of Influence (ZoI), following NatureScot (2018)[4] guidance were assessed within the EIAR (see Table 6.18 of EIAR Chapter 6).

3.1.26. Although this FEI did not identify any IEFs, bats were identified as an IEF in the EIAR, with the effects assessed cumulatively with other plans or projects within the ZoI (10 km). Therefore, an updated search was carried out as part of this FEI to determine whether the conclusions within the EIAR are still applicable. The updated search has not identified any additional plans or projects within the ZoI. As a result, there would be no change to the findings of the cumulative impact assessment detailed within EIAR Chapter 6, which concluded that there would be no significant cumulative effects for bats.

Conclusions

3.1.27. No new IEFs were identified in the context of the Amended Proposed Development. There are therefore no predicted significant effects on any ecological features as a result of the Amended Proposed Development, including cumulative effects.

[4] NatureScot (2018). *Guidance - Assessing the cumulative impacts of onshore wind farms on birds*. Updated: 05 March 2025.

Further Mitigation and Residual Effects

3.1.28. No new IEFs were identified with respect to the Amended Proposed Development. As a result, there is no change to the conclusions detailed within Chapter 6 of the EIAR, where Proposed Development was predicted to have a minor negative impact on bats during the operational phase. These impacts were considered to result in effects that are not significant. Therefore, no additional mitigation was required above that proposed and agreed within section 6.7 within Chapter 6 of the EIAR (Embedded Mitigation). This embedded mitigation will be implemented to ensure compliance with legislation, and to follow good practice guidance with regard to habitats and protected species. In addition, an OBERP was prepared which includes measures for habitat enhancements and ecological monitoring and is provided as Appendix 6.3, Volume 3 of the EIAR. The OBERP also includes measures to reduce the suitability of habitats surrounding turbines for bats in order to reduce the likelihood of bat collisions, as well as operational bat monitoring, including carcass searching.

Statement of Significance

3.1.29. An assessment has been made of the predicted significance of effects of the Amended Proposed Development on ecological features.

3.1.30. By applying embedded mitigation measures and following good practice guidelines during construction, the residual effects of the Amended Proposed Development on bats is assessed as being low negative/negligible in terms of magnitude and negligible for all other ecological features assessed, and thus not likely significant in the professional judgment of Natural Power.

3.2. Ornithology

Statement of Competence

3.2.1. The author of this chapter has 14 years of experience in the environmental sector working in ornithological consultancy. During this time, they have been involved with management of onshore wind development projects, production of Environmental Impact Assessment Report (EIAR) ornithology chapters, scoping reports, Habitats Regulations Appraisals (HRAs) and technical baseline reports as well as client and consultee liaison. They are an experienced ornithologist, having conducted various bird survey types including Vantage Point Surveys (VPs), breeding Schedule 1 raptors, and breeding waders at numerous wind farm sites including sites in southwest Scotland.

Summary of Ornithology FEI

3.2.2. This section of the FEI assesses the impacts of the Amended Proposed Development (for an overview of the project, please see section 2) to ornithological features. This is limited to the effects of collision mortality on ornithological features. The changes from the assessment carried out on the original Proposed Development do not alter the conclusions of the Feature Assessment within the EIAR (see section 7.7 – Table 7.12) with regard to displacement and disturbance. The changes to ground level infrastructure (i.e. the access tracks and hardstanding infrastructure) are minor and as a result there are no new features identified within the Feature Assessment of the Amended Proposed Development. Therefore, displacement and disturbance to ornithological features are not re-assessed within this FEI.

3.2.3. This section refers to **FEI Figures 3.2.1 – 3.2.9** produced in support of the EIAR, which have been updated in light of the movement of three turbines and associated access track routes at the Amended Proposed Development.

3.2.4. There has been no updated desk study or survey effort carried out to support this section of the FEI, which draws on surveys undertaken between April 2021 and February 2023. All surveys were undertaken following the most relevant industry guidelines and incorporated relevant scoping responses.

3.2.5. Consultation on the 2022 Scoping Report is provided in EIAR Chapter 7 (Section 7.5, Table 7.6) and is not repeated here. NatureScot's ornithology-related responses for the EIAR are summarised in Table 2.3.1 of this FEI Report.

3.2.6. This FEI assessment predicted no likely significant effects on all ornithological features, including goshawk *Astur gentilis*, the only Important Ornithological Feature (IOF) identified in the EIAR. Following the assessment of cumulative effects on goshawk, no significant effects were predicted.

3.2.7. Following the survey and assessment, no significant effects are anticipated upon ornithological features. However, additional controls will be put in place during construction through creation of a site-specific Construction Environment Management Plan (CEMP), Species Protection Plan (SPP) and appointing an Environmental Clerk of Works (ECoW) to monitor adherence to such plans. In addition to this, an Outline Biodiversity Enhancement and Restoration Plan (OBERP) has been developed and will be finalised and developed as part of the approval of the planning conditions and once agreed will be implemented alongside the construction phase of the Amended Proposed Development.

Contents of Ornithology FEI

3.2.8. This ornithological section of the FEI has been prepared by Natural Power Consultants Ltd (Natural Power) on behalf of Vattenfall (the Applicant) in respect of the Amended Proposed Development.

3.2.9. This section does not provide details of the baseline ornithological conditions within the Proposed Development Area and the immediate surrounding environment. This is provided, along with a desk-based review, in Chapter 7 of the EIAR. The identified species comprising the ornithological baseline are also described within Chapter 7 of the EIAR but are re-assessed within this FEI using recognised criteria, in accordance with industry guidelines (e.g. that

produced by the Chartered Institute of Ecology and Environmental Management (CIEEM[5])) as per the original assessment.

3.2.10. In line with the principles of proportionate EIA, embedded mitigation is considered at the outset of the assessment (see section 7.7 of Chapter 7 of the EIAR). Furthermore, to ensure proportionality based on the likelihood of effects, only ornithological features for which it is considered there may be significant effects after the implementation of embedded mitigation are identified as IOFs and are taken forward for a full Ecological Impact Assessment (EcIA).

3.2.11. This section refers to the following Chapters within the original EIAR and updated sections within this FEI:

- EIAR Chapters (Volume 1):
  - Chapter 2: Site selection and design evolution;
  - Chapter 3: Project Description; and
  - Chapter 6: Ecology.
- FEI sections:
  - FEI section 2: Overview of the Proposed Development; and
  - FEI section 3.1: Ecology.
- Appendices:
  - EIAR Chapter 6 – Technical Appendix 6.2: Outline Biodiversity Enhancement and Restoration Plan (OBERP);
  - EIAR Chapter 7 – Technical Appendix: 7.1: Ornithology; and
  - EIAR Chapter 7 – Technical Appendix: 7.2: Confidential Ornithology.
- Figures:
  - FEI Figure 3.2.1: Vantage Point (VP) Locations and Viewsheds;
  - FEI Figure 3.2.2: Ornithology Survey Areas;
  - FEI Figure 3.2.3: Statutory and Non-Statutory Designated Sites;
  - FEI Figure 3.2.4: Breeding Season VP Survey Results 2021;
  - FEI Figure 3.2.5: Breeding Season VP Survey Results 2022;
  - FEI Figure 3.2.6: Non-Breeding Season VP Survey Results 2021-2022;
  - FEI Figure 3.2.7: Non-Breeding Season VP Survey Results 2022-2023;
  - FEI Figure 3.2.8: Moorland Breeding Bird Survey Results 2021 and 2022; and
  - FEI Figure 3.2.9: Breeding Raptor Survey Results 2022.

3.2.12. All scientific names for species mentioned in this section are presented in the text. Summaries of survey times and dates are given in EIAR Technical Appendix 7.1: Ornithology. Full survey data, including details of survey dates, times and weather conditions, plus results data, can be provided on request.

Legislation, Policy and Guidance

3.2.13. There have been no changes to legislation or policy since the submission of the EIAR in May 2025 and hence is not repeated here.

[5] CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.3. Chartered Institute of Ecology and Environmental Management, Winchester.

3.2.14. NatureScot (2024)[6] guidance regarding Collision Risk Modelling (CRM) was updated in mid-April 2025 after Chapter 7 of the EIAR was finalised. Further details on this update and how to affects this assessment are detailed in section 0.

Method of Assessment

3.2.15. The only change to the method of assessment outlined in Chapter 7 of the EIAR, is an update to the collision risk assessment. No additional baseline data has been collected (as this is still considered to be in date i.e. within the last five years) nor has any desk study information been updated.

3.2.16. Following submission of the EIAR for the Proposed Development, avian collision risk modelling (CRM) carried out according to the Band (2024)[7] Collision Risk Model, has been re-run for the Amended Proposed Development. In addition, it was noted that the NatureScot (2024)[6] guidance accompanying the model has been updated since submission of the assessment and now specifies use of a collision risk zone (CRZ) which represents the rotor radius plus 500 m, whereas the original assessment was carried out using a CRZ definition of rotor radius plus 200 m. The modelling has also been re-run using this updated buffer specification to indicate whether and how this affects the outcomes.

3.2.17. CRM uses data collected during flight activity surveys to predict the number of individuals per target species that have the potential to collide with the wind turbine rotors. This is undertaken when sufficient flight activity occurs within the CRZ at Potential Collision Height (PCH) (i.e. the height at which rotor blades sweep), as per the Band Report (2024)[7] and the collision risk model as recommended by NatureScot (2024)[6] guidance. For the purposes of this assessment, sufficient flight activity was defined as three or more flights, or more than 10 individuals, at PCH in the CRZ within a season. Thus, species that rarely pass through the study area and which are not considered to be at risk of significant effects did not undergo CRM.

3.2.18. For the purposes of this FEI, bird flights which intersect or touch a 585 m buffer placed around each of the proposed turbine locations are considered to be in the CRZ. This buffer zone has been adopted as per NatureScot (2024)[6] guidance and is established using a maximum blade length of 85 m plus a precautionary 500 m buffer. CRM was run based on the Amended Proposed Development layout of 11 turbines of 200 m height (to blade tip), with blade lengths of 85 m and a hub height of 115 m. Therefore, for the purposes of the FEI, the turbine swept height (i.e. the PCH) shall be between 30 m and 200 m.

3.2.19. For species which qualified for CRM, all flights within the CRZ were included within the CRM to calculate bird density. Using the height bands recorded during the VP surveys, the proportion of flights in height band 2 (10 m – 210 m) was used to calculate collision risk. This will be a precautionary approach as some flights at the lower and upper ends of height band 2 will lie outside the actual PCH. Flights recorded in height band 1 and height band 3 are below and above PCH, respectively, and so are not within the CRZ and discounted from the CRM.

3.2.20. For species that usually fly in approximately straight lines ('directional approach'), such as transiting gulls, the number of observed flights through the VP viewsheds are used to calculate bird density per season and year. For species that generally fly non-directionally ('random approach'), such as foraging raptors, the observed time spent flying within the VP viewsheds used to calculate bird density per season and year. Bird density is then used in the Band model (2024)[7] to calculate collision risk. Collision estimates are calculated based on a range of avoidance rates including recommended species-specific avoidance rates (NatureScot, 2025[8]).

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[6] NatureScot (2024) *Guidance on using an updated collision risk model to assess bird collision risk at onshore wind farms*. Updated: 16/04/2025. Available at: https://www.nature.scot/doc/guidance-using-updated-collision-risk-model-assess-bird-collision-risk-onshore-wind-farms [Accessed 22/05/2026]

[7] Band, W. (2024). *Using a collision risk model to assess bird collision risks for onshore wind farms*. NatureScot Research Report 909.

[8] NatureScot (2025). *Wind farm impacts on birds - Use of Avoidance Rates in the NatureScot Wind Farm Collision Risk Model*. Updated: September 2025 v4. Available at: https://www.nature.scot/doc/wind-farm-impacts-birds-use-avoidance-rates-naturescot-wind-farm-collision-risk-model [Accessed 22/05/2026]

3.2.21. For each species, the risk of collision for an individual is calculated by estimating the likelihood of collision based on the characteristics of the birds and of the turbines. Further details of the methods used in CRM, including parameters used in the model follow NatureScot (2024)[6] can be found in **FEI Appendix C**.

Application Consultation Responses

3.2.22. Consultation relating to the 2022 Scoping Report is presented within Chapter 7 of the EIAR (section 7.5, Table 7.6) and is not repeated here. NatureScot responses pertaining to ornithology in relation to the EIAR are summarised in **Table 2.3.1** herein.

Baseline

3.2.23. Other than the updated CRM, there has been no change to the baseline outlined within section 7.6 of Chapter 7 of the EIAR.

Collision Risk Modelling

3.2.24. Three target species met the criteria for CRM for the FEI, one during the breeding season (lesser black-backed gull *Larus fuscus*) and two during the non-breeding season (barnacle goose *Branta leucopsis* and goshawk). Both lesser black-backed gull and barnacle goose were considered to have 'directional' flights, whereas goshawk has 'non-directional' (or random) flights.

3.2.25. The risk of collision for all three species, calculated with avoidance factors of 95%, 98%, 99%, 99.5% and 99.8% are presented in **Table 3.2.1**. The results in bold and grey cells indicate the NatureScot recommended avoidance rate (NatureScot 20188)[9] for each species. Full results which the avoidance rates have been calculated on follow NatureScot (2024)[6] guidance and can be provided on request.

Table 3.2.1: Estimated number of collisions during the breeding season (March to August) and non-breeding season (September to February) using updated method (including 585 m buffer)

Species	Model type	Season	Estimated mortality assuming avoidance of*:				
			95%	98%	99%	99.5%	99.8
Barnacle goose	Directional	Breeding	0	0	0	0	0
		Non-breeding	0.0175 (0.0048-0.0302)	0.0070 (0.0019 - 0.0121)	0.0035 (0.0010 - 0.0060)	0.0017 (0.0005 - 0.0030)	0.0007 (0.0002 - 0.0012)
		Annual	0.0175 (0.0048-0.0302)	0.0070 (0.0019 - 0.0121)	0.0035 (0.0010 - 0.0060)	0.0017 (0.0005 - 0.0030)	0.0007 (0.0002 - 0.0012)
Lesser black-backed gull	Directional	Breeding	0.0014 (0.0004 - 0.0024)	0.0005 (0.0001 - 0.0009)	0.0003 (0.0001 - 0.0005)	0.0001 (<0.0001 - 0.0002)	<0.0001 (<0.0001 - 0.0001)
		Non-breeding	0	0	0	0	0
		Annual	0.0014 (0.0004 - 0.0024)	0.0005 (0.0001 - 0.0009)	0.0003 (0.0001 - 0.0005)	0.0001 (<0.0001 - 0.0002)	<0.0001 (<0.0001 - 0.0001)
Goshawk	Non-directional	Breeding	0.0339 (0.0092 - 0.0586)	0.0136 (0.0037 - 0.0234)	0.0068 (0.0018 - 0.0117)	0.0034 (0.0009 - 0.0059)	0.0014 (0.0004 - 0.0023)

[9] NatureScot (2018). *Wind farm impacts on birds - Use of Avoidance Rates in the NatureScot Wind Farm Collision Risk Model*. Updated: September 2025 v4.

Species	Model type	Season	Estimated mortality assuming avoidance of*:				
			95%	98%	99%	99.5%	99.8
		Non-breeding	0.0302 (0.0082 - 0.0522)	0.0121 (0.0033 - 0.0209)	0.006 (0.0016 - 0.0104)	0.003 (0.0008 - 0.0052)	0.0012 (0.0003 - 0.0021)
		Annual	0.0641 (0.0174 - 0.1108)	0.0257 (0.0070 - 0.0443)	0.0128 (0.0035 - 0.0222)	0.0064 (0.0017 - 0.0111)	0.0026 (0.0007 - 0.0044)

Source: Numbers in bold and grey cells represent NatureScot recommended avoidance rates. Annual estimates are the sum of the breeding and non-breeding estimates for species with at-risk flight activity across more than one season. Confidence intervals of the above estimates follow NatureScot (2024)[6] guidance.

Assessment of Likely Significant Effects

General Impacts

3.2.26. The assessment of potential effects within this FEI are limited to assessing collision with turbines as a result of the Amended Proposed Development.

Embedded Mitigation

3.2.27. Embedded mitigation measures are proposed at the outset of the Amended Proposed Development, to reduce impacts associated with construction, operation and decommissioning, are outlined within section 7.7 of Chapter 7 of the EIAR, and are not repeated here.

Feature Assessment

3.2.28. On the basis of the minor changes to the Proposed Development, a summary of the ornithological features within and surrounding the Proposed Development Area and identified impacts of the Amended Proposed Development, is provided in Table 3.2.2.

Table 3.2.2: Features and impacts identified for inclusion in this FEI assessment

Features	Impact
Barnacle goose	Collision only
Lesser black-backed gull	Collision only
Goshawk	Collision only

Source: Natural Power.

3.2.29. Where no significant effects are likely with the application of embedded mitigation as outlined within section 7.7 of Chapter 7 of the EIAR, the feature is not considered an IOF requiring assessed again in the FEI. Further details of evaluation of each ornithological feature and identified impacts to determine IOFs is provided in Table 7.12 of Chapter 7 of the EIAR. Only barnacle goose, lesser black-backed gull and goshawk are taken forward for further assessment within this FEI as a result of the changes that the Amended Proposed Development result in (when compared to the Proposed Development) and only collision impacts are assessed. Further details are presented in **Table 3.2.3** herein.

Table 3.2.3: Determination of Important Ornithological Features occurring within the Proposed Development Area

Feature	Covering legislation and guidance/ conservation designation[10,11,12,13]	Geographical level of value	Population estimate[14,15,16,17,18,19]	Scottish context	Baseline	IOF	Justification
Barnacle goose	Annex I, Amber	Local	UK: 1,550 breeding pairs; 87,100 wintering individuals. Scotland: 70,000 wintering individuals. NHZ 19: 47,000 wintering individuals.	Barnacle goose is a common wintering species in Scotland, which supports 20% of the world's wintering population. Wintering birds from Greenland are widespread across the west coast of Scotland, particularly the Outer and Inner Hebrides, with birds	Two flights of approximately 250 birds in total were recorded at PCH in the CRZ during the 2021-2022 non-breeding season VPs. As the flights were by >10 birds, barnacle goose qualified for CRM. Annual (non-breeding season only) predicted	No	Barnacle goose is an Annex I, and UK BoCC Amber listed species of international importance for the wintering population in the UK. A predicted annual collision mortality of 0.0007 birds represents <0.0001% of the NHZ,

[10] EUR-Lex (2009). *Directive 2009/147/EC of the European Parliament and of the Council.* Available at: https://www.legislation.gov.uk/eudr/2009/147/contents [Accessed 22/05/2026]

[11] UK Government (2017). *Wildlife Conservation of Habitats and Species Regulations 2017 (SI 2017/1012)*. Available at: https://www.legislation.gov.uk/uksi/2017/1012 [Accessed 22/05/2026]

[12] UK Government (1981). *Wildlife and Countryside Act 1981*. Available at: https://www.legislation.gov.uk/ukpga/1981/69 [Accessed 22/05/2026]

[13] Stanbury, A., Eaton, M., Aebischer, N., Balmer, D., Brown, A., Douse, A., Lindley, P., McCulloch, N., Noble, D., and Win I. (2021). Birds of Conservation Concern 5: the population status of birds in the United Kingdom, Channel Islands and Isle of Man. *British Birds 114*, 723–747.

[14] Woodward, I., Aebischer, N., Burnell, D., Eaton, M., Frost, T., Hall, C., Stroud, D.A. and Noble, D. (2020). Population estimates of birds in Great Britain and the United Kingdom. British Birds 113: 69–104.

[15] Caulfield, E., Woodward, I., Peck, K., Wotton, S. and Frost, T. (2025). Overwinter population estimates of waterbirds in Great Britain. *British Birds 118*, 642–657.

[16] Forrester, R.W., Andrews, I.J., McInerny, C.J., Murray, R.D., McGowan, R.Y., Zonfrillo, B., Betts, M.W., Jardine, D.C. and Grundy D.S. (eds). (2007). *The Birds of Scotland*. The Scottish Ornithologists' Club, Aberlady.

[17] Wilson, M.W., Austin, G.E., Gillings, S. and Wernham, C.V. (2015). *Natural Heritage Zone bird population estimates*. SWBSG commissioned report number 1504. pp72.

[18] Eaton, M. and the Rare Breeding Birds Panel (2025). Rare breeding birds in the UK in 2023. *British Birds 118*, 568–634.

[19] Seabird Monitoring Programme (2026). Available at: https://app.bto.org/seabirds/public/index.jsp [Accessed 22/05/2026]

Feature	Covering legislation and guidance/ conservation designation[10,11,12,13]	Geographical level of value	Population estimate[14,15,16,17,18,19]	Scottish context	Baseline	IOF	Justification
				from Svalbard wintering largely along the Solway Firth.	collision mortality is 0.0007 birds.		Scotland, and UK wintering population. Migrating barnacle geese may be at risk of collision with turbines, however the collision risk is considered to be of **negligible magnitude** and **not significant**. Therefore, barnacle goose is not considered to be an IOF.
Lesser black-backed gull	Ailsa Craig SPA, SBL, Amber	Local	UK: 110,000 breeding pairs; 120,000 wintering individuals. Scotland: 25,000 apparently occupied nests; 30,000-50,000 individuals on spring passage; 50,000-80,000 individuals on autumn passage; and 200-600 wintering individuals. NHZ 19: 1,048 breeding pairs. Ailsa Craig SPA: 135 apparently occupied territories.	Lesser black-backed gull is a common and widespread breeding species in Scotland, which supports 22% of the UK breeding population. The largest breeding populations are located in the central belt, in the Firth of Forth and the Firth of Clyde. Lesser black-backed gull breed in coastal areas and inland, nesting in a variety of habitats	A total of 18 flights of 37 individuals were recorded during the 2021 breeding season VP surveys, with a total of 15 flights of 18 individuals recorded during the 2022 breeding season VP surveys. A total of 11 flights (of 15 birds) were recorded at PCH in the CRZ and therefore, lesser black-backed gull qualified for CRM.	No	Lesser black-backed gull is a qualifying species of the Ailsa Craig SPA, on the SBL and a UK BoCC Amber-listed species of conservation concern for the localised breeding population in the UK. A predicted annual collision mortality of 0.0001 birds represents <0.0001% of the Ailsa Craig SPA, NHZ,

Feature	Covering legislation and guidance/ conservation designation[10,11,12,13]	Geographical level of value	Population estimate[14,15,16,17,18,19]	Scottish context	Baseline	IOF	Justification
				including sand dunes, saltmarshes, grasslands, moorland and on buildings.	Annual (breeding season only) predicted collision mortality is 0.0001 birds.		Scotland and UK wintering populations; and the Scottish spring/autumn passage populations. Lesser black-backed gull may be at risk of collision with turbines, however, the collision risk is considered to be of **negligible magnitude** and **not significant**. Therefore, lesser black-backed gull is not considered to be an IOF.
Goshawk	Schedule 1	Local	UK: 1,042 breeding pairs. Scotland: >372 breeding pairs. NHZ 19: 31 breeding pairs.	The most recent Scottish breeding population estimate is >372 pairs in 2023, of which six were located in Ayrshire and 25 were located in Dumfries and Galloway (note that the latter has an estimated population of 50 pairs).	One flight was recorded during the 2021 breeding season VP surveys; with two flights recorded during the 2022 breeding season VP surveys. A single flight was recorded during the 2021-2022 non-breeding season VP surveys, and during the 2022-2023 non-	No	Goshawk is a Schedule 1-listed species of conservation concern. A predicted annual collision mortality of 0.0257 birds represents 0.041% of the NHZ breeding population, but <0.003% of the Scottish and 0.001% of

Feature	Covering legislation and guidance/ conservation designation[10,11,12,13]	Geographical level of value	Population estimate[14,15,16,17,18,19]	Scottish context	Baseline	IOF	Justification
				As goshawk is a secretive species and remains inconspicuous for much of the year, this species is notoriously difficult to monitor and likely under reported, thus any population estimates are probably highly conservative.	breeding season VP surveys. Three of the five flights were recorded at PCH in the CRZ and therefore, goshawk qualified for CRM. Annual predicted collision mortality is 0.0257 birds.		the UK breeding population. Goshawk may be at risk of collision with turbines, however, the collision risk is considered to be of **negligible magnitude** and **not significant**. Therefore, goshawk is not considered to be an IOF.

Impact Assessment

3.2.30. No species were identified as IOFs with respect to the Amended Proposed Development.

Cumulative Assessment

3.2.31. Predicted cumulative effects on goshawk from the Proposed Development along with all other plans or projects within an appropriate Zone of Influence (ZoI), following NatureScot (2018)[20] guidance were assessed within the EIAR however, the assessment within the EIAR was limited to the effects of disturbance and displacement (see Table 7.13 of EIAR Chapter 7).

3.2.32. Although this FEI did not identify any IOFs, goshawk was identified as an IOF in the EIAR, with the effects of disturbance and displacement assessed cumulatively with other plans or projects within the ZoI. Therefore, an updated search was carried out as part of this FEI to determine whether the conclusions within the EIAR are still applicable. The updated search has not identified any additional plans or projects within the ZoI. As a result there would be no change to the findings of the cumulative impact assessment detailed within EIAR Chapter 7, which concluded that there would be no significant cumulative effects for goshawk.

Conclusions

3.2.33. No new IOFs were identified in the context of the Amended Proposed Development. There are therefore no predicted likely significant effects on any ornithological features as a result of the Amended Proposed Development, including cumulative effects.

Further Mitigation and Residual Effects

3.2.34. No new IOFs were identified with respect to the Amended Proposed Development. As a result, there is no change to the conclusions detailed within Chapter 7 of the EIAR, where Proposed Development was predicted to have a low negative/negligible impact on goshawk, and a negligible impact on all other ornithological features assessed. These impacts were considered to result in effects that are not significant. Therefore no additional mitigation was required above that proposed and agreed within section 7.7 within Chapter 7 of the EIAR (Embedded Mitigation). This embedded mitigation will be implemented to ensure compliance with legislation, and to follow good practice guidance with regard to breeding birds. In addition, an OBERP was prepared which includes measures for habitat enhancements and ornithological monitoring and is provided as Appendix 6.3, Volume 3 of the EIAR.

Statement of Significance

3.2.35. An assessment has been made of the predicted significance of effects of the Amended Proposed Development on ornithological features. The Amended Proposed Development includes for a 50 m micrositing allowance where the environmental impacts would be assessed and signed-off by the ECoW.

3.2.36. By applying effective embedded mitigation measures and following good practice guidelines during construction, the magnitude of residual effects of the Amended Proposed Development on goshawk is assessed as being low negative/negligible in terms of magnitude and negligible for all other ornithological features assessed, and thus not significant in the professional judgment of Natural Power.

[20] NatureScot (2018). *Guidance - Assessing the cumulative impacts of onshore wind farms on birds*. Updated: 05 March 2025.

3.3. Hydrology, Hydrogeology & Geology

Introduction

3.3.1. This section of FEI assesses the potential effects of the Amended Proposed Development on the hydrological environment whilst providing further environmental information relating to the Private Water Supply (PWS) discussed within the Chapter 8: Hydrology, Geology & Hydrogeology Assessment of the EIAR[21].

3.3.2. This section addresses the following topics as per discussed in Section 1.1:

- PWS;
- Groundwater Dependent Terrestrial Ecosystems (GWDTE); and
- Soils and Peat.

3.3.3. The section will also be supported through **Technical FEI Appendix D: Peat Management Plan and Technical FEI Appendix E: Peat Slide Risk Assessment** that has been updated to consider the new layout whilst providing details relating to an updated approach following comments provided by SEPA, as referred to in Section 1.1.

3.3.4. The inclusion of the grid connection in the Amended Proposed Development required no further Hydrology, Geology & Hydrogeology Assessment. The cable would be installed alongside an existing track, where peat is likely to have already been disturbed. Any peat excavated during trenching would be reinstated within the trench following cable installation. The works would nevertheless be undertaken in accordance with the mitigation measures set out in this Section of the report.

Legislation and Policy Context

3.3.5. Chapter 8 of the EIAR[21], Section 8.3 provides reference and discussion in respect of relevant legislation, planning policy and guidance for which the Amended Proposed Development will comply with.

3.3.6. It is noted however that the following guidance has been updated and is considered within this report:

- SEPA (2024) Guidance on Assessing the Impacts of Development on Groundwater Abstractions.
- SEPA (2024) Guidance on Assessing the Impacts of Developments on Groundwater Dependent Terrestrial Ecosystems.

Assessment Methodology and Significance Criteria

3.3.7. The following sections present the methodologies that have been used to inform this Hydrology, Hydrogeology and Geology section of the FEI.

PWS Assessment

3.3.8. The assessment considers the type of hazard associated with the Amended Proposed Development, release and exposure potential and the severity of impact. A Source-Pathway-Receptor conceptual model was development to assess the risk posed by the Amended Proposed Development activities. In this model:

- "Source" refers to the source of the potential risk hazard (e.g. proposed infrastructure);
- "Receptor" refers to anything or anyone that could be adversely affected by the hazard (including supply source and associated infrastructure); and
- "Pathway" refers to the mechanisms by which the hazard is transmitted to the receptor.

3.3.9. Where hydraulic connectivity or linkage exists between a potential contamination source and the receptor by means of a pathway, then a pollutant linkage and associated risk exists. Where there is no pollutant linkage, there will be no associated risk.

[21] Natural Power on behalf of Vattenfall (2025) South Kyle II Environmental Impact Assessment Report – Chapter 8: Hydrology, Geology & Hydrogeology Assessment (Ref: 1354795)

3.3.10. The PWS catchments (or Zones of Contribution (ZoCs); occasionally otherwise referred to as Zones of Influence (ZoIs)) are likely to be similar to the surface water catchments and therefore bound by the same topographical restrictions. The methodologies for this qualitative assessment are based on a worst-case scenario and try to determine the greatest possible impact the Amended Proposed Development will have on the quality and quantity of water serving the supply. As the direction of groundwater flow cannot accurately be assessed without detailed site investigations, it is assumed that the groundwater is flowing in the direction to each supply source.

3.3.11. The risks to the hydrological and hydrogeological environment during construction vary based on the location of each source and source type i.e. groundwater spring, borehole or surface water abstraction. As a result, the assessment of risk of contamination to PWSs due to activities associated with the Amended Proposed Development works, will consider the following:

- PWS type of and likely disruption potential;
- Distance from water source and known supply infrastructure to the nearest point of construction associated with the proposed Development; and
- Position of the source in relation to construction works in terms of topography and ZoIs.

3.3.12. The risk assessment considers the type of hazard associated with the Amended Proposed Development, the probability and magnitude of an impact occurring, based on topographical and hydrological relationships between the supply and construction activities, and the severity of such an impact based on a combination of the probability and magnitude values.

3.3.13. It should be noted that all PWS are considered to be sensitive receptors, because they are generally the only water resource available to a household, i.e. there is no mains water connection available and therefore no ability for an alternative, reliable supply, and due to the legislative protection, they are afforded.

Significance Criteria

3.3.14. The potential impact to PWS has been assessed in relation to the probability of an impact occurring on the receiving environment and the receiving receptors' magnitude of change.

3.3.15. The probability has been classified as high likelihood, likely, low likelihood or unlikely based on criteria outlined in **Table 3.3.1** The likelihood of any impacts on the quality and quantity of water serving the PWS are influenced by the type of supply (e.g. spring, borehole etc) and its ZoC in relation to Amended Proposed Development activities.

Table 3.3.1: Probability of Impacts

Probability	Definition
High Likelihood	• PWS source is downstream or downgradient from construction works for surface water abstractions within same hydrological catchment (<50 m). • Groundwater source ZoC incorporates proposed Development activities and is therefore likely to be in direct hydrogeological connectivity with and in close proximity to (<50 m) construction works. It is likely there is a <50 day travel time from the pollution point below the water table to the source. • New access track crosses route of identified supply pipework between property and source.
Likely	• PWS source is downstream or downgradient from construction works for surface water abstractions within same hydrological catchment (>50 m and <250 m). • Groundwater source ZoC incorporates proposed Development activities is located >50 m and <250 m and is likely to be in direct hydrogeological connectivity with construction works. It is likely there is a <400 day travel time from the pollution point below the water table to the source.

Probability	Definition
	• Construction works involving excavations crossing land between source and property, specifically within 50 m of supply source or infrastructure. For example, pipe routing from supply and property is unconfirmed and there is the possibility that works may cause disruption. • Supply infrastructure details between source and property are not known (residents unable or unwilling to provide information).
Low Likelihood	• PWS surface water source is >250 m from the construction works. • Groundwater source is >250 m and potentially in direct hydrogeological connectivity downgradient of construction works with >400 day travel time from the pollution point below the water table to the source. However, it is still assumed that the area potentially falls within the ZoC for the source. • Construction work without excavations e.g. resurfacing works crossing land between source and property. For example, pipe routing from supply and property is estimated or unconfirmed and there is the possibility that works may cause disruption. • Groundwater source is located up-gradient of construction works.
Unlikely	• PWS surface water abstraction is not in hydrological connectivity with the construction working areas. • Groundwater source ZoC is not within the same catchment as proposed Development activities. • Surface water abstraction is situated upstream or within a separate surface water catchment of the construction works.

3.3.16. As outlined above, the potential impacts on PWS have been assessed taking account of the type of supply and its distance from water source to the nearest point of construction and the source position in relation to topographic and catchment influence zones. The magnitude of potential change to that supply is defined below in **Table 3.3.2**.

Table 3.3.2: Magnitude of Change to PWS

Severity	Definition
Major	Major change to the hydrological/hydrogeological conditions resulting in temporary or permanent change. Complete disruption to operation of supply, impacting on quality and quantity available, new resource to be identified.
Moderate	Detectable change to the hydrological/hydrogeological conditions resulting in non-fundamental temporary or permanent change. Partial disruption to the operation of the supply, impacting on quality and quantity. Potential new supply is required for a temporary period of time.
Minor	Detectable but minor change to the hydrological/hydrogeological conditions. Minor degradation in the operation of the supply in terms of quantity and or quality.
Insignificant	No perceptible change to the hydrological/hydrogeological conditions.

3.3.17. The likelihood and magnitude of the potential impacts are combined to define the significance of the impact, as shown in **Table 3.3.3**. This table provides a guide to assist in the decision making but should not be considered a substitute for professional judgement and interpretation. In some circumstances, the magnitude of effects may be unclear, and professional judgement remains the most effective manner for identifying the potential significance.

3.3.18. The significance of the risk considers the successful implementation of the good practice environmental management practices that will be adopted throughout the works. Should the supply still be considered at risk, further details on specific mitigation and/or monitoring recommendations are provided.

Table 3.3.3: Significance of Impact

Probability of Impact	Magnitude of Change			
	Major	Moderate	Minor	Insignificant
High Likelihood	Very High	High	Medium	Medium/Low
Likely	High	Medium	Medium/Low	Low
Low Likelihood	Medium	Medium/Low	Low	Negligible
Unlikely	Medium/Low	Low	Negligible	Negligible

3.3.19. For the purposes of the EIA, effects assessed as **Very High** or **High** are considered to represent **Significant Effects** and are highlighted in **bold** within tables 3.3.3 and 3.3.4. Effects assessed as **Medium** may also be considered significant where professional judgement determines that receptor sensitivity, duration, extent, or cumulative impacts warrant this conclusion. Effects assessed as **Low** or **Negligible** are generally considered to be non-significant. The risk categories are further defined in **Table 3.3.4** below:

Table 3.3.4: Definition of Risk

Term	Definition
Very High	There is a high probability that significant harm could arise to a designated receptor from an identified hazard at the Site without appropriate mitigation.
High	Some significant harm is likely to arise to a designated receptor from proposed Development activities without appropriate mitigation.
Medium	It is possible that, without appropriate mitigation, harm could arise to a designated receptor, but it is relatively unlikely that any such harm would be severe and if any harm were to occur, it is likely that such harm would be relatively mild.
Low	It is possible that some harm could arise to a designated receptor from an identified hazard, but it is likely that at worst this harm, if realised, would normally be mild, short-lived and reversible.
Negligible	No significant harm is anticipated to a designated receptor from an identified hazard. Any potential impact is negligible, with best practice mitigation in place.

GWDTE Assessment

3.3.20. As detailed in paragraphs 8.6.57 to 8.6.61 in Chapter 8 of the EIAR[21], GWDTEs were assessed using the SEPA Land Use Planning System Guidance Note (LUPS-GU) 31[22]. However this guidance has been superseded by the SEPA Guidance on Assessing the Impacts of Developments on Groundwater Dependent Terrestrial Ecosystems[23].

3.3.21. The assessment considers the potential groundwater dependency of each NVC community that was identified during the habitat surveys, in accordance with UK Technical Advisory Group (UKTAG) list of NVC communities[24] and

[22] SEPA (2017), Land Use Planning System, Guidance Note 31, Guidance on Assessing the Impacts of Development Proposals on Groundwater Abstractions and Groundwater Dependent Terrestrial Ecosystems. Available at: https://www.sepa.org.uk/media/143868/lupsgu31_planning_guidance_on_groundwater_abstractions.pdf [Accessed: 22/05/2026]

[23] SEPA (2024) Guidance on Assessing the Impacts of Developments on Groundwater Dependent Terrestrial Ecosystems. Available at https://www.sepa.org.uk/environment/land/planning/guidance-and-advice-notes/ [Accessed: 22/05/2026]

[24] Wetlands Task Team. (2003) Guidance on the identification and risk assessment of groundwater dependent terrestrial ecosystems. Working draft v5 (21/01/04) [PDF]. UK Technical Advisory Group on the Water Framework Directive. Available at:

associated groundwater dependency scores. Where true groundwater dependency is identified, appropriate mitigation measures, if required, for those communities close to the Amended Proposed Development can be put in place to reduce potential impacts from the Amended Proposed Development.

3.3.22. The assessment determines the likelihood of actual groundwater dependency, through the identification of underlying geology and its hydraulic properties, the local topography and the contribution of water to the habitat from surface water.

3.3.23. The nature of the underlying geology determines porosity, permeability and groundwater throughflow which, in turn, will increase the water supply to wetland habitats. Groundwater flow within low permeability bedrock is limited to lines of faults and/or fractures and thus, is only present where these features exist. Porous bedrock or superficial deposits are likely to support intergranular flow, which is the movement of water between grains. For the purposes of the assessment, where the habitat is overlying and/or in the immediate vicinity of permeable or faulted geology, the likelihood of a groundwater contribution is deemed to be the same as the original UKTAG list of NVC communities and associated groundwater dependency scores.

3.3.24. Some NVC communities may be present due to a combination of contributions from surface water, peat or by their location on flat terrain. These habitats are likely to be almost entirely fed by precipitation or very near-surface groundwater within shallow drift deposits and soils. It is considered that the groundwater component supporting these habitats therefore more resembles surface (or near surface) water regime with very local and shallow rain-fed catchments for each GWDTE. For the purposes of the GWDTE assessment these habitats are considered to have a low dependency on groundwater.

3.3.25. Following the assessment of the actual groundwater dependence of each habitat, those habitats that remain within a Moderate or High dependency rating are assumed to be potentially impacted by construction and operational activities.

Soils and Peat

3.3.26. The approach to soils and peat has been undertaken in accordance with the method of assessment detailed in Chapter 8 of the EIAR[21], with the following steps:

- Detailed desk studies and site investigation to establish baseline conditions of the area;
- Evaluation of the environmental impacts of the Amended Proposed Development and the likely significant effects that these could have on the water environment receptors;
- Identification of embedded good practice measures to avoid and mitigate against any identified adverse effects resulting from the Proposed Development;
- Evaluation of the likely significant environmental effects with consideration of the potential embedded mitigation measures, taking account of the sensitivity of the baseline features the potential magnitude of these effects and the probability of these effects occurring; and
- The residual significance of the environmental effects following the consideration of additional mitigation measures.

3.3.27. The assessment presented within this FEI is based on the details provided in Chapter 8 of the EIAR with further data collected as part of additional peat depth surveys that were undertaken for the Amended Proposed Development.

Baseline Conditions

3.3.28. This subsection presents information gathered on the existing topographical, hydrological, geological and hydrogeological conditions within the Proposed Development Area and the hydrological study area. The study area is presented in **Figure 8.1: Hydrological Overview** in Volume 2a of the EIAR[25].

https://www.wfduk.org/sites/default/files/Media/Characterisation%20of%20the%20water%20environment/Risk%20assessment%20of%20terrestrial%20ecosystems%20groundwater_Draft_210104.pdf [Accessed: 22/05/2026]

[25] Natural Power on behalf of Vattenfall (2025) Figure 8.1: Hydrological Overview, Volume 2a (Ref: 1361984)

3.3.29. The Study Area includes the Proposed Development Area and a 3 km buffer area immediately beyond the Site Boundary. It should be noted that the proposed infrastructure is sited within the East Ayrshire Council (EAC), however existing infrastructure associated with the operational South Kyle Wind Farm may be used to facilitate the Amended Proposed Development (i.e. existing access tracks) and may cross into the Dumfries and Galloway local authority area.

3.3.30. Considering the Amended Proposed Development, the following baseline topics have remained consistent with the details provided within Chapter 8 of the EIAR[21]:

- Climate;
- Conservation Sites;
- Surface Water Hydrology;
- Hydrological Regime;
- Flood Risk;
- Water Quality;
- Water Resources(with the exception of PWS);
- Geology;
- Hydrogeology; and
- Modifying Influences.

Site Investigations

3.3.31. An additional phase 2 peat depth survey was undertaken in October 2025 based on the revised layout associated with the Amended Proposed Development. Weather conditions recorded by the surveyors were described as foggy with some rainfall.

PWS

3.3.32. As presented within Chapter 8 of the EIAR[21], 12 no. properties were identified within 3 km of the Proposed Development that were potentially served by a PWS. Of the 12 no. properties, two were considered to be within the same hydrological sub-catchment of proposed infrastructure with an additional property featuring existing access tracks that may be utilised for the Proposed Development.

3.3.33. The layout changes associated with the Amended Proposed Development feature a potential hydrological connectivity, however further consultation was undertaken by way of a PWS questionnaire being submitted to the PWS owners. These questionnaires were completed and returned, with the details provided on these summarised in **Table 3.3.5**, in conjunction with the information from Table 8.10 of Chapter 8 of the EIAR[21].

Table 3.3.5: Summary of the PWS Details and Consultation Responses

Property ID	Source ID	Property Name	Response Received?	Source Type	Supply Use	Multiple Properties	Nearest Proposed Infrastructure to Source (km)	Within SEPA Guidance Buffer?*	Taken Forward to Assessment
1	A	Glenmuck Farm	Yes	Borehole	Type B	No	New access track to T08 (~4.1 km)	No	Yes
2	Bi	Meiklehill Farm	Yes	Borehole	Type B	No	New substation (~1.3 km)	No	Yes
	Bii			Unknown			New substation (~1 km)		
3	C	Knockenlee	Yes	Borehole	Type B	Yes	New substation (~1.6 km)	No	Yes

**SEPA guidance[26] provides the following buffer zones:*

a) 10 m for all activities

b)100 m radius of all subsurface activities less than 1 m in depth

c) 250 m of all subsurface activities deeper than 1 m.

Source: Natural Power (2026)

[26] SEPA (2024) Guidance on Assessing the Impacts of Developments on Groundwater Abstractions. Available at https://www.sepa.org.uk/environment/land/planning/guidance-and-advice-notes/ [Accessed 22/05/2026]

GWDTE

3.3.34. This section considers GWDTEs in the context of the Amended Proposed Development and utilises the latest guidance published by SEPA[23], with the following NVC communities identified as presented in **Table 3.3.6** (refer to Chapter 6: Ecology for further information relating to the NVC surveys and data collection[27]). The level of potential groundwater dependency is in accordance with UK Technical Advisory Group (UKTAG) list of NVC communities and associated groundwater dependency scores[24].

Table 3.3.6: NVC Communities and Potential Groundwater Dependency (Within 250 m and 100 m Buffer Zones)

NVC Code	NVC Community	Habitats of Principle Importance for Biodiversity Conservation in Scotland (Upland)[5]	Potential Level of GW Dependency
M23a	*Juncus effusus/acutiflorus–Galium palustre* rush-pasture	Yes	Moderate
M23b	*Juncus effusus/acutiflorus–Galium palustre* rush-pasture	Yes	Moderate
M25a	*Molinia caerulea - Potentilla erecta* mire	Not Classified	Low
M25b	*Molinia caerulea - Potentilla erecta* mire	Not Classified	Low
M6c	*Carex echinata - Sphagnum recurvum* mire	Yes	High

Source: Natural Power (2026)

3.3.35. There are 29 no. habitats identified within the buffer zones that have the potential to be groundwater fed. Of these 29 no. habitats, 19 no. habitats were located along the mapped watercourses which indicates that these are more likely to be surface water fed. Therefore, 10 no. habitats, presented in **Table 3.3.7**, have been carried forward to the assessment.

Table 3.3.7: Potential GWDTE Habitats to be Assessed

GWDTE ID	NVC Community	GWDTE Potential	Easting	Northing
46	M23b	Moderate	252258	608099
48	M23a	Moderate	251628	608001
49	M23b	Moderate	252208	607978
52	M23a	Moderate	252532	607646
59	M23a	Moderate	254467	607078
62	M23a	Moderate	254539	606923
69	M23a	Moderate	252963	606669
73	M23b	Moderate	252957	606388
77	M23a	Moderate	252739	606167
82	M23a	Moderate	252460	605918

Source: Natural Power (2026)

[27] Natural Power on behalf of Vattenfall (2025) South Kyle II Environmental Impact Assessment Report – Chapter 6: Ecology (Ref: 1327790)

Soils and Peat

3.3.36. As detailed within Chapter 8 of the EIAR[21], the phase 1 peat depth surveys (alongside a hydrological walkover) were undertaken in August 2022 and December 2022 with further phase 1 surveys from June to August 2023. These surveys informed the feasibility and scoping assessments.

3.3.37. To inform the site layout and EIAR, detailed phase 2 peat depth surveys were undertaken in April 2024 and August 2024 with an additional phase 2 peat depth survey carried out in October 2025 to account for changes to the layout due to the Amended Proposed Development.

3.3.38. The results of these peat surveys are shown in **Table 3.3.8.**

Table 3.3.8: Peat Depth Survey Results

Peat Depth Range	Number of Points in Range	% of Points
≤0.5	2519	43.1
>0.5 to ≤1.0	2108	36.0
>1.0 to ≤2.0	969	16.6
>2.0 to ≤3.0	242	4.1
>3.0	13	0.2
Total	**5,851**	**100%**

Source: Natural Power (2026)

3.3.39. As presented by Table 3.12, the data indicates that over 40% of the survey points within the Amended Proposed Development Area are ≤0.5 m, with over 75% being <1.0 m. The most significant depths of peat within the Amended Proposed Development Area are within the valley between Clawfin Hill, Benbrack, and Meikle Hill.

3.3.40. The revised layout has sought to avoid deep peat deposits (>1.0 m) where practicable. Turbines T1, T3 and T6 are now located on areas with average peat depths of approximately 0.5 m, and access tracks have been aligned to remain predominantly within shallower peat.

3.3.41. The temporary construction compound utilises previously disturbed land associated with the operational South Kyle Wind Farm and is located on shallow peat.

Assessment of Effects

PWS

3.3.42. This section details the results of the risk assessment based on criteria outlined below. PWS sources will be referred to by their corresponding “Source ID” in Table 3.3.1.

Glenmuck Farm

3.3.43. The resident completed a PWS questionnaire, however, did not specify the location of their borehole supply (Source ID: A). Therefore, using professional judgement and experience, it has been assumed that the source location is within close proximity to the property. Nevertheless, Source A is approximately 4.1 km from the nearest proposed infrastructure and the associated new earthworks and, as such, has been assessed as **“Low Likelihood”** in terms of probability of impact.

3.3.44. It is proposed that the existing South Kyle Wind Farm access track would be utilised to facilitate the construction of the Amended Proposed Development. This track would not require upgrades or further earthworks, and it should be noted that the preference is to utilise the northern access in which case the existing South Kyle Wind Farm access track would not be utilised other than to facilitate the construction and delivery of AIL for turbines T07, T08, T09, T10. This would be undertaken only by using the northern access so would only require the use of some of the northern South Kyle Wind Farm access tracks. Source A is approximately ~0.6 km from this existing track and is outside SEPA guidance buffers, with the resident also indicating that the Muck Water supplies their hydroelectric scheme. Due to the levels of construction activities being considered as low and mitigation being implemented, the

magnitude of change is assessed as being **"Insignificant"**. Therefore, the combined risk is assessed as **"Negligible"**.

Meiklehill Farm

3.3.45. The resident at Meiklehill Farm indicated that the property uses two separate sources (Bi and Bii). The consultation response provided by the owner indicated two locations for these sources with Bi being a borehole supply and Bii being a holding tank. It should be noted that Bii is not used for drinking but is still utilised for other purposes (not specified).

3.3.46. Source Bi is a borehole that is approximately 1.3 km from the nearest proposed infrastructure (proposed substation) and is therefore not within any of the SEPA guidance buffers. As a result, the probability of impact is considered to be **"Low Likelihood"**.

3.3.47. Consultation did not provide indication of the type of supply for Source Bii, however due to the holding tanks proximity to a mapped watercourse, it is assumed that it is likely to be a surface water abstraction. This holding tank is situated in a sub-catchment where no works are scheduled to take place. Therefore, the probability of impact is considered to be **"Low Likelihood"**.

3.3.48. It is assumed that best practice measures would be followed with mitigation measures implemented. Therefore, the magnitude of change is assessed as being **"Insignificant"** and the combined risk is assessed as **"Negligible"** for Sources Bi and Bii.

Knockenlee

3.3.49. Consultation with the residents of Knockenlee indicated that two properties were supplied by a borehole (Source C) that is located approximately 1.6 km from the nearest proposed infrastructure (proposed substation). This is outside of the SEPA guidance buffers and is assessed as having an impact probability of **"Low Likelihood"**.

3.3.50. It is assumed that best practice measures would be followed with mitigation measures implemented. Therefore, the magnitude of change is assessed as being **"Insignificant"** and the combined risk is assessed as **"Negligible"** for Source C.

Conclusion

3.3.51. Through consultation with the residents of the properties discussed previously, and utilising professional judgement, where necessary, it has been concluded that the Amended Proposed Development would not pose a significant risk to any of the identified PWS.

GWDTE

3.3.52. The habitats identified in **Table 3.3.7** that are potentially GWDTE have been assessed for actual groundwater dependence in **Table 3.3.9.**

Table 3.3.9: Assessment of Actual Groundwater Dependance of Potential GWDTEs

GWDTE ID	NVC Community	Potential GW Dependency	Underlying Hydrogeology	Assessed GW Dependency	Nearest Infrastructure	Actual GW Dependence
46	M23b	Moderate	• Low Productivity Aquifer • Inferred Faulting • Peat and Till Deposits	• The habitat is occupying the area adjacent to existing New Cumnock Electricity Substation and its associated access tracks and drainage. Therefore, it is likely that this habitat has been created as a result of the groundworks and subsequent disturbance of shallow groundwater terraced in the underlying peat deposits. • It should also be noted that the area shows evidence of commercial forestry activities with furrows and ditches creating flow pathways in addition to the mapped watercourses flowing through the habitat. It is considered that the habitat is more likely to be ombrotrophic in nature.	Existing Access Track & Proposed Substation	Low
48	M23a	Moderate	• Low Productivity and Moderate Productivity Aquifers • Inferred Faulting • Peat and Till Deposits	• The habitat is running parallel to the B741 and is immediately adjacent to commercial forestry. Therefore, it is concluded that this habitat is a direct result of artificial drainage and is ombrotrophic in nature.	Existing Access Track	Low
49	M23b	Moderate	• Low Productivity Aquifer • Inferred Faulting • Peat and Till Deposits	• Habitat is occupying the area adjacent to existing New Cumnock Electricity Substation and its associated access tracks and drainage. Therefore, it is likely that this habitat has been created as a result of the groundworks and subsequent disturbance of shallow groundwater terraced in the underlying peat deposits. • It should also be noted that the area shows evidence of commercial forestry activities with furrows and ditches creating flow pathways in addition to the mapped watercourses flowing	Existing Access Track & Proposed Substation	Low

GWDTE ID	NVC Community	Potential GW Dependency	Underlying Hydrogeology	Assessed GW Dependency	Nearest Infrastructure	Actual GW Dependence
				through the habitat. It is considered that the habitat is more likely to be ombrotrophic in nature.		
52	M23a	Moderate	• Low Productivity Aquifer • No Mapped Superficial Deposits	• The habitat is situated along an existing access track and is in close proximity to both commercial forestry and disused quarry. Therefore, it is expected that the artificial drainage combined with the nearby groundworks has resulted in surface water flow pathways that is supporting this habitat. It is considered that the habitat is more likely to be ombrotrophic in nature.	Existing Access Track, Borrow Pit & Proposed Substation	Low
59	M23a	Moderate	• Low Productivity Aquifer • Till Deposits	• The habitat is situated along an existing access track and is in close proximity to commercial forestry. Therefore, it is expected that the artificial drainage combined with the nearby groundworks has resulted in surface water flow pathways that is supporting this habitat. It is considered that the habitat is more likely to be ombrotrophic in nature.	Existing Access Track	Low
62	M23a	Moderate	• Low Productivity Aquifer • Till Deposits	• The habitat is situated along an existing access track and is in close proximity to commercial forestry. Therefore, it is expected that the artificial drainage combined with the nearby groundworks has resulted in surface water flow pathways that is supporting this habitat. It is considered that the habitat is more likely to be ombrotrophic in nature.	Existing Access Track & New Proposed Track	Low
69	M23a	Moderate	• Low Productivity Aquifer • Peat Deposits	• The habitat is situated within commercial forestry adjacent to a mapped watercourse. It is likely that the artificial drainage network associated with the commercial forestry is disrupting natural flow pathways that have resulted in this habitat. • Underlying superficial deposits consist of peat which stores surface water due to its low hydraulic conductivity. • Therefore, it can be concluded that the combination of the artificial drainage system and the underlying peat, this habitat is	Existing Access Track	Low

GWDTE ID	NVC Community	Potential GW Dependency	Underlying Hydrogeology	Assessed GW Dependency	Nearest Infrastructure	Actual GW Dependence
				likely ombrotrophic as surface water is being concentrated in this area.		
73	M23b	Moderate	• Low Productivity Aquifer • Inferred Faulting • Peat Deposits	• The habitat is situated within commercial forestry and immediately adjacent to an existing access track. It is likely that the artificial drainage network associated with the commercial forestry and the existing track is disrupting natural flow pathways that have resulted in this habitat. • Underlying superficial deposits consist of peat which stores surface water due to its low hydraulic conductivity. • Therefore, it can be concluded that the combination of the artificial drainage system and the underlying peat, this habitat is likely ombrotrophic as surface water is being concentrated in this area.	Existing Access Track & Proposed New Track	Low
77	M23a	Moderate	• Low Productivity Aquifer • Peat and Alluvium Deposits	• The habitat is situated within commercial forestry along the associated artificial drainage system. • It is likely that the habitat is supported through surface water being concentrated through this area then perched within the underlying peat deposits. • It is considered that the habitat is more likely to be ombrotrophic in nature.	Proposed New Track & Proposed T11	Low
82	M23a	Moderate	• Low Productivity Aquifer • Till Deposits	• The habitat is situated between an existing access track and commercial forestry. The existing artificial drainage system is concentrating surface water into the area in which the habitat is located. This suggests the habitat is surface water fed as opposed to groundwater. • It is considered that the habitat is more likely to be ombrotrophic in nature.	Proposed New Track	Low

Source: Natural Power (2026)

3.3.53. As presented in **Table 3.3.7**, 10 no. habitats which were classed as potential GWDTEs were assessed not being truly groundwater dependent. The assessment was based on the underlying hydrogeology, the existing ground conditions and the presence of artificial drainage systems. Therefore, it has been concluded that no actual GWDTE habitats are present within the Amended Proposed Development.

3.3.54. No further mitigation measures have been proposed.

Soils and Peat

3.3.55. The Amended Proposed Development layout has sought to address concerns relating to the impact on peat with the aim is to minimise impacts of peat through avoidance of deep peat (>1.0 m) where practicable. In light of the additional peat depth surveys carried out in relation to changes associated with the Amended Proposed Development, the following proposed infrastructure is now sited in areas that, on average, contain peat of less than 1.0 m in depth:

- T1; Now sited in an average peat depth of 0.51 m (formerly located in 0.80 m peat depth);
- T3; Now sited in an average peat depth of 0.50 m (formerly located in 1.82 m peat depth);
- T6; No sited in an average peat depth of 0.48 m (formerly located in 0.74 m peat depth);
- Associated access tracks;
  - Utilising existing access tracks where practicable and subject to track upgrades;
  - Track sections remain on peat of less than 1.0 m in depth on average;
- Temporary Construction Compound;
  - Utilising area previously used as part of the South Kyle Wind Farm Development; and
  - Now sited in an average peat depth of 0.43 m (formerly located in 0.99 m peat depth).

3.3.56. In summary, the Amended Proposed Development has been determined to result in minor (not significant) effect on site soils and peat that is greater than 0.5 m in depth, with the latest design avoiding deep peat deposits (>1.0 m in depth) where practicable.

Mitigation Measures

3.3.57. It is proposed that the following mitigation measures and best practice should be implemented, relative to the receptors discussed in this section and for the grid connection

Embedded Mitigation

PWS

3.3.58. The Amended Proposed Development has been designed through consideration of the SEPA guidance buffers[26] with no proposed infrastructure located within these buffers relative to the PWSs discussed in section 0.

3.3.59. Furthermore, the Amended Proposed Development has sought to minimise the requirement for excavation and groundworks through the use of existing access tracks where practicable. Additionally, the Amended Proposed Development has also utilised the existing borrow pit as well as siting the temporary construction compound in an area previously used as part of the South Kyle Wind Farm.

Soils and Peat

The primary approach to mitigation for effects on the soils and peat has been avoidance through an iterative design process. This has been detailed within Section 8.8 of Chapter 8 of the EIAR[21], with the Amended Proposed Development continuing to avoid deep peat deposits.

Industry Good Practice

PWS

3.3.60. The nature of the potential risk to the PWS is either a reduction in volume or reduction in quality of the water feeding the supply. Risk management techniques involve managing one or more of the components in the Source-Pathway-Receptor chain. Where practical, actual or potential pollutant linkages should be broken to eliminate the risk of a hazard impacting the receptor and where a residual risk remains, management controls and contingency arrangements should be implemented to minimise the risks to an acceptable level.

3.3.61. The following best practices should be adhered to:

Silt Laden Runoff

3.3.62. For site access, where required, the following good practice guidance shall be used:

- When working within PWS catchments, where required, silt mitigation measures should be installed prior to works commencing and ensure that these are maintained for the duration of the works;
- Trenching or excavation activities in open land should be restricted during periods of intense rainfall;
- Temporary bunding should be provided as required, to reduce the risk of sediment transport to the natural drainage system;
- Direct drainage into existing watercourses will be avoided to prevent sediment and runoff from disturbed ground being routed directly to the watercourses;
- Settlement/attenuation ponds, silt traps and silt fences will be provided adjacent to the track drains to avoid pollution and sedimentation of watercourses;
- Access track construction materials should be free draining, strong, durable and well graded;
- The movement of construction traffic should be controlled to minimise soil compaction and disturbance;
- Clearly defined permitted access routes;
- Water shall not be permitted to run down the length of the site access track; and
- Geotextile membranes should be laid underneath clean aggregate that is free from fines.

Fuels and Oils

3.3.63. The delivery, storage, transfer, handling and use of hydrocarbons often presents one of the greatest hazard sources to PWS. In addition to the good practice guidance, there are documents such as:

- Construction Industry Research and Information Association (CIRIA), ‘Environmental Good Practice on Site Guide (C811)’ (2023); and
- CIRIA, ‘Control of Water Pollution from Construction Sites (C532)’ (2001).

3.3.64. It is recommended that good practice is considered in relation to fuel management in adherence to relevant Guidance for Pollution Prevention (GPP) including safe storage and disposal of used oils (GPP8) and the requirements under the EASR. In line with the measures above, measures for bulk delivery and transfer of oils and fuels should be carried out under supervision, and designated personnel must be trained in spill response measures.

Surveillance and Site Audits

3.3.65. A programme of inspections and audits should be conducted on a regular and routine basis. As a minimum, the following elements will be included in this programme:

- Watercourses below working areas;
- Surface water and sedimentation run-off mitigation;
- Materials storage (fuels, oils, chemicals);
- Contingency controls;

- Waste management;
- Management controls;
- Emergency response and incidents; and
- Environmental issues (litter, dust, noise etc.).

3.3.66. During the construction phase, regular visual inspections of all receiving watercourses should be carried out in conjunction with reviews of environmental mitigation controls.

Soils and Peat

3.3.67. For details relating to the management and handling of peat, **Technical FEI Appendix D: Peat Management Plan** has been updated to reflect the Amended Proposed Development as well as the comments provided by SEPA. To summarise, the peat required to be excavated as part of the Amended Proposed Development can be accommodated through a combination of reinstatement and restoration techniques.

Statement of Significance

3.3.68. An assessment has been made of the predicted significance of effects of the Amended Proposed Development on PWS, GWDTE, Soils and Peat.

3.3.69. By applying embedded mitigation measures and following good practice guidelines during construction, the residual effects of the Amended Proposed Development on these receptors is assessed as being minor/negligible and therefore **not significant**.

Summary

3.3.70. The aim of this section of the FEI is to provide an update of the EIA for the changes resulting from the Amended Proposed Development and to address the comments received from the consultees in response to Chapter 8: Hydrology, Geology & Hydrogeology Assessment of the Environmental Impact Assessment Report[28]. The following topics have required to be updated by this document.

- PWS;
- Groundwater Dependent Terrestrial Ecosystems (GWDTE); and
- Soils and Peat.

3.3.71. To address the concerns relating to PWS, the FEI has provided updated information relating to PWS identified within Chapter 8 which has resulted in an updated assessment of effects. It was determined that the potential effects posed by the Amended Proposed Development on these PWS receptors are negligible and therefore not significant.

3.3.72. Furthermore, the FEI assessed the potential GWDTE habitats relating to the Amended Proposed Development and it was determined that there were no true GWDTE present within the SEPA buffers of 100 m and 250 m (depending on excavation depth). Therefore, it can be concluded that there is no impact on GWDTE.

3.3.73. In relation to peatland, the Amended Proposed Development further avoids deep peat deposits and reduces the level of impact on peat. Further phase 2 peat depth surveys were undertaken followed by an update to the **Technical FEI Appendix D: Peat Management Plan**. This concluded that the Amended Proposed Development reduces the required peat excavation volumes in comparison to the volumes associated with the EIAR whilst also detailing the approach in accommodating the excavated peat through a combination of reinstatement and restoration. As a result, it is concluded that the likely effect on peatland is assessed to be not significant.

[28] Natural Power on behalf of Vattenfall (2025) South Kyle II Environmental Impact Assessment Report – Chapter 8: Hydrology, Geology & Hydrogeology Assessment (Ref: 1354795)

3.4. Landscape

Introduction

3.4.1. This section provides a summary of the revised Landscape and Visual Impact Assessment (LVIA) taking consideration of the Amended Proposed Development and a response to the post-EIAR submission consultation responses to the application. It is supported by **FEI Figures 3.4.1-21** and should be read in conjunction with the EIAR (2025), Chapter 5 and associated figures. The assessment and response to consultation has been prepared by chartered landscape architects at WSP. A rebuttal to the Ironside Farrah Report that was issued on 5th January 2026 has been included in Appendix F of this FEI report. The Ironside Farrah Report is a review of the landscape and visual receptors within East Ayrshire.

Revised Assessment

3.4.2. The Amended Proposed Development includes eleven wind turbines at 200 m to blade tip. Three turbines in the northeast (T1, T3 and T6) have been micro-sited from the EIAR layout, and one crane hardstanding (T2) has been slightly altered to accommodate a change in access tracks. Other elements of the Amended Proposed Development have not changed from the EIAR, including one substation, one BESS, and a temporary construction compound. There would be no change to the proposed Lighting Strategy to provide aviation warning lights on the nacelles of five of the turbines, however T1 has been micro-sited. Full information on the Amended Proposed Development is set out in section 2.1 of this report.

3.4.3. As a result of changes to the turbine siting and access tracks, there has been a slight reduction to the landscape and visual effects assessed in the previous LVIA (reported in Chapter 5 of the EIAR, May 2025).

3.4.4. There has been no update to the cumulative baseline or assessment.

3.4.5. A Zone of Theoretical Visibility (ZTV) plot is illustrated in **FEI Figure 3.4.1** confirming a limited change in theoretical visibility resulting from the movement of Turbines 1, 3 and 6.

3.4.6. The revised viewpoint analysis is summarised in **Table 3.4.1** The revised level of effect is compared to the level of effect in the EIAR. Significant effects are indicated in bold text and changes from the EIAR are underlined.

3.4.7. The inclusion of the cable route in the Amended Proposed Development required no further Landscape and Visual Impact Assessment as the cable will be buried and the ground restored to a level commensurate with the existing locale.

Summary of Revised Assessment of Landscape Effects

3.4.8. Landscape Effects are concerned with how the Amended Proposed Development would affect the elements that make up the landscape, the aesthetic and perceptual aspects of the landscape, and its distinctive character. The revised landscape assessment is summarised in **Table 3.4.1.**

Landscape Effects on Landscape Character

3.4.9. There would be No Change to the assessment of landscape effects from the EIAR for the ‘host’ Landscape Character Type (LCT) or surrounding units, however there would be a slight reduction in the loss of landscape elements of the ‘host’ ECA 20c: Southern Uplands with Forest LCT as a result of the changes to the access tracks.

Landscape Effects on Designated Landscapes

3.4.10. There would be No Change to the level of effect on any designated landscapes within the Study Area as assessed in the EIAR.

Visual Effects

3.4.11. Visual effects are concerned wholly with the effect of development on views, and the general visual amenity that would be experienced by people in the landscape. The revised visual assessment is summarised in **Table 3.4.3.**

3.4.12. The ZTV and viewpoint analysis indicate that significant visual effects are likely to be limited to locations within approximately 7.2 km from the Amended Proposed Development (subject to a clear view of the proposed turbines, as well as localised screening from landform and vegetation), as indicated in **FEI Figure 3.4.1** Viewpoints 1, 4, 5, 7, 8, 10, 11, and 20.

Visual Effects on Settlements and Residential Properties

3.4.13. There would be No Change to the level of effect on settlements as assessed in the EIA Report. The settlements of Burnton (outer edge) and Dalmellington (northern edge) would be subject to likely significant effects by the Amended Proposed Development.

3.4.14. There would be ***No Change*** to the level of effect on residential properties / groups of properties within 3 km as assessed in the EIA Report. Seven residential properties / groups would be subject to likely significant effects by the Amended Proposed Development, as outlined in the EIA Report. None of the residential properties included in the Residential Visual Amenity Assessment (RVAA) would be unacceptably affected by the Amended Proposed Development in terms of their residential visual amenity.

Visual Effects on Transport Routes

3.4.15. There would be ***No Change*** to the level of effect on transport routes as assessed in the EIA Report. The A713 (Galloway Tourist Route for ~2.5 km between Waterside and Dalmellington) and B741 (~4.6 km between Gass and New Cumnock) would be subject to likely significant effects by the Amended Proposed Development.

Visual Effects on Recreational Routes

3.4.16. There would be ***No Change*** to the level of effect on recreational routes as assessed in the EIA Report. There would remain a localised and significant effect on the views of the following routes:

- Core Path D13: Dalcairnie / Auchenroy Hill circuit (overlapping with Scottish Hill Tracks 78b, 81 and Bogton Loch Circular Walk);
- Core Path D16: Bellsbank to Barbeth and Little Shalloch (overlapping with Scottish hill track 78b and 81);
- Core Path D18: Carmlarg Plantation and associated Rights of Way;
- Right of Way network accessing the Lethanhill and Benwhat former mining villages, between Patna and Burnton; and
- Rights of Way north of the B741 near Nith Lodge.

Visual Effects on Gardens and Designed Landscapes

- There would be ***No Change*** to the level of effect on Graigengillan Garden and Designed Landscape as assessed in the EIA Report, however there would be a slight ***reduction*** at Auchenroy Hill where turbine stacking / clustering of T1, T3 and T9 is improved in the Amended Proposed Development. There would be no view from Dalcairnie Waterfall and Ness Glen.

Visual Effects on Recreational and Tourist Destinations

- There would be ***No Change*** to the level of effect on recreational and tourist destinations as assessed in the EIA Report, with no significant effects reported.

Visual Effects on Recreational and Tourist Destinations

- There would be ***No Change*** to the level of effect on hill summits as assessed in the EIA Report, with no significant effects reported.

Conclusion to revised LVIA

- To conclude, the Amended Proposed Development results in some slight reductions of the landscape and visual effects reported in the EIA Report (2025). The composition of turbines when viewed from Auchenroy Hill (Viewpoint 10) within the Craigengillan Gardens and Designed Landscape is improved, however the level of effect remains unchanged.
- No significant night-time effects were found in the EIA Report and there has been no change to the aviation lighting strategy. T1 turbine is the only lit turbine that has been micro-sited in the revised layout. No new night-time effects or changes to the level of effect arise as a result of the Amended Proposed Development, including for residential receptors.

Consideration of NPF4

- NPF4 Policy 11, part 'e)' of NPF4 recognises that significant landscape and visual impacts are to be expected for some forms of renewable energy and advises that "*Where impacts are localised and/or appropriate design mitigation has been applied, they will generally be considered to be acceptable."* Taking account of the Amended Proposed Development, it is considered that the residual landscape and visual effects are localised, and appropriate design mitigation has been applied to take account of consultation advice, and technical and environmental (landscape) objectives.

Table 3.4.1: Summary of Viewpoint Analysis

Viewpoint No. and Title	Distance to nearest turbine (km)	EIA Report	Viewpoint Analysis: Amended Proposed Development			
		Level of Effect	Sensitivity	Magnitude	Level of Effect	Comments
1. Picnic area off the A713	3.2	**Major to Moderate**	High	Medium-Low	**Major to Moderate**	One additional hub would be visible from the picnic area due to the micro-siting of T1, however from much of the picnic area and along the A713 there is mature vegetative screening which would filter or full screen views of T1. Additionally, T1 would be visible alongside existing pylons in the midground which frame the view. There would be a slight ***increase*** in night-time effects, however due to angle intensity mitigation these effects would remain non-significant.
2. Bellsbank	3.9	Minor (Residents) Negligible (Road users)	High (Residents) Medium (Road users)	Very Low	Minor (Residents) Negligible (Road users)	There would be ***no change*** to the assessment.
3. Dalmellington Church	3.6	Minor	High	Very Low	Minor	There would be ***no change*** to the assessment.
4. A713 West of Dalmellington	4.9	**Substantial to Major**	High	High - Medium	**Substantial to Major**	There would be ***no change*** to the assessment.
5. Bogton Loch	5.2	**Substantial to Major**	High	High - Medium	**Substantial to Major**	There would be ***no change*** to the assessment, however T3 and T9 would appear stacked from this location.
6. Craigengillan House (Front Door)	5.5	Minor (Moderate if forestry felled)	High	Very Low (Low if forestry felled)	Minor (Moderate if forestry felled)	There would be ***no change*** to the assessment, including if the forestry is felled.
7. Craigengillan Estate (Former Dark Sky Observatory)	5.9	**Substantial to Major**	High	High - Medium	**Substantial to Major**	There would be ***no change*** to the assessment.
8. Berbeth	5.4	**Substantial to Major**	High	High - Medium	**Substantial to Major**	There would be ***no change*** to the assessment.
9. South of Beoch House Loch Doon	8.3	Minor	High	Very Low	Minor	There would be ***no change*** to the assessment.
10. Auchenroy Hill	6.7	**Major**	High	Medium	**Major**	There would be ***no change*** to the assessment, however there would be an **improvement** in the spacing with reduced clustering of T1, T3 and T9.
11. B741 West of Dalmellington	7.2	**Moderate**	Medium	Medium	**Moderate**	There would be ***no change*** to the assessment.
12. B741 Bankglen	7.8	Minor	Medium	Low	Minor	There would be ***no change*** to the assessment.
13. Cairnsmore of Carsphairn	9.2	Moderate	High	Low	Moderate	There would be ***no change*** to the assessment.

Viewpoint No. and Title	Distance to nearest turbine (km)	EIA Report	Viewpoint Analysis: Amended Proposed Development			
		Level of Effect	Sensitivity	Magnitude	Level of Effect	Comments
14. Blackcraig Hill	10.7	Moderate to Minor	High	Low-Very Low	Moderate to Minor	There would be ***no change*** to the assessment.
15. New Cumnock	10.8	Moderate	High	Low	Moderate	There would be ***no change*** to the assessment.
16. Patna Memorial	11.6	Moderate	High	Low	Moderate	There would be ***no change*** to the assessment.
17. A76 South of Mauchline	19.7	Minor	High	Very Low	Minor	There would be ***no change*** to the assessment.
18. Marrick Summit	22.2	Minor	High	Very Low	Minor	There would be ***no change*** to the assessment, however there would be an **improvement** in the spacing with reduced clustering of T1 and T2.
19. Carrick Hills	23.8	Minor	High	Very Low	Minor	There would be ***no change*** to the assessment.
20. B741 East of Dalmellington	1.3	**Major**	Medium	High	**Major**	There would be ***no change*** to the assessment. The horizontal field of view would be marginally reduced. T3, T4 and T5 would appear more closely stacked from this location, however receptors along the B741 are transient and the nature of the view would change along the route.

Note: Significant effects are indicated in bold text and changes from the EIA Report are underlined.

Table 3.4.2: Summary of Landscape Effects

Landscape Receptor	EIA Report Level of Effect	Sensitivity	Magnitude	Level of Effect	Comments
Landscape Effects on the 'host' Southern Uplands with Forest LCT					
• ECA 20c: Southern Uplands with Forest LCT: During Construction	None to **Major**	Medium	Zero to High	None to **Major**	There would be ***no change*** to the assessment, however there would be a slight ***reduction*** in the loss of landscape elements due to the revised access tracks.
• ECA 20c: Southern Uplands with Forest LCT: During Operation	**Major**	Medium	High	**Major**	There would be ***no change*** to the assessment.
• ECA 20c: Southern Uplands with Forest LCT: During Decommissioning	**Major** to Negligible	Medium	High to Very Low	**Major** to Negligible	There would be ***no change*** to the assessment.
Indirect Landscape Effects on the surrounding Landscape Character					
ECA 10: *Upland River Valley: Doon Valley* LCA	**Moderate**	High to Medium	Low	**Moderate**	There would be ***no change*** to the assessment.

Landscape Receptor	EIA Report Level of Effect	Sensitivity	Magnitude	Level of Effect	Comments
EAC 15: *Upland Basin: New Cumnock* LCA	Negligible	Medium	Very Low	Negligible	There would be ***no change*** to the assessment.
• EAC 17a: *Foothills with Forest & Opencast Mining* LCT	**Moderate**	Low	High	**Moderate**	There would be ***no change*** to the assessment.
EAC17b / SAC 17b: *Foothills with Forest west of Doon Valley* LCT	Minor	High to Medium	Low to Very Low	Minor	There would be ***no change*** to the assessment.
EAC 21: *Rugged Uplands, Lochs & Forest* LCT	Minor	High to Medium	Low to Very Low	Minor	There would be ***no change*** to the assessment.
DGC 19a: *Southern Uplands with Forest* LCT	Negligible	Low	Very Low	Negligible	There would be ***no change*** to the assessment.
DGC 19: *Southern Uplands: Carsphain* LCA	Negligible	Medium to Low	Very Low	Negligible	There would be ***no change*** to the assessment.
Landscape Effects on Landscape Designations					
Doon Valley LLA	Moderate to Minor (Significant effect on 2 of 24 SLQs)	High to Medium	Low	Moderate to Minor (Significant effect on 2 of 24 SLQs)	There would be ***no change*** to the assessment.

Note: Significant effects are indicated in bold text and changes from the EIA Report are underlined

Table 3.4.3: Summary of Visual Effects

Visual Receptor	EIA Report Level of Effect	Sensitivity	Magnitude	Level of Effect	Comments
Visual Effects on Settlements					
Bankglen, Connel Park and Leggate	Minor to No View	High	Very Low to Zero	Minor to No View	There would be ***no change*** to the assessment.
Bellsbank	No View	High	Zero	No View	There would be ***no change*** to the assessment.
Burnside	Minor	High	Very Low	Minor	There would be ***no change*** to the assessment.
Burnton	**Major** (outer edge of settlement)	High	Medium	**Major** (outer edge of settlement)	There would be ***no change*** to the assessment.
Dalmellington	**Major** (northern edge of settlement) to No View (most of settlement)	High	Medium to Zero	**Major** (northern edge of settlement) to No View (most of settlement)	There would be ***no change*** to the assessment.
New Cumnock	Moderate to No View	High	Low to Zero	Moderate to No View	There would be ***no change*** to the assessment.

Visual Receptor	EIA Report Level of Effect	Sensitivity	Magnitude	Level of Effect	Comments
Visual Effects on Residential Receptors					
RVA01 Upper Beaoch	**Moderate**	High	Low	**Moderate**	There would be ***no change*** to the assessment.
RVA Group 01(a) Nith Lodge	Minor	High	Very Low	Minor	There would be ***no change*** to the assessment.
RVA Group 01(b) Knockenlee	Moderate – Minor	High	Low – Very Low	Moderate – Minor	There would be ***no change*** to the assessment.
RVA02 Meiklehill	**Major**	High	Medium	**Major**	There would be ***no change*** to the assessment.
RVA03 Camlarg	**Major to Moderate**	High	Medium – Low	**Major to Moderate**	There would be ***no change*** to the assessment.
RVA04 Clawfin (farmhouse, bungalow and Owl Barn)	**Substantial** (bungalow) **Major** (farmhouse)	High	High (bungalow) Medium (farmhouse)	**Substantial** (bungalow) **Major** (farmhouse)	There would be ***no change*** to the assessment.
RVA Group 02(a) Bairds Bungalow	**Major to Moderate**	High	Medium – Low	**Major to Moderate**	There would be ***no change*** to the assessment.
RVA Group 02(b) Almar View	**Moderate**	High	Low	**Moderate**	There would be ***no change*** to the assessment.
RVA05 Pennyvenie Farm	**Moderate**	High	Low	**Moderate**	There would be ***no change*** to the assessment.
RVA06 Maneight	Moderate	High	Low	Moderate	There would be ***no change*** to the assessment.
Visual Effects on Transport Routes					
A713 / Galloway Tourist Route between Waterside and Dalmellington	**Major** to Zero (significantly affecting 2.5 km)	High	Low	**Major** to Zero (significantly affecting 2.5 km)	There would be ***no change*** to the assessment.
B741 between Gass and New Cumnock	• **Major** to Zero (significantly affecting 4.6 km)	Medium	High	• **Major** to Zero (significantly affecting 4.6 km)	There would be ***no change*** to the assessment.
Visual Effects on Recreational Routes					
Loch Doon Road: Core Path D11, Heritage Path and Scottish Hill Tracks 77a/78a/79	Moderate-Minor to No View	High	Low – Very Low	Moderate-Minor to No View	There would be ***no change*** to the assessment.
Core Path C10: Coalfield Cycle Route (Overlapping with Scottish Hill Track 84, Heritage Path and Rights of Way)	Moderate to No View	High	Low to Zero	Moderate to No View	There would be ***no change*** to the assessment.

Visual Receptor	EIA Report Level of Effect	Sensitivity	Magnitude	Level of Effect	Comments
Core Path C11: Knockshinnoch Lagoons	Minor to No View	High	Very Low to Zero	Minor to No View	There would be ***no change*** to the assessment.
Core Path C12: New Cumnock Circular	Moderate to No View	High	Low to Zero	Moderate to No View	There would be ***no change*** to the assessment.
Core Path D10: Patna and Waterside Circular	Moderate to Minor – No View	High	Low-Very Low to Zero	Moderate to Minor – No View	There would be ***no change*** to the assessment.
Core Path D13: Dalcairnie / Auchenroy Hill circuit (Overlapping with Scottish Hill Tracks 78b, 81 and Bogton Loch Circular Walk)	**Major** to No View (significantly affecting 4 km)	High	Medum to Zero	**Major** to No View (significantly affecting 4 km)	There would be ***no change*** to the assessment.
Core Path D14: Dalmellington to Loch Doon via Ness Glen (overlapping with Bogton Loch Circular Walk	Minor to No View	High	Very Low to Zero	Minor to No View	There would be ***no change*** to the assessment.
Core Path D16: Bellsbank to Barbeth and Little Shalloch (overlapping with Scottish hill track 78b and 81)	**Substantial to Major** (significantly affecting 2.5 km)	High	High - Medium	**Substantial to Major** (significantly affecting 2.5 km)	There would be ***no change*** to the assessment.
Core Path D18: Carmlarg Plantation and associated Rights of Way	**Moderate** to No View (significantly affecting 0.5 km)	High	Low to Zero	**Moderate** to No View (significantly affecting 0.5 km)	There would be ***no change*** to the assessment.
Right of Way network accessing the Lethanhill and Benwhat former mining villages, between Patna and Burnton	**Major to Moderate** – No View (significantly affecting 1.5 km)	High to Medium	Medium to Zero	**Major to Moderate** – No View (significantly affecting 1.5 km)	There would be ***no change*** to the assessment.
Rights of Way north of the B741 near Nith Lodge	**Major to Moderate**, to No View (significantly affecting 2 km)	High to Medium	High to Zero	**Major to Moderate**, to No View (significantly affecting 2 km)	There would be ***no change*** to the assessment.
Visual Effects on Craigengillan Garden and Designed Landscape					
Craigengillan	**Substantial to Major – to No View**	High	High – Medium to Zero	**Substantial to Major – to No View**	There would be ***no change*** to the assessment, however the composition of turbines at Auchenroy Hill (Viewpoint 10) is **improved**.
House and Stables (Viewpoint 6)	Minor (Moderate if forestry felled)	High	Very Low (Low if forestry felled)	Minor (Moderate if forestry felled)	There would be ***no change*** to the assessment, including if the forestry is felled.

Visual Receptor	EIA Report Level of Effect	Sensitivity	Magnitude	Level of Effect	Comments
Bogton Loch (Viewpoint 5)	**Substantial to Major**	High	High - Medium	**Substantial to Major**	There would be ***no change*** to the assessment, however T3 and T9 would appear stacked from this location.
Berbeth (Viewpoint 8)	**Substantial to Major**	High	High - Medium	**Substantial to Major**	There would be ***no change*** to the assessment.
Auchenroy Hill (Viewpoint 10)	**Major**	High	Medium	**Major**	There would be ***no change*** to the assessment, however there would be an **improvement** in the spacing with reduced clustering of T1, T3 and T9.
Visual Effects on Tourist / Visitor Destinations					
Bellsbank Picnic Spot (Viewpoint 1)	Moderate to Minor, to No View	High	Low-Very Low to Zero	Moderate to Minor, to No View	There would be ***no change*** to the assessment, however one additional hub would be visible from the picnic area due to the micro-siting of T1, however from much of the picnic area and along the A713 there is mature vegetative screening which would filter or full screen views of T1. Additionally, T1 would be visible alongside existing pylons in the midground which frame the view. There would be a slight ***increase*** in night-time effects, however due to angle intensity mitigation these effects would remain non-significant.
Dunaskin Open-Air Museum / Doon Valley Railway Museum	Moderate to No View	High to Medium	Low to Zero	Moderate to No View	There would be ***no change*** to the assessment.
Loch Doon Caravan Park	Moderate to Minor, to No View	High	Low to Very Low	Moderate to Minor, to No View	There would be ***no change*** to the assessment.
Lochside Hotel, and the adjacent New Cumnock Golf Club	Minor to No View	High (Medium – golfers)	Low to Zero	Minor to No View	There would be ***no change*** to the assessment.
Knockshinnock Lagoons	Moderate to Minor, to No View	High	Very Low to Zero	Moderate to Minor, to No View	There would be ***no change*** to the assessment.
Visual Effects on Hill Summits					
Cairnsmore of Carsphairn (Viewpoint 13)	Moderate	High	Low	Moderate	There would be ***no change*** to the assessment.
Blackcraig Hill (Viewpoint 14)	Moderate to Minor	High	Low-Very Low	Moderate to Minor	There would be ***no change*** to the assessment.

Note: Significant effects are indicated in bold text.

3.5. Cultural Heritage

Introduction

3.5.1. This section of the FEI identifies the cultural heritage baseline within and in the vicinity of the Amended Proposed Development and considers the Amended Proposed Development in terms of its potential impact on archaeological and historic environment. It assesses the potential impacts of the Amended Proposed Development on the baseline cultural heritage resource, within the context of relevant legislation and planning policy guidelines, and, where appropriate, proposes measures to mitigate any predicted adverse impacts.

3.5.2. The cultural heritage assessment encompasses the Amended Proposed Development Area and a 200 m buffer surrounding it, within which the potential direct effects upon all cultural heritage sites were assessed. In addition, the potential indirect effects of the Amended Proposed Development, upon the settings of all designated cultural heritage sites (scheduled monuments, listed buildings, inventory gardens and designed landscapes, and conservation areas) within a 15 km buffer of the Amended Proposed Development Area, were assessed.

3.5.3. The north and south access roads did not form part of this assessment. The south road will now not be used to access the Amended proposed Development Area. The north access road had previously been used as a haul road for the mining industry and would be used only as a haul road for delivery vehicles relating to the Amended Proposed Development. Therefore, no cultural heritage sites would be directly impacted by the Amended Proposed Development.

3.5.4. This section is supported by a Gazetteer of Cultural Heritage Sites, which is presented as Technical Appendix E. Where there is no change to the 2025 EIAR this is stated.

Legislation and Planning Policy

3.5.5. The legislation and planning policy remain unchanged to that presented within the 2025 EIAR.

Methodology

3.5.6. The method of assessment is unchanged to that presented within the 2025 EIAR.

Consultation

3.5.7. Consultation relating to the 2022 Scoping Report is presented within Chapter 9 of the EIAR (section 9.5, Table 9.7) and is not repeated here. HES responses pertaining to Cultural Heritage in relation to the EIAR are summarised in **Table 4.1** herein.

Baseline Condition

3.5.8. Thirty-four cultural heritage sites and two previous archaeological assessments are recorded within the Amended Proposed Development Area. There are a further 11 cultural heritage sites and one previous archaeological assessment within 200 m of the Amended Proposed Development Area, none of which would be directly affected by the proposal (**FEI Figure 3.5.1; Technical Appendix E**).

3.5.9. There are 321 designated cultural heritage sites within the 15 km Study Area. This total comprises 25 scheduled monuments, 14 category A listed buildings, 141 category B listed buildings, 130 category C listed buildings, six conservation areas and four inventory gardens and designed landscapes. Although not designated, one locally important burgh of barony has been included in this total (**FEI Figure 3.5.2; Technical Appendix E**).

3.5.10. This assessment is based upon data obtained from publicly accessible archives. Designation data from HES was downloaded on 19 February 2026, and data from NRHE and HER was accessed on the same day. The assessment does not account for any records which may have been amended or added after these dates.

3.5.11. In the following assessment, the reference in parenthesis (CHS and number) refers to the cultural heritage sites noted on **FEI Figures 3.5.1, 3.5.2 and 3.5.3** and at **Technical Appendix E**.

3.5.12. The archaeological time periods referred to in the text are taken from the standard date-ranges utilised by the Scottish Archaeological Framework (ScARF).

Prehistoric, Roman and Early Medieval Sites (8000 BC – AD 600)

3.5.13. There are five cultural heritage sites of prehistoric date within the Amended Proposed Development Area and a further one within the surrounding 200 m buffer. Six prehistoric Scheduled Monuments are located within the 15 km Study Area.

3.5.14. The prehistoric remains within the Amended Proposed Development Area comprise Knockenlee Burn stone setting (CHS 10), Beoch kerb cairn (CHS 11), Dalmellington cairn (CHS 20), Knockskae cairn (CHS 23) and Mossdale cairn (CHS 26), all of which are related to ritual activity.

3.5.15. This ritual theme is continued outwith the Amended Proposed Development Area with Lethans Hill standing stones (CHS 35) being located in the 200 m buffer and The King's Cairn Scheduled Monument (CHS 357), Craigengillan Cairn Scheduled Monument (CHS 358), Cairn Avel Scheduled Monument (CHS 360), Holm of Daltallochan Standing Stone Scheduled Monument (CHS 365) and Holm of Daltallochan Stone Circle Scheduled Monument (CHS 366)all within the 15 km Study Area. The sole prehistoric settlement within the Study Area is Knockdon Enclosure Scheduled Monument (CHS 73).

3.5.16. There are no known Roman or early medieval remains within the Amended Proposed Development Area, or within the 200 m and 15 km buffers.

Medieval Sites (AD 600 – AD 1600)

3.5.17. There is one cultural heritage site of medieval date within the Amended Proposed Development Area and two within the 200 m buffer. A further 14 medieval cultural heritage sites are located within the 15 km Study Area.

3.5.18. Within the Amended Proposed Development Area is Trough Burn enclosure, head dyke, sheepfold, and rig and furrow (CHS 28). The rig and furrow cultivation remains may have its origins in the medieval period.

3.5.19. Within the 200 m buffer of the Amended Proposed Development Area are Dame Helen's Castle (CHS 43), a possible motte and bailey earthwork, and an irregular area of rig-and-furrow cultivation (CHS 45).

3.5.20. Within the 15 km Study Area are Dalnean Hill, Farmstead and Field System Scheduled Monument (CHS 63), Donald's Isle Scheduled Monument (CHS 70), Loch Doon Castle Scheduled Monument (CHS 71 and CHS 72), Cloncaird Castle (CHS 121), Laight Castle Scheduled Monument (CHS 174), Skeldon Castle (CHS 178), Trabboch Castle Scheduled Monument (CHS 192), Auchencloigh Castle Scheduled Monument (CHS 194), Auchinleck Castle Scheduled Monument (CHS 266), Kyle Castle Scheduled Monument (CHS 350), Braidenoch Hill Scheduled Monument (CHS 359), Holm of Daltallochan Scheduled Monument (CHS 363), and Dalmellington Motte (CHS 368).

Post-medieval and Modern Sites (AD 1600 – 2000)

3.5.21. There are 28 known cultural heritage sites of post-medieval or modern date within the Amended Proposed Development Area, and a further eight within the surrounding 200 m buffer. Within the 15 km Study Area are 268 designated cultural heritage sites of post-medieval or modern date.

3.5.22. Cartographic and bibliographic sources were used to investigate the history of the Amended Proposed Development Area and to provide detail on the land-use from the seventeenth century onwards.

3.5.23. The seventeenth century maps contained little information about the Amended Proposed Development Area, although all noted Dalmellington and Dalmellington Castle (Gordon 1636-52[29]; Pont and Blaeu 1654[30]; Pont and Blaeu 1662[31]; Adair 1685[32]).

3.5.24. The earliest map to record the area in any detail was Roy's 1747-55 *Military Survey of Scotland*[33] which recorded the Amended Proposed Development Area as uncultivated upland. By this time, the Castlemerk of Dalmellington (CHS 48) had been established as had settlements at Muck Water (CHS 24) and Parrie Burn (CHS 19).

3.5.25. The later eighteenth and earlier nineteenth century maps did not record the land-use within the Amended Proposed Development Area, although both maps recorded Mossdale farmstead (CHS 25), which comprised two structures (Armstrong 1775[34]; Thomson and Johnson 1828[35]).

3.5.26. The 1860 Ordnance Survey maps[36] demonstrated that the land-use was then upland rough grazing. This land-use is reflected in the numerous sheepfolds recorded within the Amended Proposed Development Area (CHS 2, CHS 3, CHS 4, CHS 5, CHS 6, CHS 7, CHS 8, CHS 13, CHS 14, CHS 15, CHS 16, CHS 21, CHS 30, CHS 31, CHS 32, CHS 33 and CHS 34). Other agricultural remains are Knocklee Burn farmstead (CHS 12) and Mossdale enclosure, field system and structure (CHS 25). Also within the Amended Proposed Development Area are Knockenlee Burn quarry (CHS 9) and the linear features Pickhan's Dyke (CHS 18) and Mossdale Burn bank (CHS 27). Within the 200 m buffer, these same maps recorded Meiklehill farmstead (CHS 36), Knocklee Burn quarry (CHS 37), Clawfin farmstead (CHS 38), Pennyvenie No. 4 colliery (CHS 39), Cumnock Burn house (CHS 40), Cumnock Burn structures (CHS 41), Miller's Bank structure (CHS 42) and Kirk Bridge (CHS 44).

3.5.27. Subsequent Ordnance Survey maps confirmed that the land-use continued as rough grazing until at least the early 1970s (Ordnance Survey 1910[37]; Ordnance Survey 1911[38]; Ordnance Survey 1948[39]; Ordnance Survey 1958a[40]; Ordnance Survey 1958b[41]; Ordnance Survey 1958c[42]).

3.5.28. None of the maps consulted recorded Meikle Hill boundary bank (CHS 1), Parrie Burn enclosures (CHS 22) or Trough Burn earthwork bank (CHS 29).

Previous Archaeological Assessment

3.5.29. Two previous assessments of all or part of the Amended Proposed Development have been carried out.

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[29] Gordon, R 1636-52 *Cunningham.* Manuscript map.

[30] Pont, T and Blaeu, J 1654 *Carrick*. Amsterdam: Blaeu.

[31] Pont, T and Blaeu, J 1662 *Carrick*. Amsterdam: Blaeu.

[32] Adair, J 1685 *A mape of the west of Scotland containing Clydsdail, Nithsdail, Ranfrew, Shyre of Ayre, & Galloway / authore Jo. Adair.* Manuscript map.

[33] Roy, W 1747-55 *Military Survey of Scotland: Lowlands.*

[34] Armstrong, A 1775 *A new map of Ayrshire.*

[35] Thomson, J and Johnson, W 1828 *Northern Part of Ayrshire: Southern Part.* Edinburgh: J. Thomson & Co.

[36] Ordnance Survey 1860 *Ayrshire Sheet XLVI*. Six-inch 1st edition maps 1843-1882 and Ordnance Survey 1860 *Ayrshire Sheet XLVII*. Six-inch 1st edition maps 1843-1882.

[37] Ordnance Survey 1910 *Ayrshire Sheet XLVII.SW*. Six-inch 2nd and later editions 1892-1960.

[38] Ordnance Survey 1911 *Ayrshire Sheet XLVI.SE*. Six-inch 2nd and later editions 1892-1960.

[39] Ordnance Survey 1948 Ayrshire Sheet XLVI.SE. Six-inch 2nd and later editions 1892-1960.

[40] Ordnance Survey 1958 *NS40NE – A.* 1:10,560 National Grid maps 1944-73.

[41] Ordnance Survey 1958 *NS40SE* – A. 1:10,560 National Grid maps 1944-73.

[42] Ordnance Survey 1958 *NS50NW* – A. 1:10,560 National Grid maps 1944-73.

3.5.30. An archaeological survey (CHS 46) undertaken in 2004 on the site of the then proposed Kyle Wind Farm recorded 97 sites of archaeological significance (CFA Archaeology Ltd. 2004[43]).

3.5.31. A second survey (CHS 47) was carried out in 2008 for the South-West Scotland Renewables Connection Project (CFA Archaeology Ltd. 2008[44]).

Vertical Aerial Photographs

3.5.32. One set of aerial photographs covering the year 1988 was consulted for this assessment. In addition, satellite imagery from Google Earth covering the period 1985 to 2021 was examined.

3.5.33. The aerial photographs recorded the Proposed Development Area as rough pasture with many of the sheepfolds visible on the images.

3.5.34. No previously unrecorded cultural heritage sites were noted on any of the aerial photographs or satellite images consulted for this assessment.

LiDAR

3.5.35. The LiDAR Digital Terrain Model examined is a raster elevation model at a 0.5 m to 1 m spatial resolution.

3.5.36. No previously unrecorded cultural heritage sites were noted on the LiDAR images.

Field Survey

3.5.37. A walkover survey of the Proposed Development Area was carried out between 30 May and 2 June 2022 in warm and sunny weather conditions. All cultural heritage sites within the Proposed Development Area were visited, photographed and their condition noted.

3.5.38. The terrain over the Proposed Development Area was very rough with thick woodland covering a significant amount of the Proposed Development Area.

3.5.39. All known cultural heritage sites were visited, photographed and their condition assessed. No previously unrecorded cultural heritage remains were noted during the walkover survey.

3.5.40. No walkover survey of the Amended Proposed Development Area was carried out as the baseline assessment recorded that no known cultural heritage sites were located within this area and therefore it was deemed unnecessary.

Potential Issues

Direct Effects

3.5.41. Potential adverse direct effects on known cultural heritage features can occur within the area of a development where avoidance of such features is not possible. There is also the potential for direct effects on as-yet-undiscovered archaeological remains, which may occur where, for example, sub-surface remains are present but have not yet been identified because they have no visible, above-ground elements.

3.5.42. Direct effects on known or as-yet-unidentified cultural heritage features may result from:

- Ground-breaking related to a development, including site establishment and from the excavation and the extraction of stone or other material;
- Movement of machines over or near to sensitive areas, resulting in the disturbance of elements of a feature, including through the rutting and / or compaction of archaeological deposits.

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[43] CFA Archaeology Ltd 2004 *Environmental Statement for Kyle Wind Farm - Chapter 15: Archaeology and Cultural Heritage.*

[44] CFA Archaeology Ltd. 2008 *Desk-Based Assessment and Walkover Survey: South-West Scotland Renewables Connection Project.*

3.5.43. Direct effects on the archaeological resource are typically permanent and irreversible.

Setting Effects

3.5.44. Potential indirect effects comprise effects on the setting of designated cultural heritage sites. These include Listed Buildings, Scheduled Monuments, Inventory Gardens and Designed Landscapes, Conservation Areas and World Heritage Sites. While these potential effects are primarily visual in nature, there are instances where the setting of a cultural heritage feature may be affected even when important views to or from that feature are not affected, for example, where the development affects the curtilage of a listed building but is not visible in important views from or to that building.

3.5.45. Potential setting effects include:

- Effects on the inter-relationships between features;
- Effects on the relationship of a feature to the wider landscape within which it sits;
- Effects on other significant views from or to features.

3.5.46. In addition to effects from a development, effects on setting may result from:

- Changes in views associated with the establishment phase of development;
- Changes in views resulting from the operation of a development.

Assessment of Effects

Assessment of Direct Effects

3.5.47. The baseline studies identified 34 cultural heritage sites that could potentially be directly impacted by the Amended Proposed Development.

3.5.48. The lay-out of the Amended Proposed Development is such that no known cultural heritage sites would be directly impacted during the construction or operational phases.

3.5.49. The inclusion of the grid connection in the Amended Proposed Development required no further Cultural Heritage desk based or survey work as the location of the cable route had been included in the initial baseline assessment and walkover survey set out in the EIAR. There are no known heritage assets along the cable route and, consequently, no direct effects are identified as a result of the Amended Proposed Development.

3.5.50. The inclusion of the grid connection in the Amended Proposed Development required no further Cultural Heritage Assessment as the location of the cable route had been included in the initial baseline assessment and walkover survey.

3.5.51. The following assessment of direct effects is based on the methodology outlined in the EIAR.

3.5.52. **Table 3.5.1** demonstrates that no Moderate or Major adverse direct effects upon known cultural heritage remains within the Proposed Development Area are anticipated.

Table 3.5.1: Direct Effect Assessment

Site #	Site Name	Sensitivity	Magnitude of Effect	Significant Effect?
1	Meikle Hill boundary bank	Lesser	Negligible/No change	None
2	Knipe Hill sheepfold	Lesser	Negligible/No change	None
3	Peddinnan Burn sheepfold	Lesser	Negligible/No change	None
4	River Nith sheepfold	Lesser	Negligible/No change	None
5	River Nith field system and sheepfold	Lesser	Negligible/No change	None

Site #	Site Name	Sensitivity	Magnitude of Effect	Significant Effect?
6	River Nith enclosure	Lesser	Negligible/No change	None
7	Powkelly Burn sheepfold	Lesser	Negligible/No change	None
8	Knockenlee Burn sheepfold	Lesser	Negligible/No change	None
9	Knockenlee Burn quarry	Lesser	Negligible/No change	None
10	Knockenlee Burn stone setting	Lesser	Negligible/No change	None
11	Beoch kerb cairn	Low	Negligible/No change	None
12	Knocklee Burn farmstead	Lesser	Negligible/No change	None
13	Linn Water sheepfold	Lesser	Negligible/No change	None
14	Linn Water pen	Lesser	Negligible/No change	None
15	Ashbeugh Glen sheepfold	Lesser	Negligible/No change	None
16	Clawfin farmstead	Lesser	Negligible/No change	None
17	Knockgirran circular sheepfold	Lesser	Negligible/No change	None
18	Pickan's Dyke boundary bank and ditch	Low	Negligible/No change	None
19	Parrie Burn structures and enclosure	Lesser	Negligible/No change	None
20	Dalmellington cairn	Lesser	Negligible/No change	None
21	Kirn Bridge enclosure	Lesser	Negligible/No change	None
22	Parrie Burn enclosures	Lesser	Negligible/No change	None
23	Knockskae cairn	Lesser	Negligible/No change	None
24	Muck Water settlement	Lesser	Negligible/No change	None
25	Mossdale enclosure, field system and structure	Lesser	Negligible/No change	None
26	Mossdale cairn	Low	Negligible/No change	None
27	Mossdale Burn bank	Lesser	Negligible/No change	None
28	Trough Burn enclosure, head dyke, sheepfold, and rig and furrow	Low	Negligible/No change	None
29	Trough Burn earthwork bank	Low	Negligible/No change	None
30	Corbie Craig sheepfold	Lesser	Negligible/No change	None
31	Mossdale Burn sheepfold	Lesser	Negligible/No change	None
32	Shiel Burn enclosure complex, sheepfolds	Lesser	Negligible/No change	None
33	Benbrack Burn sheepfold	Lesser	Negligible/No change	None
34	Benbrack Burn sheiling	Lesser	Negligible/No change	None

Assessment of Effect on Setting

3.5.53. The baseline assessment established that there are 321 designated cultural heritage sites within 15 km of the Proposed Development Area that could potentially be affected by the Proposed Development. This number comprises 25 Scheduled Monuments, eight Conservation Areas, four Inventory Gardens and Designed Landscapes, 13 Category A Listed Buildings, 141 Category B Listed Buildings, 136 Category C Listed Buildings and one burgh of barony which is of local cultural heritage importance.

3.5.54. The ZTV was used to determine which of the designated cultural heritage sites would be unaffected by the proposal (**FEI Figure 3.5.3**). This exercise established that 216 designated cultural heritage sites would have no visibility of the turbine blades. From the definitions at EIAR Table 9.5, the Amended Proposed Development would therefore give rise to a negligible change to these designated cultural heritage sites, resulting in **no significant effect** upon their settings. Amended Proposed Development would result in no change to the pre-project settings of these designated cultural heritage sites, resulting in no significant effect upon their settings. Consequently, no further setting assessment was carried out at CHS 48 to CHS 59, CHS 65, CHS 66, CHS 69, CHS 72, CHS 73, CHS 75 to CHS 109, CHS 111 to CHS 117, CHS 120 to CHS 162, CHS 164, CHS 167 to CHS 173, CHS 175 to CHS 181, CHS 184, CHS 191 to CHS 194, CHS 196 to CHS 249, CHS 257 to CHS 267, CHS 269 to CHS 281, CHS 285 to CHS 332, CHS 346 to CHS 350, CHS 356 to CHS 359, CHS 361 to CHS 366.

3.5.55. To ensure compliance with HES and CIfA guidance, the 25 Scheduled Monuments, 13 category A Listed Buildings, and four Inventory Gardens and Designed Landscapes were subject to a setting impact assessment. In addition, all Conservation Areas, category B and category C Listed Buildings where visibility of any turbine blades was indicated by ZTV were subject to a setting impact assessment. Thus, 105 designated cultural heritage sites were visited and the potential effect upon their setting was assessed using EIAR Tables 9.4 to 9.6 and the Historic Environment Scotland guidance *Managing Change in the Historic Environment: Gardens and Designed Landscapes* (2020) and *Managing Change in the Historic Environment: Setting* (2020), and the Chartered Institute for Archaeologists publications *Standard and guidance for commissioning work or providing consultancy advice on archaeology and the historic environment* (2020) and *Standard and guidance for historic environment desk-based assessment* (2020). The results of the assessment are at Table 3.5.2 and in the paragraphs immediately following it.

3.5.56. Table 3.5.2 below shows the results of a re-assessment of the potential effects upon the settings of designated cultural heritage sites within the 15 km Study Area, and includes several changes from EIAR Table 9.8. A re-appraisal of ZTV demonstrated that the Amended Proposed Development would not be visible from Castlemerk of Dalmellington (CHS 48), Craigen Gillan Lodge (CHS 58) and Craigengillan Bridge (CHS 59).

3.5.57. For clarity, many designated cultural heritage sites with no turbine visibility that previously were listed in EIAR Table 9.8 have been removed from Table 3.5.2. The exceptions to this are Scheduled Monuments, category A Listed Buildings and Inventory Gardens and Designed Landscapes all of which are within the remit of HES. HES had asked that the potential impacts on such sites be fully assessed.

3.5.58. The change in design of the Amended Proposed Development did not result in any changes to this FEI assessment of potential impacts upon the settings of designated cultural heritage sites.

3.5.59. **Table 3.5.2** demonstrates that no Moderate or Major adverse effects upon the settings of designated cultural heritage sites within the 15 km Study Area are anticipated.

Table 3.5.2: Setting Impact Assessment

Site #	Site Name	Site Designation	Sensitivity	Magnitude of Effect	Significance of Effect
60	Craigengillan Designed Landscape	IGDL	High	Negligible/ No Change	None
61	Bogton Loch Airfield	Scheduled Monument	High	Negligible/ No Change	None

Site #	Site Name	Site Designation	Sensitivity	Magnitude of Effect	Significance of Effect
62	Doon Bridge on Straiton Road	B Listed	Medium	Negligible/ No Change	None
63	Dalnean Hill, Farmstead and Field System	Scheduled Monument	High	Negligible/ No Change	None
64	Dalcairnie Bridge	C Listed	Low	Negligible/ No Change	None
67	Craigengillan House	A Listed	High	Negligible/ No Change	None
68	Craigengillan Stables	A Listed	High	Negligible/ No Change	None
70	Donald's Isle	Scheduled Monument	High	Negligible/ No Change	None
71	Loch Doon Castle I	Scheduled Monument	High	Negligible/ No Change	None
72	Loch Doon Castle II	Scheduled Monument	High	Negligible/ No Change	None
73	Knockdon Enclosure	Scheduled Monument	High	Negligible/ No Change	None
74	Munteoch Settlement and Field Systems	Scheduled Monument	High	Negligible/ No Change	None
108	Straiton Parish Church	A Listed	High	Negligible/ No Change	None
109	Straiton Paris Churchyard	A Listed	High	Negligible/ No Change	None
110	Blairquhan	IGDL	High	Negligible/ No Change	None
117	Blairquhan House	A Listed	High	Negligible/ No Change	None
118	Girvan Lodge	C Listed	Low	Negligible/ No Change	None
119	Longhill	B Listed	Medium	Negligible/ No Change	None
125	Drumfad Dovecot	A Listed	High	Negligible/ No Change	None
163	Guitreehill Farmstead	C Listed	Low	Negligible/ No Change	None
165	Waterside Bing	Scheduled Monument	High	Negligible/ No Change	None
166	Waterside Ironworks	Scheduled Monument	High	Negligible/ No Change	None
167	Waterside Engine House	A Listed	High	Negligible/ No Change	None

Site #	Site Name	Site Designation	Sensitivity	Magnitude of Effect	Significance of Effect
173	Miners' Villages and Mineral Railways	Scheduled Monument	High	Negligible/ No Change	None
174	Laight Castle	Scheduled Monument	High	Negligible/ No Change	None
176	Skeldon House	IGDL	High	Negligible/ No Change	None
182	Bogside Farmstead	B Listed	Medium	Negligible/ No Change	None
183	Low Coylton, Old Parish Church and Graveyard	B Listed	Medium	Negligible/ No Change	None
185	Coylton Parish Church	B Listed	Medium	Negligible/ No Change	None
186	High Barbeth	C Listed	Low	Negligible/ No Change	None
187	Drongan House	B Listed	Medium	Slight	Minor
188	Drongan House North Wing	B Listed	Medium	Slight	Minor
189	Drongan House South Wing	B Listed	Medium	Slight	Minor
192	Trabboch Castle	Scheduled Monument	High	Negligible/ No Change	None
194	Auchencloigh Castle	Scheduled Monument	High	Negligible/ No Change	None
195	Findlayston Farmstead	C Listed	Low	Slight	Negligible
246	Ochiltree Conservation Area	Conservation Area	Medium	Negligible/ No Change	None
250	South Lodge Gates and Railings	C Listed	Low	Slight	Negligible
251	Auchinleck House Gates	B Listed	Medium	Negligible/ No Change	None
252	Auchinleck House Stables	B Listed	Medium	Negligible/ No Change	None
253	Auchinleck House Coachhouse	B Listed	Medium	Negligible/ No Change	None
254	Auchinleck House Water Tower/Dovecot	B Listed	Medium	Negligible/ No Change	None
255	Auchinleck House Ha-ha	B Listed	Medium	Negligible/ No Change	None
256	Auchinleck House	A Listed	High	Negligible/ No Change	None
265	Auchinleck Old House	Scheduled Monument	High	Negligible/ No Change	None
266	Auchinleck Castle	Scheduled Monument	High	Negligible/ No Change	None

Site #	Site Name	Site Designation	Sensitivity	Magnitude of Effect	Significance of Effect
268	Barony Colliery	B Listed	Medium	Negligible/ No Change	None
269	Dumfries House	IGDL	High	Negligible/ No Change	None
270	The Gothic Temple Lodge	A Listed	High	Negligible/ No Change	None
271	Adam Bridge	A Listed	High	Negligible/ No Change	None
274	Dumfries House Dovecote	A Listed	High	Negligible/ No Change	None
276	Dumfries House	A Listed	High	Negligible/ No Change	None
282	Highhouse Colliery	B Listed	Medium	Negligible/ No Change	None
283	Old Parish Church and Graveyard	B Listed	Medium	Negligible/ No Change	None
284	Barony Church	C Listed	Low	Negligible/ No Change	None
299	Market Cross	A Listed	High	Negligible/ No Change	None
330	Bank Viaduct	A Listed	High	Negligible/ No Change	None
332	Lugar Conservation Area	Conservation Area	Medium	Negligible/ No Change	None
333	Craigston House	B Listed	Medium	Negligible/ No Change	None
334	Lugar Parish Church	C Listed	Low	Negligible/ No Change	None
335	Lugar Church Manse	C Listed	Low	Negligible/ No Change	None
336	1 Craigston Square	B Listed	Medium	Negligible/ No Change	None
337	2 Craigston Square	B Listed	Medium	Negligible/ No Change	None
338	3 Craigston Square	B Listed	Medium	Negligible/ No Change	None
339	4 Craigston Square	B Listed	Medium	Negligible/ No Change	None
340	5 Craigston Square	B Listed	Medium	Negligible/ No Change	None
341	6 Craigston Square	B Listed	Medium	Negligible/ No Change	None

Site #	Site Name	Site Designation	Sensitivity	Magnitude of Effect	Significance of Effect
342	7 Craigston Square	B Listed	Medium	Negligible/ No Change	None
343	8 Craigston Square	B Listed	Medium	Negligible/ No Change	None
344	9 Craigston Square	B Listed	Medium	Negligible/ No Change	None
345	10 Craigston Square	B Listed	Medium	Negligible/ No Change	None
350	Kyle Castle	Scheduled Monument	High	Negligible/ No Change	None
351	Nith Bridge	B Listed	Medium	Negligible/ No Change	None
352	Old Church and Churchyard	B Listed	Medium	Negligible/ No Change	None
353	Town Hall	C Listed	Low	Negligible/ No Change	None
354	Martyrs Parish Church	B Listed	Medium	Negligible/ No Change	None
355	Mossmark of Oldmill	C Listed	Low	Negligible/ No Change	None
357	The King's Cairn	Scheduled Monument	High	Negligible/ No Change	None
358	Craigengillan Cairn	Scheduled Monument	High	Negligible/ No Change	None
359	Braidenoch Hill	Scheduled Monument	High	Negligible/ No Change	None
360	Cairn Avel	Scheduled Monument	High	Negligible/ No Change	None
361	Carsphairn Parish Church	C Listed	Low	Negligible/ No Change	None
362	Carsphairn Churchyard	B Listed	Medium	Negligible/ No Change	None
363	Holm of Daltallochan	Scheduled Monument	High	Negligible/ No Change	None
365	Holm of Daltallochan Standing Stone	Scheduled Monument	High	Negligible/ No Change	None
366	Holm of Daltallochan Stone Circle	Scheduled Monument	High	Negligible/ No Change	None
367	Woodhead Lead Mines and Smelter	Scheduled Monument	High	Negligible/ No Change	None
368	Dalmellington Motte	Scheduled Monument	High	Negligible/ No Change	None

Cultural heritage sites where no significant impact is anticipated

3.5.60. The setting assessment established that the topography of the area around the Proposed Development Area meant that visibility of the turbines from many of the designated cultural heritage sites would not be possible. This factor, coupled with instances of intervening buildings and/or woodland or tree belts, means that there would be no intervisibility between the Proposed Development Area and the following designated cultural heritage sites.

3.5.61. The local topography would prevent intervisibility between the Amended Proposed Development and Bogside Farmstead (CHS 182).

3.5.62. Intervening buildings means that there would be no intervisibility between the Amended Proposed Development and Coylton Old Parish Church and Graveyard (CHS 183), Coylton Parish Church (CHS 185), Auchinleck House Stables (CHS 252), Auchinleck House Coachhouse (CHS 253), Auchinleck House Dovecot (CHS 254), Auchinleck House Ha-ha (CHS 255), Craigston House (CHS 333), Lugar Parish Church (CHS 334), Lugar Church Manse (CHS 335), 1 to 10 Craigston Square (CHS 336 to CHS 345), Nith Bridge (CHS 351), Old Church and Churchyard (CHS 352), Town Hall (CHS 353), Martyrs Parish Church (CHS 354) and Mossmark of Oldmill (CHS 355).

3.5.63. Although it is accepted that screening from existing woodland and trees cannot necessarily be taken as permanent, the many belts and plantations of historic woodland means that there would be no intervisibility between the Amended Proposed Development and Dalcairnie Bridge (CHS 64), Girvan Lodge (CH 118), Longhill (CHS 119), Guitreehill Farmstead (CHS 163), High Barbeth (CHS 186), Auchinleck House Gates (CHS 251), Barony Colliery (CHS 268), Highhouse Colliery (CHS 282), Old Parish Church and Graveyard (CHS 283) and Barony Church (CHS 284).

3.5.64. Craigengillan IGDL (CHS 60; **FEI Figure 3.5.4**) lies to the WSW of, and occupies lower land than, the Amended Proposed Development. The IGDL dates from the late eighteenth/early nineteenth century, and incorporates a category A Listed house and stables (CHS 67 and CHS 68), formal gardens, extensive policy woodland, and outstanding archaeological remains in the form of Dalnean Hill Farmstead and Field System Scheduled Monument (CHS 63). Some lower-lying areas of the IGDL, particularly the woodlands running along the River Doon, do not have intervisibility with the Site. There are no key views identified by HES in the Inventory, and views out to the surrounding countryside are largely interrupted by the woodland within the IGDL itself. The Amended Proposed Development is unlikely to impact upon the ability to appreciate the wider setting of the IGDL. It is, therefore, assessed that the Amended Proposed Development gives rise to a negligible / no change to this designated cultural heritage site, resulting in **no significant effect** upon the setting of Craigengillan IGDL.

3.5.65. Bogton Loch Airfield Scheduled Monument (CHS 61) is located in an agricultural field to the west of the Proposed Development Area, and ZTV has indicated that 11 turbines could be visible from the Scheduled Monument. The only visible remains of the airfield are some concrete and brick platforms. Although from the south end of the Monument, visibility of the Amended Proposed Development is screened by trees, there is intervisibility between the Amended Proposed Development and the north-western end of the Scheduled Monument. While some turbines would likely be visible from that vantage point, it would not impede the ability to understand, interpret and appreciate the Scheduled Monument within its setting. The Amended Proposed Development would, therefore, give rise to a negligible / no change to this heritage asset, resulting in **no significant adverse impact** upon the setting of the Scheduled Monument.

3.5.66. The ZTV and the wireline indicate that Dalnean Hill Farmstead and Field System Scheduled Monument (CHS 63; **FEI Figure 3.5.5**) would have visibility of the Amended Proposed Development as well as the existing turbines from North Kyle, South Kyle I, Enoch Hill, Enoch Hill II and Benbrack. However, the Scheduled Monument lies wholly within Craigengillen IGDL, and the existing woodland within the designed landscape would effectively screen visibility of the Amended Proposed Development and the aforementioned windfarms. Any glimpses of the turbines would not impact the ability to understand and appreciate the Scheduled Monument in its setting. Consequently, it is assessed that the Amended Proposed Development would give rise to a negligible / no change to this heritage asset, resulting in **no significant adverse impact** upon the setting of the Scheduled Monument.

3.5.67. Munteoch Settlement and Field Systems Scheduled Monument (CHS 74) is located to the WSW of the Site. It is positioned on the outskirts of, and partly within, a modern commercial forestry plantation. The ZTV indicates that

blade tip visibility varies between no turbine visibility up to 11 turbines being visible. However, at ground level, any such visibility would be restricted by the intervening forestry and lessened by the distance of over 8 km between the Scheduled Monument and the closest turbine. Despite there being some intervisibility, the Amended Proposed Development would not affect the ability to understand and appreciate the settlement and field systems in their setting. It is assessed that the Amended Proposed Development would give rise to a negligible / no change to this heritage asset, resulting in **no significant adverse impact** upon the setting of the Scheduled Monument.

3.5.68. ZTV has indicated that 11 turbines could be visible from Doon Bridge on Straiton Road (CHS 62). The setting assessment found that intervening bushes and trees prevent any visibility of the turbines. Consequently, it is assessed that the Amended Proposed Development would constitute a negligible / no change alteration to this heritage asset, resulting in **no significant adverse impact** upon the setting of this category B Listed Building.

3.5.69. The wireframe from Craigengillan House (CHS 67; **FEI Figure 3.5.6**) showed that 11 turbine blades would potentially be visible from this category A Listed Building. However, a meeting with the landowner of Craigengillan Estate which took place in September 2024 determined that the optimum view to the Proposed Development Area was from a second-storey room where visibility towards the Proposed Development Area was less restricted than from any other room in Craigengillan House. Given the difficulty in finding an appropriate interior window which would have relatively unrestricted visibility towards the Proposed Development Area, it is unlikely that the Proposed Development would have a significant adverse impact of the setting of this category A Listed Building. The photomontage showing the view towards the Proposed Development from the entrance forecourt of Craigengillan House (**FEI Figure 3.5.4**) demonstrates that there will be no visibility of turbines. It is, therefore, assessed that the Amended Proposed Development would have **no significant adverse impact** upon the setting of this category A Listed Building.

3.5.70. The wireframe and photomontage from the category A Listed Craigengillan Stables (CHS 68; **FEI Figure 3.5.7**) also showed that 11 turbines would potentially be visible. Here too, existing commercial woodland planting intervenes between the stables and the Proposed Development Area. The photomontage demonstrates that that there will be no visibility of turbines, and it is assessed that the Amended Proposed Development would have **no significant adverse impact** upon the setting of this category A Listed Building.

3.5.71. From Donald's Isle Scheduled Monument (CHS 70), ZTV indicates that four to five turbines would potentially be visible. The island where the Monument is located could not be accessed and the setting assessment was carried out from the closest point on land and, as far as was possible, from a similar elevation of 213 m OD. The assessment found that established woodland intervenes between the Amended Proposed Development and the Monument, and that the Amended Proposed Development would give rise to a negligible / no change to this designated cultural heritage site, resulting in **no significant effect** upon the setting of the Scheduled Monument.

3.5.72. Loch Doon Castle I Scheduled Monument (CHS 71; **FEI Figure 3.5.8**) is located on Loch Doon and, like Donald's Isle, was not accessible. ZTV indicated that four to five turbines could be visible from the Monument, and this is borne out by the wireframe (**FEI Figure 3.4.9 Viewpoint 9**) where approximately half of one blade and only the tips of a further four are visible on the horizon. Given these factors, it is assessed that the Amended Proposed Development would give rise to a negligible / no change to this designated cultural heritage site, resulting in **no significant adverse impact** upon the setting of the Scheduled Monument.

3.5.73. Blairquhan IGDL (CHS 110) lies to the west of the Site and, from the ZTV, up to seven turbines could be visible from the south-west corner of the designed landscape; there would be no turbine visibility from the remainder of the IGDL. The setting assessment found that amenity woodland entirely occupies the south-west corner of the IGDL, meaning that the Amended Proposed Development would give rise to a negligible / no change to this designated cultural heritage site, resulting in **no significant adverse impact** upon the setting of the Designed Landscape.

3.5.74. Waterside Bing (CHS 165; **FEI Figure 3.5.9**) is located to the south of the A713 and is an impressively large pile of iron slag which is the waste material from Waterside Ironworks (CHS 166). While the ZTV demonstrates theoretical intervisibility between the bing and the Amended Proposed Development, with up to 11 blades visible, the wireframe shows that no turbines would actually be visible. The Amended Proposed Development would not interfere with understanding the relationship between the separate monuments associated with the Ironworks, or with appreciating

the bing in its setting. Consequently, the Amended Proposed Development would constitute a negligible / no change to the asset resulting in **no significant adverse impact** upon the setting of the Scheduled Monument.

3.5.75. Waterside Ironworks Scheduled Monument (CHS 166) is located at the south-eastern end of the Conservation Area, to the north of the A713. Waterside Engine House (CHS 167) a category A Listed Building, is located within this Scheduled area. The Scheduled area includes a variety of elevations; the upstanding industrial remains occupy a platform located at approximately 165 m AOD, while part of the Scheduled area extends up the hillside reaching approximately 205 m AOD. The higher ground generally extends along a small gorge created by the Dunaskin burn meaning that there is no intervisibility between this part of the Scheduled area and the Site. The south-eastern part of the upstanding industrial remains on the lower-lying platform are screened by trees. There is a small area of the Scheduled area, which includes the Engine House, where there is a direct line of sight across the tops of the trees towards Site. Although part of the proposed development may be visible from part of the Scheduled Monument, as well as the category A Listed Building, this would have a negligible impact on the ability to interpret and understand the remains of the Ironworks and associated structures within their setting. It is assessed that the Amended Proposed Development would have **no significant adverse impact** on the setting of this Scheduled Monument and category A Listed Building.

3.5.76. Miner's Villages and Mineral Railways Scheduled Monument (CHS 173: **FEI Figure 3.5.10**) is spread across a wide area from where there is likely to be some visibility of the Amended Proposed Development. Although **FEI Figure 3.5.10** does not reflect this, the ZTV demonstrates that while some parts of this monument will have no turbine visibility, up to 11 turbines could be visible from other parts of the monument. Taken as a whole, the Amended Proposed Development would not affect the ability to understand the relationship between the individual cultural heritage sites that comprise the Miner's Villages and Mineral Railways Scheduled Monument complex, or affect the ability to appreciate the remains in their individual and overall settings. It is assessed that the Amended Proposed Development would constitute a negligible / no change to the asset, resulting in **no significant adverse impact** upon the setting of the Scheduled Monument.

3.5.77. Despite having theoretical visibility of up to 11 turbines, Auchinleck House (CHS 256) would in fact have little or no visibility of the Site. Woodland that has existed since at least 1857 intervenes between the Site and this category A Listed Building. The setting assessment has found that the Amended Proposed Development would give rise to a negligible change to the heritage asset, resulting in **no significant adverse impact** upon the setting of Auchinleck House.

3.5.78. Lugar Conservation Area (CHS 332) is located almost 12 km to the NNE of the Proposed Development Area. There is minimal intervisibility between the Conservation Area and the Amended Proposed Development, as the views are mostly screened by buildings and historic banks of trees. Given the distance between the Conservation Area and the Amended Proposed Development, and the limited intervisibility between the two, it is assessed that the Amended Proposed Development would give rise to a negligible change to the heritage asset, resulting in **no significant adverse impact** upon the setting of Lugar Conservation Area.

3.5.79. From Cairn Avel Scheduled Monument (CHS 360; **FEI Figure 3.5.11**), four blades would be visible on the horizon among the cluster of operational and consented wind farms that include Benbrack, South Kyle I and Enoch Hill I. Despite this visibility, the Amended Proposed Development would not affect the ability to understand the monument and appreciate the cairn in its setting. Furthermore, the Amended Proposed Development would not affect any intervisibility between Cairn Avel and the other nearby cairns at The King's Cairn (CHS 357) or Craigengillan Cairn (CHS 358). Taking all of these factors into account, it is assessed that the Amended Proposed Development would represent a negligible change to the heritage asset resulting in **no significant adverse impact** upon the setting of Cairn Avel Scheduled Monument.

3.5.80. Woodhead Lead Mines and Smelter Scheduled Monument (CHS 367) lies approximately 10 km to the south of the Site and is approximately 11.km from the closest turbine. The remains of some structures associated with the mine and smelter can be seen among shrubbery. From the Scheduled Monument, there could be visibility of up to seven turbines, although intervening woodland would provide some screening, and visibility of turbines would not affect the ability to understand and appreciate the remains of the lead mines and smelter in their setting. Given these factors,

it is assessed that the Amended Proposed Development would constitute a negligible change to the heritage asset resulting in **no significant adverse impact** upon the setting of Woodhead Lead Mines and Smelter Scheduled Monument.

Cultural heritage sites where a Negligible adverse impact is anticipated

3.5.81. Findlayston Farmstead (CHS 195) is a category C Listed Building that lies approximately 12 km to the north of the Site. The ZTV indicates that up to 11 blades could be visible from the farmstead, although this number would be lessened by the presence of intervening belts of woodland. The farmstead is a C-shaped set of buildings with the open end to the east and the farmhouse at the west. Trees to the south of the farmhouse would also help to screen visibility of turbine blades. It is assessed that the Amended Proposed Development would constitute a slight change to the heritage asset, resulting in a **Negligible adverse impact** upon the setting of this category C Listed Building. This impact is not significant.

3.5.82. Although South Lodge Gates and Railings (CHS 250) has some intervisibility with the Amended Proposed Development, the distance of almost 15 km between the two would mean that the turbines would be visible only on the horizon. It is assessed that the Amended Proposed Development would constitute a slight change to the heritage asset, resulting in a **Negligible adverse impact** upon the setting of this category C Listed Building. This impact is not significant.

Cultural heritage sites where a Minor adverse impact is anticipated

3.5.83. The complex of category B Listed Buildings at Drongan House (CHS 187 to CHS 189) would have visibility of four to five turbines although, at a distance of 14.3 km from the closet turbine, this visibility would represent only a slight change to the farm buildings. It is assessed that the Amended Proposed Development would result in a **Minor adverse impact** upon the setting of this farm complex. This impact is not significant.

Mitigation Measures

Mitigation of Direct Impacts

3.5.84. Where possible, any cultural heritage remains should be preserved in-situ through avoidance of direct impacts. Where this is not possible, preservation through record should be achieved.

3.5.85. The Assessment has established that the Proposed Development Area has been used as upland rough grazing since at least the mid eighteenth century and that no development is known to have taken place since that time.

3.5.86. The Amended Proposed Development would not have a direct impact on any of the known cultural heritage sites. However, prehistoric ritual activity is known in the Proposed Development Area where Beoch kerb cairn (CHS 11), Dalmellington cairn (CHS 20), Knockskae cairn (CHS 23) and Mossdale cairn (CHS 26), and Knockenlee Burn stone setting (CHS 10) are all located.

3.5.87. Given presence of these funerary and ritual remains within a mostly undeveloped landscape, the land has some archaeological sensitivity and there is, therefore, potential for the survival of previously unrecorded sub-surface cultural heritage remains within the Proposed Development Area. Consequently, East Ayrshire Council may require that a programme of archaeological evaluation works be carried out in advance of the removal of topsoil and any overburden within the Proposed Development Area. Following consultation with WoSAS, in accordance with NP and PAN 2/2011, where mitigation of direct impacts is required, some or all of the following methods would be used: archaeological survey, building recording, evaluation, excavation, post-excavation analyses and publication.

Mitigation of Setting Impacts

3.5.88. The setting assessment has found that the Amended Proposed Development would not result in any significant adverse impacts upon the settings of the designated cultural heritage sites located within the 15 km Study Area. Consequently, no mitigation for setting impacts will be required.

Residual Impacts

3.5.89. No residual impacts on the cultural heritage assets within the Proposed Development Area are anticipated.

3.5.90. As the Amended Proposed Development would not result in any significant adverse impacts upon the settings of the designated cultural heritage sites, no residual effects are anticipated.

Conclusions

3.5.91. The Amended Proposed Development would have no direct impacts upon any known cultural heritage sites within the Proposed Development Area.

3.5.92. Given the presence of prehistoric remains within the Proposed Development Area and the relatively undisturbed nature of the land, there is some potential for the survival of hitherto unrecorded sub-surface cultural heritage remains within the Proposed Development Area. As such, an archaeological planning condition is proposed, should consent be granted for the Amended Proposed Development.

3.5.93. No significant effects upon the settings of the designated cultural heritage sites within the 15 km Study Area are anticipated.

3.6. Noise

3.6.1. This section of the FEI reports on any changes to likely significant effects with respect to noise associated with the operation of the Amended Proposed Development. Where there is no change to the 2025 EIAR this is stated.

3.6.2. This chapter is supported by the following figure and technical appendix.

- **FEI Figure 3.6.1:** Noise Assessment and Wind Turbine Locations
- **Appendix H:** Operational Noise Report

Legislation, Policy and Guidance

3.6.3. Since the submission of the 2025 EIAR, the Planning: advice notes and guidance 'Onshore Wind Turbines: Planning Advice' (Scottish Government, 2014)[45] has been withdrawn. The advice presented within this document is therefore superseded by the Onshore Wind Policy Statement 2022[46]. Otherwise, the legislation, policy, and guidance used remains unchanged to that presented within the 2025 EIAR.

Consultation

3.6.4. The operational noise assessment submitted as part of the 2025 EIAR was reviewed by ACCON UK, on behalf of EAC. A summary of the comments raised, and any subsequent responses/ actions undertaken are presented within **Table 4.1** of this FEI Report.

Method of Assessment

3.6.5. The method of assessment is unchanged to that presented within the 2025 EIAR except that the turbine layout has been adjusted as presented within section one of this FEI Report. Predictions of wind turbine noise for the Amended Proposed Development have been based upon the sound power level data for the Siemens-Gamesa SG6.6-170 6.6 MW with a hub height of 115 m and a tip height of 200 m, which is the same candidate assessed within the 2025 EIAR.

3.6.6. The inclusion of the cable route in the Amended Proposed Development required no further Operational Noise Assessment as the cable, once installed underground, is not considered a source of noise generating infrastructure. Additionally, given the limited length, underground installation, alignment alongside existing infrastructure, the amount of plant required for installing the underground grid connection cable being expected to be relatively small (i.e. an excavator for trenching and backfill construction activities), a detailed construction noise assessment of the grid connection route was not required.

Assessment of Effects

3.6.7. The assessment of effects is unchanged to that presented within the 2025 EIAR.

Limitations and Assumptions

3.6.8. The limitations and assumptions are unchanged to those presented within the 2025 EIAR.

[45] Scottish Government (2014) Web Based Renewables Advice: 'Onshore Wind Turbines' [Online] Available From https://www.gov.scot/publications/onshore-wind-turbines-planning-advice/ [Accessed 22/05/2026]

[46] Scottish Government (2022) Onshore wind: policy statement 2022 [Online] Available From https://www.gov.scot/publications/onshore-wind-policy-statement-2022/ [Accessed 22/05/2026]

Baseline

Current Baseline

3.6.9. There is no change to the baseline from that presented within the 2025 EIAR, except the addition of two new wind farm developments (Breezy Hill Wind Farm and Pencloe Extension Wind Farm, which are both In Planning) and the removal of one wind farm (Polquhairn, which is Consented but no longer being built). The background noise levels are unchanged to those presented within the 2025 EIAR.

Future Baseline

3.6.10. The future baseline is unchanged to that presented within the 2025 EIAR.

Identified Sensitive Receptors

3.6.11. There is no change to the identified sensitive receptors to those presented within the 2025 EIAR. **Table 3.6.1** details the Noise Assessment Locations (NALs) and the approximate distances to the South Kyle II Wind Turbines have been updated to consider the turbine locations from the Amended Proposed Development layout.

Table 3.6.1: Operational Noise Assessment Locations

NAL	Easting	Northing	Elevation (m AOD)	Approximate Distance to Nearest South Kyle II Wind Turbine (m)*
NAL1 - Maneight	254289	609687	314	2860 (T9)
NAL2 - Knockenlee	253710	609315	270	2479 (T5)
NAL3 - Nith Lodge	253633	609133	275	2287 (T5)
NAL4 - Meiklehill	253491	608827	294	1956 (T5)
NAL5 - Clawfin	250608	607295	256	1255 (T2)
NAL6 - Pennyvenie	249453	606652	212	2309 (T1)
NAL7 - Mossdale Farm	249404	604217	229	3151 (T1)
NAL8 - Glenmuck	251495	602140	304	3585 (T4)
NAL9 – Brownhill	255895	602599	300	3609 (T10)

** Please note the distances to nearest turbines quoted above may differ from those reported elsewhere. Distances for the noise assessment are taken from the nearest turbine to the closest edge of the amenity area (usually the garden).*

Assessment of Likely Significant Effects

Setting the Total ETSU-R-97 Noise Limits (Stage 1)

3.6.12. In order to establish Total ETSU-R-97 Noise Limits (TNLs) in accordance with ETSU-R-97 it is necessary to determine the relationship between wind speed measured at the Amended Proposed Development and background noise levels measured at the closest noise sensitive receptors. Measured background noise levels should not be influenced by noise from operational wind turbines, this is an important consideration for this assessment given the number of operational wind turbines in the area.

3.6.13. The Total ETSU-R-97 Noise Limits for all Noise Assessment Locations have been set using the background noise levels from Meiklehill, this is consistent with the approach presented within the 2025 EIAR.

3.6.14. The TNLs have been established for each of the NALs. A TNL based on the daytime Fixed Minimum Limit (FML) of 40 dB has been adopted for daytime periods and 43 dB during night-time periods. A TNL of 45 dB has been used where the occupiers of a property are Financially Involved (FI) with a wind farm. In

addition to NAL5 – Clawfin, NAL1 – Maneight, NAL2 – Knockenlee and NAL4 -Meiklehill are FI with the Amended Proposed Development.

3.6.15. The TNLs are summarised in **Table 3.6.2** and **Table 3.6.3** below.

Table 3.6.2: Total ETSU-R-97 Noise Limit – applicable to the daytime period

NAL	Wind Speed (ms^{-1}) as standardised to 10 m height											
	1	2	3	4	5	6	7	8	9	10	11	12
NAL1 - Maneight*	45	45	45	45	45	45	45	45	45	45	45	45
NAL2 – Knockenlee*	45	45	45	45	45	45	45	45	45	45	45	45
NAL3 - Nith Lodge	40	40	40	40	40	40	40	40	40	40	40	40
NAL4 – Meiklehill*	45	45	45	45	45	45	45	45	45	45	45	45
NAL5 – Clawfin*	45	45	45	45	45	45	45	45	45	45	45	45
NAL6 - Pennyvenie	40	40	40	40	40	40	40	40	40	40	40	40
NAL7 - Mossdale Farm	40	40	40	40	40	40	40	40	40	40	40	40
NAL8 - Glenmuck	40	40	40	40	40	40	40	40	40	40	40	40
NAL9 – Brownhill**	45	45	45	45	45	45	45	45	45	45	45	45

** The occupiers are Financially Involved (FI) with the Proposed Development.*

*** The occupiers are FI with South Kyle Wind Farm.*

Table 3.6.3: Total ETSU-R-97 Noise Limit – applicable to the night time period

NAL	Wind Speed (ms^{-1}) as standardised to 10 m height											
	1	2	3	4	5	6	7	8	9	10	11	12
NAL1 - Maneight*	45	45	45	45	45	45	45	45	45	45	45	45
NAL2 – Knockenlee*	45	45	45	45	45	45	45	45	45	45	45	45
NAL3 - Nith Lodge	43	43	43	43	43	43	43	43	43	43	43	43
NAL4 – Meiklehill*	45	45	45	45	45	45	45	45	45	45	45	45
NAL5 – Clawfin*	45	45	45	45	45	45	45	45	45	45	45	45
NAL6 - Pennyvenie	43	43	43	43	43	43	43	43	43	43	43	43
NAL7 - Mossdale Farm	43	43	43	43	43	43	43	43	43	43	43	43
NAL8 - Glenmuck	43	43	43	43	43	43	43	43	43	43	43	43
NAL9 – Brownhill**	45	45	45	45	45	45	45	45	45	45	45	45

** The occupiers are Financially Involved (FI) with the Proposed Development.*

*** The occupiers are FI with South Kyle Wind Farm.*

Predicting the Likely Effects and the Requirement for a Cumulative Noise Assessment (Stage 2)

3.6.16. Where the predictions from a proposed development are within 10 dB of the total cumulative predictions from all other schemes then a cumulative assessment is required. In this case, the predictions from the Amended Proposed Development are greater than 10 dB below the cumulative predictions from all other schemes at NAL8 and NAL9, a comparison of which is presented within Annex 4 of Technical **Appendix H**. At NALs 1-7, cumulative noise predictions are within 10 dB and therefore a cumulative assessment was undertaken. A list of cumulative schemes considered in the assessment is provided in Table 1.1 of Technical **Appendix H**.

3.6.17. Predicted noise levels from all schemes (including the Amended Proposed Development) were compared to the TNL and as shown in **Table 3.6.4** and **Table 3.6.5**, the predicted wind turbine noise immission levels

from all schemes are below the TNLs under all conditions and at all NALs during both daytime and night-time periods. These predictions assumed that all turbines are operating unconstrained. There would be **no significant cumulative effects.**

Table 3.6.4: TNL Compliance Table – Day time

NAL		Wind Speed (ms^{-1}) as standardised to 10 m height											
		1	2	3	4	5	6	7	8	9	10	11	12
NAL1 - Maneight	TNL L_{A90}	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0
	Predictions L_{A90}	-	-	-	27.9	32.8	36.5	37.1	37.1	37.1	37.1	37.1	37.1
	Exceedence Level	-	-	-	-17.1	-12.2	-8.5	-7.9	-7.9	-7.9	-7.9	-7.9	-7.9
NAL2 – Knockenlee*	TNL L_{A90}	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0
	Predictions L_{A90}	-	-	-	26.1	31.0	34.7	35.4	35.4	35.4	35.4	35.4	35.4
	Exceedence Level	-	-	-	-18.9	-14.0	-10.3	-9.6	-9.6	-9.6	-9.6	-9.6	-9.6
NAL3 - Nith Lodge	TNL L_{A90}	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0
	Predictions L_{A90}	-	-	-	26.1	31.1	34.9	35.5	35.5	35.5	35.5	35.5	35.5
	Exceedence Level	-	-	-	-13.9	-8.9	-5.1	-4.5	-4.5	-4.5	-4.5	-4.5	-4.5
NAL4 – Meiklehill*	TNL L_{A90}	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0
	Predictions L_{A90}	-	-	-	27.2	32.2	35.8	36.4	36.4	36.4	36.4	36.4	36.4
	Exceedence Level	-	-	-	-17.8	-12.8	-9.2	-8.6	-8.6	-8.6	-8.6	-8.6	-8.6
NAL5 – Clawfin*	TNL LA90	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0
	Predictions LA90	-	-	-	28.2	33.1	36.4	36.9	36.9	36.9	36.9	36.9	36.9
	Exceedence Level	-	-	-	-16.8	-11.9	-8.6	-8.1	-8.1	-8.1	-8.1	-8.1	-8.1
NAL6 - Pennyvenie	TNL LA90	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0
	Predictions LA90	-	-	-	24.0	28.8	32.3	32.9	32.9	32.9	32.9	32.9	32.9
	Exceedence Level	-	-	-	-16.0	-11.2	-7.7	-7.1	-7.1	-7.1	-7.1	-7.1	-7.1
NAL7 - Mossdale Farm	TNL LA90	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0
	Predictions LA90	-	-	-	21.8	26.6	30.2	30.9	31.0	31.0	31.0	31.0	31.0
	Exceedence Level	-	-	-	-18.2	-13.4	-9.8	-9.1	-9.0	-9.0	-9.0	-9.0	-9.0

** The occupiers are Financially Involved (FI) with the Proposed Development.*

Table 3.6.5: TNL Compliance Table – Night-time

NAL		Wind Speed (ms^{-1}) as standardised to 10 m height											
		1	2	3	4	5	6	7	8	9	10	11	12
NAL1 - Maneight	TNL L_{A90}	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0
	Predictions L_{A90}	-	-	-	27.9	32.8	36.5	37.1	37.1	37.1	37.1	37.1	37.1
	Exceedence Level	-	-	-	-17.1	-12.2	-8.5	-7.9	-7.9	-7.9	-7.9	-7.9	-7.9
NAL2 – Knockenlee*	TNL L_{A90}	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0
	Predictions L_{A90}	-	-	-	26.1	31.0	34.7	35.4	35.4	35.4	35.4	35.4	35.4
	Exceedence Level	-	-	-	-18.9	-14.0	-10.3	-9.6	-9.6	-9.6	-9.6	-9.6	-9.6
NAL3 - Nith Lodge	TNL L_{A90}	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0
	Predictions L_{A90}	-	-	-	26.1	31.1	34.9	35.5	35.5	35.5	35.5	35.5	35.5
	Exceedence Level	-	-	-	-16.9	-11.9	-8.1	-7.5	-7.5	-7.5	-7.5	-7.5	-7.5
NAL4 – Meiklehill*	TNL L_{A90}	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0
	Predictions L_{A90}	-	-	-	27.2	32.2	35.8	36.4	36.4	36.4	36.4	36.4	36.4
	Exceedence Level	-	-	-	-17.8	-12.8	-9.2	-8.6	-8.6	-8.6	-8.6	-8.6	-8.6
NAL5 – Clawfin*	TNL LA90	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0
	Predictions LA90	-	-	-	28.2	33.1	36.4	36.9	36.9	36.9	36.9	36.9	36.9
	Exceedence Level	-	-	-	-16.8	-11.9	-8.6	-8.1	-8.1	-8.1	-8.1	-8.1	-8.1
NAL6 - Pennyvenie	TNL LA90	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0
	Predictions LA90	-	-	-	24.0	28.8	32.3	32.9	32.9	32.9	32.9	32.9	32.9
	Exceedence Level	-	-	-	-19.0	-14.2	-10.7	-10.1	-10.1	-10.1	-10.1	-10.1	-10.1
NAL7 - Mossdale Farm	TNL LA90	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0
	Predictions LA90	-	-	-	21.8	26.6	30.2	30.9	31.0	31.0	31.0	31.0	31.0
	Exceedence Level	-	-	-	-21.2	-16.4	-12.8	-12.1	-12.0	-12.0	-12.0	-12.0	-12.0

** The occupiers are Financially Involved (FI) with the Proposed Development.*

Operational Phase - Derivation of Site Specific Noise Limits for the Proposed Development (Stage 3)

3.6.18. Stage 2 has demonstrated that there would be no cumulative exceedances the Total ETSU-R-97 Noise Limit. This stage is to consider the fact that nearby wind farm may have the right to operate at higher levels than 'likely' predictions and to also consider the potential noise conditions applicable to the Amended Proposed Development operating on its own.

3.6.19. Site Specific Noise Limits (SSNL) have been calculated as an apportionment of the Total ETSU-R-97 Noise Limits. The modelling done for any apportionment assumes that all nearby wind turbines considered are operating, which is a worst-case assumption. The SSNL have been derived in accordance with the IOA GPG.

3.6.20. Predicted noise levels from the Proposed Development were compared to the SSNL and as shown in **Table 3.6.6** and **Table 3.6.7**, the predicted wind turbine noise immission levels from the Proposed Development are below the SSNLs under all conditions and at all NALs during both daytime and night-time periods. Detailed results are included on Figure A1.4a-g within **Appendix H**.

3.6.21. The candidate turbine was chosen as it is considered to be representative of the type of turbine that could be installed at the Site. There are a number of wind turbine makes and models that may be suitable for the Amended Proposed Development. Should the Amended Proposed Development receive planning permission, the final choice of turbine would be subject to a competitive tendering process. The final choice of turbine would have to meet the noise limits.

Table 3.6.6: SSNL Compliance Table – Day time

NAL		Wind Speed (ms^{-1}) as standardised to 10 m height											
		1	2	3	4	5	6	7	8	9	10	11	12
NAL1 - Maneight	SSNL L_{A90}	45.0	45.0	45.0	45.0	45.0	44.0	43.8	43.8	43.8	43.8	43.8	43.8
	Predictions L_{A90}	-	-	13.8	18.6	23.5	26.5	26.8	26.8	26.8	26.8	26.8	26.8
	Exceedence Level	-	-	-31.2	-26.4	-21.5	-17.5	-17.0	-17.0	-17.0	-17.0	-17.0	-17.0
NAL2 – Knockenlee	SSNL L_{A90}	45.0	45.0	45.0	45.0	45.0	45.0	44.2	44.2	44.2	44.2	44.2	44.2
	Predictions L_{A90}	-	-	16.0	20.8	25.7	28.8	29.1	29.1	29.1	29.1	29.1	29.1
	Exceedence Level	-	-	-29.0	-24.2	-19.3	-16.2	-15.1	-15.1	-15.1	-15.1	-15.1	-15.1
NAL3 - Nith Lodge	SSNL L_{A90}	35.0	35.0	35.0	35.0	35.0	35.0	30.0	30.0	30.0	30.0	30.0	30.0
	Predictions L_{A90}	-	-	16.8	21.6	26.5	29.6	29.9	29.9	29.9	29.9	29.9	29.9
	Exceedence Level	-	-	-18.2	-13.4	-8.5	-5.4	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
NAL4 - Meiklehill	SSNL L_{A90}	45.0	45.0	45.0	45.0	45.0	44.3	44.1	44.1	44.1	44.1	44.1	44.1
	Predictions L_{A90}	-	-	18.4	23.2	28.1	31.1	31.4	31.4	31.4	31.4	31.4	31.4
	Exceedence Level	-	-	-26.6	-21.8	-16.9	-13.2	-12.7	-12.7	-12.7	-12.7	-12.7	-12.7
NAL5 - Clawfin	SSNL L_{A90}	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0
	Predictions L_{A90}	-	-	21.8	26.7	31.6	34.6	34.9	34.9	34.9	34.9	34.9	34.9
	Exceedence Level	-	-	-23.2	-18.3	-13.4	-10.4	-10.1	-10.1	-10.1	-10.1	-10.1	-10.1
NAL6 - Pennyvenie	SSNL L_{A90}	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	37.1	39.1	39.1	39.1
	Predictions * L_{A90}	-	-	15.5	20.4	25.2	28.3	28.6	28.6	28.6	28.6	28.6	28.6
	Exceedence Level	-	-	-19.5	-14.6	-9.8	-6.7	-6.4	-6.4	-8.5	-10.5	-10.5	-10.5
NAL7 - Mossdale Farm	SSNL L_{A90}	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	37.1	39.7	39.7	39.7
	Predictions L_{A90}	-	-	11.9	16.8	21.7	24.7	25.0	25.0	25.0	25.0	25.0	25.0
	Exceedence Level	-	-	-23.1	-18.2	-13.3	-10.3	-10.0	-10.0	-12.1	-14.7	-14.7	-14.7

Table 3.6.7: SSNL Compliance Table – Night time

NAL		Wind Speed (ms^{-1}) as standardised to 10 m height											
		1	2	3	4	5	6	7	8	9	10	11	12
NAL1 - Maneight	SSNL L_{A90}	45.0	45.0	45.0	45.0	45.0	44.0	43.8	43.8	43.8	43.8	43.8	43.8
	Predictions L_{A90}	-	-	13.8	18.6	23.5	26.5	26.8	26.8	26.8	26.8	26.8	26.8
	Exceedence Level	-	-	-31.2	-26.4	-21.5	-17.5	-17.0	-17.0	-17.0	-17.0	-17.0	-17.0
NAL2 – Knockenlee	SSNL L_{A90}	45.0	45.0	45.0	45.0	45.0	45.0	44.2	44.2	44.2	44.2	44.2	44.2
	Predictions L_{A90}	-	-	16.0	20.8	25.7	28.8	29.1	29.1	29.1	29.1	29.1	29.1
	Exceedence Level	-	-	-29.0	-24.2	-19.3	-16.2	-15.1	-15.1	-15.1	-15.1	-15.1	-15.1
NAL3 - Nith Lodge	SSNL L_{A90}	43.0	43.0	43.0	43.0	43.0	41.9	41.7	41.7	41.7	41.7	41.7	41.7
	Predictions L_{A90}	-	-	16.8	21.6	26.5	29.6	29.9	29.9	29.9	29.9	29.9	29.9
	Exceedence Level	-	-	-26.2	-21.4	-16.5	-12.3	-11.8	-11.8	-11.8	-11.8	-11.8	-11.8
NAL4 - Meiklehill	SSNL L_{A90}	45.0	45.0	45.0	45.0	45.0	44.3	44.1	44.1	44.1	44.1	44.1	44.1
	Predictions L_{A90}	-	-	18.4	23.2	28.1	31.1	31.4	31.4	31.4	31.4	31.4	31.4
	Exceedence Level	-	-	-26.6	-21.8	-16.9	-13.2	-12.7	-12.7	-12.7	-12.7	-12.7	-12.7
NAL5 - Clawfin	SSNL L_{A90}	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0	45.0
	Predictions L_{A90}	-	-	21.8	26.7	31.6	34.6	34.9	34.9	34.9	34.9	34.9	34.9
	Exceedence Level	-	-	-23.2	-18.3	-13.4	-10.4	-10.1	-10.1	-10.1	-10.1	-10.1	-10.1
NAL6 - Pennyvenie	SSNL L_{A90}	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0
	Predictions * L_{A90}	-	-	15.5	20.4	25.2	28.3	28.6	28.6	28.6	28.6	28.6	28.6
	Exceedence Level	-	-	-27.5	-22.6	-17.8	-14.7	-14.4	-14.4	-14.4	-14.4	-14.4	-14.4
NAL7 - Mossdale Farm	SSNL L_{A90}	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0
	Predictions L_{A90}	-	-	11.9	16.8	21.7	24.7	25.0	25.0	25.0	25.0	25.0	25.0
	Exceedence Level	-	-	-31.1	-26.2	-21.3	-18.3	-18.0	-18.0	-18.0	-18.0	-18.0	-18.0

Additional Mitigation

Mitigation during Construction and Decommissioning

3.6.22. Mitigation during construction and decommissioning is unchanged to that presented within the 2025 EIAR.

Mitigation during Operation

3.6.23. Mitigation during operation is unchanged to that presented within the 2025 EIAR.

Residual Effects

Residual Operational Effects

3.6.24. The results of the noise assessment show that the predicted wind turbine noise levels would meet the Site Specific Noise Limits under all conditions and at all locations for both daytime and night-time periods. There are a number of wind turbine makes and models that would be suitable for the Amended Proposed Development. **There would be no significant residual effects.**

3.6.25. At some locations, under some wind conditions and for a certain proportion of the time operational wind farm noise would be audible; however, it would be at an acceptable level in relation to the ETSU-R-97 guidelines and there would be no significant residual effects.

Residual Cumulative Effects

3.6.26. Predicted cumulative wind farm operational noise levels lie below the TNL at all NALs, there would be **no significant residual effects** due to the Amended Proposed Development.

Statement of Significance

3.6.27. The guidance contained within ETSU-R-97 and the IOA GPG was used to assess the likely operational noise impact of the Amended Proposed Development. Predicted levels indicate that for dwellings neighbouring the Amended Proposed Development the operational noise impact is **not significant.**

3.6.28. There are a range of wind turbine models that may be appropriate for the Amended Proposed Development. If the Amended Proposed Development receives consent, further data would be obtained from the supplier for the final choice of wind turbine model to demonstrate compliance with the operational noise limits derived in this report.

Statement of Competence

3.6.29. This section of the FEI was prepared by TNEI Services Ltd. TNEI is a specialist energy consultancy with an Acoustics team which has undertaken noise assessments for over five gigawatts (GW) of onshore wind farm developments. The assessment was carried out by Alex Dell. Alex holds a PhD in Mechanical Engineering with over 5 years of experience in undertaking operational noise assessments for wind farms, he is a Full Member of the Institute of Acoustics. The assessment has been reviewed and approved by Gemma Clark. Gemma has been undertaking operational noise assessments for wind farms for over 18 years and is a Full Member of the Institute of Acoustics.

Summary

3.6.30. A noise assessment was undertaken to determine the likely significant noise effects from the operational phase of the Amended Proposed Development, on nearby noise sensitive receptors which were identified as residential properties.

3.6.31. Construction noise activities will be undertaken during typical working hours; a detailed construction noise assessment was not required. However, typical mitigation is recommended via the use of best practice during construction and the preparation of a CEMP which considers noise.

3.6.32. Additionally, given the limited length, underground installation, alignment alongside existing infrastructure, the amount of plant required for installing the underground grid connection cable being expected to be relatively small (i.e. an excavator for trenching and backfill construction activities), a detailed construction noise assessment of the grid connection route was not required.

3.6.33. The inclusion of the cable route in the Amended Proposed Development required no further Operational Noise Assessment as the cable, once installed underground, is not considered a source of noise generating infrastructure.

3.6.34. Background noise data previously collected for Enoch Hill Wind Farm at four locations proximate to the Amended Proposed Development was used to establish background noise levels (in the absence of any wind turbine noise) and to set the Total ETSU-R-97 Noise Limits at the nearest receptors to the Amended Proposed Development.

3.6.35. As the hub heights of the Amended Proposed Development is circa 115 m and the background noise levels referred to wind speeds up to 82 m, a wind shear analysis was undertaken and the background limits in this report are valid for a 115 m hub height.

3.6.36. The operational noise assessment was undertaken in three stages, which involved setting the Total ETSU-R-97 Noise Limits (which are limits for noise from all wind farms in the area) at the nearest noise sensitive receptors, predicting the likely effects (undertaking a cumulative noise assessment where required) and setting Site Specific Noise Limits for the Amended Proposed Development.

3.6.37. Predicted cumulative operational noise levels indicate that for noise sensitive receptors neighbouring the Amended Proposed Development, cumulative wind turbine noise (which considers noise predictions from all nearby operational, consented and proposed wind farms and the Amended Proposed Development) would meet the Total ETSU-R-97 Noise Limits at all Noise Assessment Locations.

3.6.38. The Total ETSU-R-97 Noise Limit is applicable to all operational and consented wind farms in the area so Site Specific Noise Limits have also been derived to control the specific noise from the Amended Proposed Development. In accordance with the Institute of Acoustics (IOA) Good Practice Guidance (GPG).

3.6.39. Predictions of wind turbine noise from the Amended Proposed Development have been made in accordance with good practice using a candidate wind turbine Siemens-Gamesa SG6.6-170 6.6 MW with a hub height of 115 m. Predicted operational noise levels from the Amended Proposed Development indicate that for noise sensitive receptors neighbouring the Amended Proposed Development, wind turbine noise from the Amended Proposed Development would meet the Site Specific Noise Limits at all Noise Assessment Locations and are therefore deemed to be not significant.

3.6.40. The use of Site Specific Noise Limits would ensure that the Amended Proposed Development could operate concurrently with other operational wind farm developments in the area and would also ensure that the Amended Proposed Development's individual contribution could be measured and enforced if required.

3.6.41. The wind turbine model was chosen in order to allow a representative assessment of the noise impacts. Should the Amended Proposed Development receive planning permission, the final choice of wind turbine would be subject to a competitive tendering process. The final choice of wind turbine would, however, have to meet the Site Specific Noise Limits presented in the noise assessment.

3.7. Forestry

Forestry Introduction

3.7.1. This section of the FEI assesses the potential effects of the Amended Proposed Development on the woodland resource within the Proposed Development Area and its long-term management. Prepared by DGA Forestry LLP, this chapter addresses revisions to the proposed tree felling required to accommodate the amended layout, including the grid connection, which have been updated in response to SEPA's interim objection.

3.7.2. As outlined in Section 1.1 of this report, SEPA raised concerns that impacts on peat areas had not been sufficiently minimised, particularly around Turbines 1 and 3 and associated access tracks. Accordingly, this section responds to SEPA's comments by presenting a revised felling plan that reflects the design amendment in relation to forestry.

3.7.3. Forestry is not being regarded as a receptor for EIA purposes. Commercial forests are a dynamic environment, and their structure continually undergoes change due to:

- normal felling and restocking by the landowner;
- natural events, such as storm damage, pests, or diseases; and
- external factors, such as a wind farms or other development.

3.7.4. This section of the FEI therefore describes:

- Changes to the forestry plans, as a result of the Amended Proposed Development, for felling, restocking and forest management practices;
- the process by which these forestry plans were developed; and
- the changes to the physical structure of the forestry within the Proposed Development Area.

3.7.5. It further discusses the issue of forestry waste arising from the Amended Proposed Development. The forestry proposals are interrelated with environmental effects, which are assessed separately in other sections of the FEI.

3.7.6. This FEI section should therefore be read in conjunction with section 3.1 Ecology, section 3.2 Ornithology section 3.3 Hydrology, Hydrogeology & Geology and section 3.4 Landscape and Visual as these topics are interrelated to the proposed changes in the forest structure.

3.7.7. The responsibility for the management of the remainder of the forest outwith the Proposed Development Area lies with the landowners and therefore the wider felling operations, restocking, and aftercare operations within these areas do not form part of the Amended Proposed Development.

3.7.8. The majority of the proposed wind turbines and associated infrastructure are located within existing commercial forestry plantations (as shown in **FEI Figure 1.1.1** (Amended Proposed Development)). The woodlands form part of the South Kyle Land Management Unit. The forestry proposals have been developed to:

- identify areas of forest to be removed for the construction and operation of the Amended Proposed Development;
- identify those areas which may or may not be replanted as part of the Amended Proposed Development; and
- propose management practices for the forestry works.

3.7.9. In general, throughout this chapter data labelled 'baseline' refer to the current crop composition and any existing plans without any modification as a result of the Amended Proposed Development. Data labelled 'wind farm' or 'Amended Proposed Development' refer to the forestry plans incorporating the Amended Proposed Development.

3.7.10. This section is structured as follows:

- Legislation, Policy, and Guidance;
- Forestry Study Area;
- Forest Plans;
- Development of a Wind Farm Forest Plan;
- Baseline Conditions;
- Wind Farm Forest Plan;
- Requirement for Compensatory Planting;
- Forestry Waste;
- Forestry Management Practices; and
- Summary.

Planning, Policy, Legislation and Guidance

3.7.11. There have been no changes to relevant legislation, policy or guidance relating to forestry since the production of the EIA Report. Please refer to **EIA Report Chapter 12: 'Forestry' Sections 12.1.1-12.1.8** for details.

Forestry Study Area

3.7.12. Although there have been changes to the layout of the Proposed Development, now referred to as the Amended Proposed Development and associated changes in forestry felling, the Forestry Study Area remains the same as identified in the EIA Report. Please refer to EIAR Chapter 12: 'Forestry' Section 12.2 and Figure 12.1 for details.

Forest Plan

3.7.13. No updates to this section are required as a result of the Amended Proposed Development and the information set out in EIAR Chapter 12: 'Forestry' Section 12.3 remains relevant.

Development of a Wind Farm Forest Plan

3.7.14. No updates to this section are required as a result of the Amended Proposed Development and the information set out in EIAR Chapter 12 'Forestry' Section 12.4 remains relevant, although updated figures have been produced to show revised felling and restocking plans. These are submitted as **FEI Figure 3.7.1** 'Amended Proposed Development Construction Felling', **FEI Figure 3.7.2** 'Amended Proposed Development Felling Plan' and **FEI Figure 3.7.3** 'Amended Proposed Development Restock Species Plan'.

Baseline Conditions

3.7.15. Although there have been changes to the layout of the Proposed Development, now referred to as the Amended Proposed Development, the baseline conditions remain the same as those identified in the EIA Report. Please refer to EIAR Chapter 12: 'Forestry; Section 12.5 and EIAR Figures 12.2-12.5 for details.

Amended Proposed Development Forest Plan

Introduction

3.7.16. The effect of the Amended Proposed Development on the structure of the woodlands within the Forestry Study Area (FSA) has been compared against the EIAR Chapter 12: 'Forestry; Section 12.7 Baseline Forest Plan. This has concentrated on changes to the felling and restocking species plans required to accommodate the Amended Proposed Development.

Amended Proposed Development Felling Plan

3.7.17. The Amended Proposed Development Felling Plan is shown across two figures. **FEI Figure 3.7.1**: Amended Proposed Development Construction Felling shows only the felling required for construction of the Amended Proposed Development, this data is summarised in Table 3.7.1 below. The total area equates to the Forestry Study Area of 2210.1 ha. **FEI Figure 3.7.2**: Amended Proposed Development Felling Plan shows how this felling relates to the associated Forest Plan; this data is summarised in Table 3.7.2 below.

Table 3.7.1: Felling Required for Construction

Fell Phase	Area (ha)	Area (%)
No felling – Open Ground	846.9	38.3
Infrastructure felling	59.3	2.7
Advanced felling	147.6	6.7
No felling - woodland	1156.4	52.3
Total	**2210.1**	**100.0**

Source: DGA Forestry, 2025

Table 3.7.2: Amended Proposed Development Felling Plan

Fell Phase	Area (ha)	Area (%)
No felling – Open Ground	846.9	38.3
Phase 1	158.8	7.2
Phase 2	333.4	15.1
Phase 3	37.6	1.7
Phase 4	71.4	3.2
Long Term Retention	52.9	2.4
Natural Reserves	14.4	0.6
Outside Plan Period	694.8	31.4
Total	**2210.1**	**100.0**

DGA Forestry, 2025

3.7.18. The Baseline and Amended Proposed Development Felling Plan are compared in **Table 3.7.3** below.

Table 3.7.3: Comparison of Felling Plans

Species	Baseline Fell Phases Area (ha)	Amended Proposed Development Fell Phases Area (ha)	Variance Area (ha)	Variance Area (%)
No felling – Open Ground	847.8	846.9	-0.9	0.0
Phase 1	161.6	158.8	-2.7	-0.1
Phase 2	166.8	333.4	166.6	7.5
Phase 3	37.6	37.6	0.0	0.0
Phase 4	91.8	71.4	-20.4	-0.9
Long Term Retention	54.6	52.9	-1.7	-0.1

Species	Baseline Fell Phases Area (ha)	Amended Proposed Development Fell Phases Area (ha)	Variance Area (ha)	Variance Area (%)
Natural Reserves	14.4	14.4	-0.0	0.0
Outside Plan Period	835.6	694.8	-140.8	-6.4
Total	**2,210.1**	**2,210.1**	**0.0**	**0.0**

DGA Forestry, 2025

3.7.19. Felling required for the construction of the Amended Proposed Development is the combined total of the infrastructure and advanced felling, as shown in **Table 3.7.2.** The combined total for the Amended Proposed Development is 206.9 ha.

3.7.20. Of the 206.9ha of felling required for construction of the Amended Proposed Development; 168.5 ha would be advanced from later phases in the associated Forest Plan. This is balanced out by reduced felling in other periods as detailed below;

- 2.7 ha advanced from Phase 1;
- 20.4 ha advanced from Phase 4; and
- 142.5 ha advanced from Outside plan period and Long Term Retention.

3.7.21. The level of felling for the Amended Proposed Development differs from EIAR Chapter 12 'Forestry' Section 12.6[1]. There is a slight increase in felling for the Amended Proposed Development;

- construction felling within EIAR Chapter 12 was 210.1 ha, total construction felling for the Amended Proposed Development is 206.9 ha, a decrease of 3.2 ha.

3.7.22. This overall decrease in felling is due to;

- a change in the wind farm infrastructure layout within the Amended Proposed Development; and
- a reappraisal of the level of advanced felling required as a result.

Amended Proposed Development Restocking Species Plan

3.7.23. The Baseline Species Plan has been amended to integrate the Amended Proposed Development infrastructure requirements into the forest design and take account of the site conditions. The Amended Proposed Development Restocking Species Plan is shown in **FEI Figure 3.7.3:** Amended Proposed Development Restock Species Plan and summarised in Table 3.7.4. wind farm open ground refers to the permanent loss of existing crops to permanent infrastructure only of the Amended Proposed Development.

Table 3.7.4: Amended Proposed Development Restocking Species Composition

Species	Area (ha)	Area (%)
Sitka spruce	894.4	40.5
Sitka spruce/Other conifer	142.3	6.4
Other conifer	133.2	6.0
Mixed woodland	2.9	0.1
Mixed broadleaves	439.2	19.9
Open ground	522.1	23.6
Amended Proposed Development open ground	75.9	3.4
Total	**2,210.1**	**100.0**

DGA Forestry, 2025

3.7.24. The Baseline and Amended Proposed Development Restocking Species Plans have been analysed to assess the changes that construction of the Amended Proposed Development would have on the species composition of the forest. This data is summarised in **Table 3.7.5.**

Table 3.7.5: Comparison of Restocking Plans

Species	Baseline Restock Species Area (ha)	Amended Proposed Development Restock Species Area (ha)	Variance Area (ha)	Variance Area (%)
Sitka spruce	940.1	894.4	-45.7	-2.1
Sitka spruce/Other conifer	152.9	142.3	-10.6	-0.5
Other conifer	139.0	133.2	-5.8	-0.3
Mixed woodland	4.2	2.9	-1.4	-0.1
Mixed broadleaves	450.0	439.2	-10.8	-0.5
Open ground	523.9	522.1	-1.7	-0.1
Amended Proposed Development open ground	0	75.9	75.9	3.4
Total	**2,210.1**	**2,210.1**	**0.0**	**0.0**

DGA Forestry, 2025

3.7.25. The change in area of stocked woodland in the forest due to the Amended Proposed Development is shown in **Table 3.7.6** below.

Table 3.7.6: Stocked Woodland Area Comparison

Woodland Type	Baseline Species Area (ha)	Amended Proposed Development Restock Species Area (ha)	Variance Area (ha)	Variance Area (%)
Stocked	1686.2	1612.0	-74.2	-3.4
Unstocked	523.9	598.1	74.2	3.4
Total	**2,210.1**	**2,210.1**	**0.0**	**0.0**

DGA Forestry, 2025

3.7.26. The changes in the structure of the woodlands due to the Amended Proposed Development are discussed below. The changes refer to a comparison of the Amended Proposed Development Restocking Species Plan against the Baseline Restocking Species Plan; summarised in **Table 3.7.6**:

- there would be a net reduction in the area of conifer woodland of 62.1 ha;
- broadleaf woodland would decrease by 10.8 ha;
- open ground as part of the forest design would decrease by 1.7 ha;
- wind farm permanent open ground would total 75.9 ha; and
- the net reduction in stocked woodland area within the FSA would be 74.2 ha equivalent to 3.4 % of the FSA.

Requirement for Compensatory Planting

3.7.27. As a result of the construction of the Amended Proposed Development, there would be a net loss of woodland area. The area of stocked woodland in the FSA would decrease by 74.2ha.

3.7.28. In order to comply with the criteria of the Scottish Government's Control of Woodland Removal Policy, compensation planting would be required. The Applicant is committed to providing appropriate compensatory planting. The extent, location, and composition of such planting to be agreed with Scottish Forestry, taking into account any revision to the felling and restocking plans prior to the commencement of construction of the Amended Proposed Development Forestry Waste

3.7.29. No updates to this section are required as a result of the Amended Proposed Development and the information set out in EIAR Chapter 12: 'Forestry' Section 12.8 remains relevant.

Forestry Management Practices

3.7.30. No updates to this section are required as a result of the Amended Proposed Development and information set out in EIAR Chapter 12: 'Forestry' Section 12.9 remains relevant.

Standards and Guidelines

3.7.31. No updates to this section are required as a result of the Amended Proposed Development and the information set out in EIAR Chapter 12: 'Forestry' Section 12.10 remains relevant.

Summary

3.7.32. The total FSA extends to 2,210.1 ha and is comprised of part of the South Kyle Land Management Unit which covers 2,619 ha in total.

3.7.33. A total of 206.9 ha of woodland requires to be felled to accommodate the Amended Proposed Development, of which 147.6 ha would be advanced from later phases in the associated Forest Plan. This represents a decrease of 3.2 ha of construction felling compared to the felling plans set out in the EIA Report. This decrease in felling has arisen in light of the objection to the Proposed Development from SEPA, and associated discussions with the Applicant in the interim period.

3.7.34. The species composition of the forest would change as a result of the Amended Proposed Development forestry proposals. In particular, the area of conifer woodland would decrease by 62.1 ha.

3.7.35. The area of unplanted ground would increase and, as a result, there would be a net loss of woodland area of 74.2 ha.

3.7.36. In order to comply with the Scottish Government's Control of Woodland Removal Policy, compensation planting would be required to mitigate for the loss of woodland area. The Applicant is committed to providing the required appropriate compensatory planting. The extent, location, and composition of such planting to be agreed with Scottish Forestry, taking into account any revision to the felling and restocking plans prior to the commencement of construction.

3.8. Carbon Balance Assessment

Introduction

3.8.1. This section of the FEI has been prepared by Natural Power Consultants Ltd. to provide a summary of the carbon balance assessment for the Amended Proposed Development, comprising 11 turbines, associated infrastructure including the anticipated cable route connecting the proposed turbines to the National Grid. The carbon balance assessment sets out its findings in order to provide an empirical evaluation of the potential effects on peat, to evaluate the overall carbon dioxide (CO_2) emissions of the development and conclude the carbon savings it is anticipated to deliver. The carbon balance assessment will assist consultees and Scottish Ministers in their considerations of the overall impacts of the Amended Proposed Development.

Scope

3.8.2. The assessment methodology remains consistent with that reported in the EIAR, using the MS Excel based assessment tool, version 2.14.1 (last updated January 2023). Full updated model outputs are provided in FEI **Technical Appendix I:** Carbon Balance Assessment.

3.8.3. The updated carbon balance assessment provides an indicative worst-case estimate of net carbon dioxide (CO_2) emissions associated with the Amended Proposed Development, including an assessment of the CO_2 generated by turbine manufacture, construction activities, backup generation using fossil fuels, peat disturbance and forestry felling.

3.8.4. The tool inputs are provided in Annex B of FEI **Technical Appendix I**: Carbon Balance Assessment, and the revised inputs relevant to this FEI are summarised in **Table 3.8.1** below.

Table 3.8.1: Record of Updated Data Sources

Input	Source of Information
Total length of track	Total expected track length is approximately 14.4 km and is comprised of 6,504 m of new excavated road and 7,938 m of existing track requiring widening. Minimum and maximum scenarios are -/+ 10% of the expected value to accommodate any changes to design through micrositing.
Length of floating roads	Floating tracks are proposed and are included within the updated new-excavated-road figures.
Excavated road length	As the tool does not allow specific inputs for widening of existing tracks, this value includes the 6,504 m of proposed 'new' track as well as 7,938 m of existing road to be widened and the values for excavated road widths and peat depths for both are weighted according to the different lengths for new and upgraded tracks (as advised by the authors of the tool). See Paragraph 8.4.35 of Technical **Appendix I** for further details. It is also important to note that the calculations are based on worst case that the full 7,938 m length of existing track will need widening however topographic surveys undertaken pre-construction may indicate a smaller requirement.
Excavated road width	See Paragraph 8.4.35 of Technical **Appendix I**: Carbon Balance Assessment for the weighted road-width calculation, which accounts for both new access tracks and the widening of existing tracks.

Source: Natural Power 2026

3.8.5. Only those carbon balance results affected by the revised design inputs have been updated for this FEI. Full results are provided in FEI Technical **Appendix I**: Carbon Balance Assessment.

Loss of Carbon Fixing Potential

3.8.6. This parameter concerns the emissions due to loss of bog plants and is calculated by multiplying the area of the wind farm by the annual carbon accumulation due to bog plant fixation.

3.8.7. The carbon calculator reveals that the expected total emissions attributable to the loss of carbon accumulation by bog plants is 2,765 tCO2 equiv. over the 40-year operational period of the Amended Proposed Development. Based on the calculated emissions savings for fossil fuel-mix generation, the payback time for loss of carbon fixing potential is expected to be less than half a month.

Loss of Carbon Dioxide from Removed Peat (Direct Loss)

3.8.8. The 2017 Peatland Survey Guidance states that peat is defined as the partially decomposed remains of plants and soil organisms which have accumulated at the surface of the soil profile. Peat accumulates where the rate of input of organic material from the surface exceeds the rate of decomposition and 'turn-over' of this new material. A peat layer does not include a mineral fraction (hence being differentiated from topsoil).

3.8.9. Overall, 5,851 peat depth measurements were taken during Phase 1 and Phase 2 peat depth surveys to inform peat depths across the Site Boundary for the proposed wind farm development alone. To inform the site layout and EIAR, detailed phase 2 peat depth surveys were undertaken in April 2024 and August 2024 with an additional phase 2 peat depth survey carried out in October 2025 to account for changes to the layout due to the Amended Proposed Development. As advised by the authors of the tool, the arithmetic mean was calculated from this data to represent the 'expected' value, and the minimum and maximum values provided represent the lower and upper bound values of the 95% confidence intervals of the sample data collected.

3.8.10. The excavated peat/soil volumes calculated by the tool and reported within the assessment accommodate realistic working areas with the assumption built into the model that all peat in working areas is excavated and lost. Within this assessment, in order to represent a worst-case scenario, the following working areas and assumptions have been incorporated into the analysis:

- The carbon calculator does not accommodate inputs for widening tracks and only allows inputs for new excavated tracks. However, under advice provided by the authors of the calculator, instead of simply reporting the length and width of new tracks (excavated tracks), the widening/upgrading of existing access tracks has been accounted for in this assessment by calculating the weighted average width of tracks along the total length of new and upgraded tracks. The same approach has been applied for calculating the weighted peat depths for access tracks.
    - For example, the calculations for expected *weighted track widths* were as follows:

[6,504 m (expected length of new track) x 24.5 m (expected width)]

+ [7,938 m (expected length of widened track) x 10.5 m (expected width of widening)]

= 242,697 m^2

Then; 242,697 m^2 /14,442 m (total expected length of tracks[47]) = 16.8 m expected weighted average width.

    - The calculations for expected *weighted peat depths* were as follows:

[6,504 m (expected length of new track) x 0.66 m (expected average peat depth)]

+ [7,938 m (expected length of widened track) x 0.66 m (expected average depth for widened tracks)

= 9,531.7 m^2

Then 9,531.7 m^2 /14,442 m (expected total length of tracks) = 0.66 m expected weighted average peat depth.

[47] 6,504 m+ 7,938 m = 14,442 m

Loss of Carbon Dioxide from Drained Areas (Indirect Loss)

3.8.11. Carbon is also lost from peat habitats through drainage that occurs in the peat around the Amended Proposed Development's infrastructure. The carbon calculator and associated guidance refers to this CO_2 loss as an "indirect loss".

3.8.12. The extent of drainage associated with the Amended Proposed Development has been updated to reflect revised design information. The carbon calculator applies a default drainage extent and assumes no existing drainage and flat terrain, resulting in an indicative affected area of 18.1 ha. This is not fully representative of site conditions; therefore, a precautionary but more realistic drainage extent has been applied based on hydrology and peat survey observations. An average extent of 5 m around infrastructure was used for the expected scenario, with 3 m and 10 m representing best- and worst-case values.

3.8.13. Using these updated inputs, the calculator estimates that construction would result in approximately 36.7 ha of land disturbance and an expected peat removal volume of around 250,774 m³. Based on these values, the total expected CO_2 loss from soil (removed and drained) is calculated as 17,704 tCO_2 equivalent, which increases the overall carbon payback period by approximately two months under the fossil-fuel mix scenario. Please see Appendix I for further details.

Carbon Balance Summary

3.8.14. **Table 3.8.2** reveals the carbon losses and carbon gains for each of the above parameters for the proposed development. **Table 3.8.2** also reveals the net CO_2 emissions.

Table 3.8.2: Expected CO_2 losses and gains

Carbon Balance Input Parameter	Expected Results
1. Windfarm CO_2 emission saving over other types of energy generation	
Coal fired electricity generation (tCO_2yr^{-1})	230,291
Grid mix of electricity generation (tCO_2yr^{-1})	37,648
Fossil fuel mix of electricity generation (tCO_2yr^{-1})	96,211
Energy output from windfarm over lifetime (MWh)	**8,806,533**
Total CO_2 losses due to wind farm (tCO_2 eq.)	
2 Losses due to turbine life (e.g. manufacture, construction, decommissioning)	81,191
3. Losses due to backup	70,744
4. Losses due to reduced carbon fixing potential	2,765
5. Losses from soil organic matter	17,704
6. Losses due to DOC & POC leaching	0
7. Losses due to felling forestry	41,716
Total losses (tCO_2 eq.)	**214,119**
8. Total CO_2 gains due to improvement of site (tCO_2 eq.)	
8a. Gains due to improvement of degraded bogs	0
8b. Gains due to improvement of felled forestry	0
8c. Gains due to restoration of peat from borrow pits	0
8d. Gains due to removal of drainage from foundations and hardstandings	-1,355
Total gains (tCO_2 eq.)	**-1,355**
Net CO_2 emissions (tCO_2 eq.)	**212,764**

3.8.15. The net CO_2 emissions of the Amended Proposed Development are calculated by deducting any CO_2 gains from site improvement and restoration from the total CO_2 losses associated with turbine manufacture, construction and peat impacts. While annual CO_2 savings are also calculated by comparing the wind farm's energy output against other forms of generation, this does not account for carbon losses. The key indicator of overall performance is therefore the carbon payback period, which compares the net CO_2 loss with the annual CO_2 savings from displaced electricity generation. The updated carbon payback times for the Amended Proposed Development are shown in **Figure 8.4.1** below.

Figure 8.4.1: Carbon payback time (in years) for the Amended Proposed Development

RESULTS	*Exp.*	*Min.*	*Max.*
Net emissions of carbon dioxide (t $CO_{2\ eq.}$)	**212764**	**145328**	**274605**
Carbon Payback Time			
…coal-fired electricity generation (years)	0.9	0.5	1.8
…grid-mix of electricity generation (years)	5.7	2.9	10.7
…fossil fuel - mix of electricity generation (years)	**2.2**	**1.2**	**4.2**

3.8.16. The updated carbon balance results indicate that the Amended Proposed Development would repay its carbon debt within approximately 2.2 years when displacing fossil fuel-mix electricity generation, with a range of 1.2 to 4.2 years under the minimum and maximum scenarios. Over its 40-year operational life, the Amended Proposed Development is expected to generate the equivalent of over 37 years of clean energy when compared with fossil fuel-mix generation, and nearly 34 years when compared with the cleaner grid-mix. This corresponds to expected CO_2 savings of more than 3,559,807 tCO_2 over the operational period, confirming that the Amended Proposed Development will deliver a substantial positive net carbon impact.

4. Summary and Conclusions

4.1.1. This FEI has been prepared to address consultee feedback on the submitted EIAR, refine the design of the Proposed Development, and assess the environmental implications of both the amended wind farm layout and the newly introduced grid connection. The FEI has focused on those environmental topics where changes have occurred or where additional clarification was required.

4.1.2. Across all disciplines, the updated assessments demonstrate that the design refinements, particularly the relocation of infrastructure to avoid deeper peat and the integration of the grid connection, do not give rise to new or materially different significant environmental effects. Where changes in effects have occurred, these are typically minor reductions in impact.

4.1.3. For the inclusion of grid connection into the Amended Proposed Development, given the limited length, underground installation, and alignment alongside existing infrastructure, the proposed grid connection is not expected to give rise to significant environmental effects that would alter the overall conclusions of the submitted EIAR.

4.1.4. Overall, the conclusions of the submitted EIAR remain robust, with no significant effects identified beyond those previously reported, and no new significant effects arising as a result of the amendments or additional information. The table below provides a summary of the environmental topics reassessed as part of this FEI and outlines the outcomes of the updated assessments.

Table 4.1: Summary of Updated Assessment Outcomes

Topic	Outcome
Ecology	Updated ecological assessment confirms no significant effects on ecological features. Additional construction-phase controls will be implemented, including a site-specific CEMP, Species Protection Plan, appointment of an ECoW, and delivery of the OBERP.
Ornithology	Updated ornithological assessment confirms no significant effects on any ornithological features, including goshawk (the only identified IOF). No significant cumulative effects were predicted. Additional construction-phase controls will be implemented, including a site-specific CEMP, Species Protection Plan, appointment of an ECoW, and delivery of the OBERP.
Hydrology, Hydrogeology & Geology	Updated assessment confirms negligible and therefore non-significant effects on Private Water Supply (PWS) receptors. No true GWDTE habitats were identified within SEPA buffer distances, and no impacts on GWDTE are anticipated. Updated Phase 2 peat surveys and revisions to the Outline Peat Management Plan demonstrate reduced peat excavation volumes compared to the EIAR, with reinstatement and restoration measures in place. Overall, the potential effects on peatland are assessed to be not significant.
Landscape	Updated assessment confirms that the Amended Proposed Development results in only minimal changes to the landscape and visual effects reported in the EIAR. Although turbine composition in views at Auchenroy Hill (Viewpoint 10) within the Craigengillan Gardens and Designed Landscape is improved, the overall level of effect in EIA terms remains unchanged. No significant night-time effects were identified in the EIAR, and the aviation

Topic	Outcome
	lighting strategy remains unchanged. While T1 is the only lit turbine that has been micro-sited, this does not give rise to any new night-time effects or changes to the level of effect, including for residential receptors.
Cultural Heritage	Updated cultural heritage assessment confirms that the Amended Proposed Development would have no direct effects on any known cultural heritage sites within the Proposed Development Area, and no residual direct impacts are anticipated following mitigation. While there remains some potential for previously unrecorded sub-surface archaeological remains, any requirement for archaeological evaluation, survey, excavation or recording would be secured through consultation with EAC and WoSAS prior to ground disturbance. Overall, the assessment confirms no direct significant effects on known assets, with cultural heritage effects limited to setting impacts on a small number of designated receptors.
Noise	Updated assessment confirms that predicted operational noise levels from the Amended Proposed Development, based on a representative Siemens-Gamesa SG6.6-170 turbine, meet all Site Specific Noise Limits at all assessed receptors and are therefore not significant. The use of Site Specific Noise Limits ensures the development can operate concurrently with other wind farms and that its individual contribution can be monitored and enforced if required. While the final turbine model will be confirmed post-consent, it will be required to comply with the Site Specific Noise Limits presented in the assessment.
Forestry	A total of 206.9 ha of woodland requires to be felled to accommodate the Amended Proposed Development, of which 147.6 ha would be advanced from later phases in the associated Forest Plan. This represents a decrease of 3.2 ha of construction felling compared to the felling plans set out in the EIA Report. Of this, 168.5 ha would be advanced from later phases of the Forest Plan. The amended proposals also result in changes to species composition, including a reduction of 65.9 ha of conifer woodland and a net woodland loss of 78.7 ha, with an associated increase in unplanted ground. In line with the Scottish Government's Control of Woodland Removal Policy, compensatory planting will be provided, with the extent, location and composition to be agreed with Scottish Forestry prior to construction.
Carbon Balance Assessment	Updated carbon balance modelling indicates that the Proposed Development would repay its carbon debt in approximately 2.2 years when displacing fossil-fuel-mix electricity, with a range of 1.2 to 4.2 years across the minimum and maximum scenarios. Over a 40-year operational life, the development is expected to generate the equivalent of over 37 years of clean energy against fossil-fuel-mix generation, and nearly 34 years against a cleaner grid-mix. This equates to projected CO_2 savings exceeding 3,559,807 tCO_2, confirming a substantial positive net carbon impact.

Source: Natural Power 2026

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