

VOLUME 1: CHAPTER 5: EIA PROCESS AND METHODOLOGY

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5. EIA PROCESS AND METHODOLOGY

5.1 Introduction

- 5.1.1 Environmental Impact Assessment (EIA) is a process that considers how a proposed development is predicted to change existing environmental conditions and the consequences of such changes. It therefore informs both the project design, and the decision-making processes related to the granting of development consents.
- 5.1.2 This Chapter sets out the regulatory context for undertaking an EIA and the assessment methodology applied in the evaluation of effects, approach to mitigation and assessment of the significance of likely environmental effects. This Chapter also outlines the structure of the EIA Report.

5.2 EIA Regulations

- 5.2.1 As discussed in **Chapter 1 - Introduction and Background**, the EIA Report has been prepared in accordance with the EIA Regulations¹.
- 5.2.2 This EIA Report contains the information specified in Regulation 5 of, and Schedule 4 to, the EIA Regulations. The approach to the assessment has been informed by current best practice guidance, including the following:
- Scottish Government Planning Advice Note (PAN) 1/2013 (revision 1.0)²; and
 - Planning Circular 1/2017³.
- 5.2.3 An overview of the guidance and methodology adopted for each technical study is provided within the respective technical chapters of this EIA Report. The proposed methodologies for the assessment of likely significant effects for each topic area covered in the technical chapters (**Chapters 6 to 13**) of this EIA Report, have been the subject of consultation with statutory and non-statutory consultees through the publication of, and consultation on, the “Glendye Wind Farm Overhead Line Grid Connection Project: Scoping Report”, published in November 2024 (see **Appendix 4.1: Scoping Report – November 2024**).
- 5.2.4 The scope of the EIA Report has been informed by, and is based on, the EIA Scoping Opinion⁴ issued by the Scottish Ministers on the 28th February 2025, discussed further within **Chapter 4 – Scope and Consultation** of this EIA Report and associated appendices (see **Appendix 4.2: Scoping Opinion – February 2025**).

5.3 Baseline

- 5.3.1 To identify the scale of likely significant effects as a result of the Proposed Development, it is necessary to establish the existing baseline environmental conditions.
- 5.3.2 The baseline scenario was established through the following methods, where relevant:
- site visits and surveys;
 - desk-based studies;
 - review of existing information;
 - modelling;
 - review of relevant national and local planning policies;
 - consultation with the relevant statutory consultees and where appropriate, non-statutory consultees; and,

1 The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (online) Available at <https://www.legislation.gov.uk/ssi/2017/101/contents/made> (last accessed 08/10/2025)

2 Scottish Government (2013, revised 2017) Planning Advice Note 1/2013 (revision 1.0): Environmental Impact Assessment.

3 Scottish Government (2017) Planning Circular 1/2017: Environmental Impact Assessment Regulations 2017.

4 SSEN Transmission (November 2024) Scoping Report - Glendye Wind Farm Overhead Line Grid Connection

- identification of sensitive receptors.

5.4 Assessment of Likely Significant Environmental Effects

5.4.1 For the purposes of this EIA Report the terms used in the assessment of effects are generally defined as follows:

- Temporary – where the effect occurs for a limited period of time and the change for a defined receptor can be reversed;
- Permanent – where the effect represents a long-lasting change for a defined receptor;
- Direct – where the effect is a direct result (or primary effect) of the Proposed Development;
- Indirect – a knock-on effect which occurs within or between environmental components, may include effects on the environment which are not a direct result of the Proposed Development, often occurring away from the proposals or as a result of a complex biological or chemical pathway;
- Secondary – an induced effect arising from the actions or presence of a project, such as changes to the pattern of future land use or improvements to local road networks;
- Cumulative – these effects may arise when more than one development of a similar scale and nature combine to create a potentially greater impact than would result from the Proposed Development alone (see also **Section 5.5** of this Chapter);
- Beneficial – an effect beneficial to one or more environmental receptors; and
- Adverse – a detrimental, or adverse, effect on one or more environmental receptors.

5.4.2 Where a more appropriate definition of the above terms is applicable to a technical discipline, this is clearly outlined within the technical chapters of this EIA Report.

5.4.3 The result of the assessment is the determination of whether the likely effect of the Proposed Development on the receptors in the study area would be significant or not significant, and whether that effect would be adverse or beneficial. Receptors means the factors of the natural and built environment, including people and communities, that may be significantly affected by the Proposed Development. Examples include cultural heritage, landscapes, populations, animal and plant species, and the water environment.

5.4.4 Where no published standards exist, the assessments presented in the technical chapters describe the professional judgements (assumptions and value systems) that underpin the attribution of significance. For certain technical topics, such as ecology, widely recognised published significance criteria and associated terminology have been applied and these are presented in the technical chapters and associated appendices where relevant.

5.4.5 The assessment of significance has considered the magnitude of change (from the baseline conditions), the sensitivity of the affected environmental factors / receptors and (in terms of determining residual effects), the extent to which mitigation and enhancement can reduce or reverse adverse effects. In addition, further considerations such as those listed below have been factored into the assessment using professional judgement:

- likelihood of occurrence;
- geographical extent;
- the value of the affected resource;
- the compatibility of the Proposed Development with the provisions of legislation and planning policy; and
- reversibility and duration of the likely effect.

- 5.4.6 The magnitude (scale) of change for each effect has been identified and predicted as a deviation from the established baseline conditions, for the construction and operational phases of the Proposed Development. The scale generally used high, medium, low, and negligible criteria, as outlined in **Table 5.1** below and defined within each of the technical chapters of this EIA Report.
- 5.4.7 The sensitivity of the receptor / receiving environment to change has been determined using professional judgement, consideration of existing designations (such as Sites of Special Scientific Interest (SSSIs)) and quantifiable data, where possible. The scale generally used high, medium, low, and negligible criteria, as outlined in **Table 5.1** below and defined within each of the technical chapters of this EIA Report.
- 5.4.8 Each effect has been assessed, taking account of the predicted magnitude of change and the sensitivity of the receptor / receiving environment, as shown below in **Table 5.1**. Following assessment, the overall significance of effect is defined, and clearly stated within each technical chapter of this EIA Report.

Table 5.1: Matrix for Determining the Significance of Effects

		Sensitivity of Receptor/Receiving Environment to Change/Effect			
		High	Medium	Low	Negligible
Magnitude of Change/Effect	High	Major	Major	Moderate	Negligible
	Medium	Major	Moderate	Minor	Negligible
	Low	Moderate	Minor	Minor	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible

- 5.4.9 Major and moderate effects are generally considered to be significant in the context of the EIA Regulations. Minor and negligible effects are not considered significant. Where different terms or levels of effect to the above are used, they are defined within the methodology section within each of the technical chapters of the EIA Report.
- 5.4.10 The characteristics of an effect will vary depending on the duration of the activity causing the effect, the sensitivity of the receptor and the resultant change. It is therefore necessary to assess whether the effect is temporary or permanent, beneficial or adverse, and indirect or direct. Effects that are temporary are usually reversible and generally confined to the construction period.

5.5 Cumulative Effects

- 5.5.1 In accordance with the EIA Regulations, the assessment has considered 'cumulative effects'. The assessment of cumulative effects is a key part of the EIA process and is concerned with identifying circumstances in which a number of potential and/or predicted effects from separate existing or future development projects could combine, resulting in a significant effect on a particular receptor. Cumulative effects have been assessed within each technical chapter of this EIA Report.

- 5.5.2 There are two aspects to cumulative effects, defined as follows:

- **Inter and intra project effects:** the combined effect of the Proposed Development together with: (i) broader aspects of the overall development (intra); and (ii) other reasonably foreseeable future developments (inter) (taking into consideration effects at the site preparation and earthworks, construction and operational phases); and
- **Effects interactions:** the combined or synergistic effects caused by the combination of a number of effects on a particular receptor (taking into consideration effects at the site preparation and earthworks, construction and operational phases), which may collectively cause a more significant effect than individually. A theoretical example is the culmination of disturbance from dust, noise, vibration, artificial light, human presence and visual intrusion on sensitive fauna (e.g. certain bat species) adjacent to a construction site.

5.5.3 **Table 5.2** below lists the developments that have been considered with respect to inter project cumulative effects within this EIA Report⁵ (see also **Figure 5.1: Cumulative Developments**). Such developments considered for their cumulative effects with the Proposed Development include the following:

- developments for which a planning application has been submitted;
- developments for which consent has been granted; and/or
- future development for which it is reasonable to assume, at the date that the list of cumulative developments is frozen (typically three months prior to submission of this EIA Report), that the developer will proceed with an application for consent.

Table 5.2: Cumulative Developments (Inter)

Development Name and Type	Application Status	Description of Development
Glendye Wind Farm ⁶	Consented Energy Consents Unit (ECU) Reference: ECU00000676	Wind farm development of 26 wind turbines with a generating capacity of 104 MW located on Glen Dye and Fasque Estates. Section 36 application consented by the ECU in October 2023.
Fetteresso Wind Farm	Consented ECU Reference: ECU00001851	Wind farm development consisting of 10 turbines with a maximum blade tip of 200 m as an extension to the existing Mid Hill Wind Farm, located approximately 13 km west of Stonehaven. Section 36 application consented in September 2022.
Craig Neil Wind Farm	Consented Aberdeenshire Council Reference: APP/2018/0993	Wind farm development consisting of 11 turbines with a maximum blade tip of 135 m located near Rickarton, approximately 6.5 km to the northwest of Stonehaven. Application consented in September 2022.
'Hydroglen' Green Hydrogen Production Facility (James Hutton Institute)	Consented Aberdeenshire Council Reference: APP/2023/2335	Green Hydrogen Production Facility with Electrolyser, Fuel Cell including a Hydrogen Storage Facility (expected capacity 100-200 kW), Battery Energy Storage System (BESS) (400 kW) and Installation of Ground and Roof Mounted Solar Array (210 kW), Electronic Vehicle (EV) Charging Facilities and

⁵ By way of an exception to this general approach, the transport chapter includes committed schemes only within its assessment of cumulative effects, i.e. those that have planning approval. This is in accordance with accepted practice for transport assessments (see Chapter 13: Traffic and Transport).

⁶ The assessment of effects within the landscape and visual chapter considers a baseline situation where the turbines of the Glendye Wind Farm would be in situ, as the Proposed Development would be dependent on the wind farm being constructed. This is explained further within Chapter 6: Landscape and Visual.

		Associated Infrastructure. Application consented in April 2024.
Hurlie 400 kV Substation, Fetteresso Forest.	Application Submitted Aberdeenshire Council Reference: APP/2024/1951	Construction and operation of new 400 kV substation in Fetteresso Forest. Town and Country Planning application submitted by the Applicant to Aberdeenshire Council in December 2024. Awaiting determination.
Tealing to Kintore 400 kV OHL	Application Submitted ECU Reference: ECU00005225	Approximately 106 km of 400 kV overhead line (OHL), supported by steel lattice towers between a proposed new substation at Emmock, near Tealing in Angus and the existing substation situated at Kintore, via the proposed Hurlie substation. Section 37 application submitted by the Applicant in September 2025.
The Waters (Glenbervie) BESS	Pre-Application Aberdeenshire Council Reference: ENQ/2024/1615	BESS development located approximately 1.6 km south of Fetteresso Forest. Planning Application Notice submitted to Aberdeenshire Council in December 2024.
Quithel BESS	Pre-Application ECU Reference: ECU00005005	BESS development located south of Fetteresso Forest. Screening request submitted to the ECU in December 2023.
Bowdun Offshore Wind Farm Onshore Cable Connection and Substation	Pre-Application Aberdeenshire Council Reference: ENQ/2024/1337	Onshore connection infrastructure in the form of an underground cable and substation. A Scoping Opinion was provided by the Council in November 2024.
SSEN Transmission Offshore Grid Projects (including Hurlie potential area for off shore connections)	Pre-Application	A connection of offshore projects under development. This would comprise of an underground cable (UGC) to a High Voltage Direct Current (HVDC) converter likely situated within the vicinity of the proposed Hurlie substation.
Network Rail Drumlithie	Pre-Application	Possible requirement to install two new transformers within the proposed Fetteresso substation extension, with the requirement for two cable connections and possible housing equipment, which would be dedicated to Network Rail, as part of the Network Rail east coast main line electrification.

Fiddes 132 kV Grid Replacement	Pre-Application	Possible requirement by the Applicant to install a new double circuit 132 kV connection from the existing Fiddes substation to the existing / upgraded Fetteresso substation.
Fetteresso 132 kV Substation Extension	Pre-Application	The existing Fetteresso substation was fully constructed in 2016. Due to various upcoming connections in the area, there is a requirement for the Applicant to extend the substation. These extension works are expected to take place between 2026 - 2028.
Fetteresso Wind Farm Grid Connection / Access Corridor	Pre-scoping	Connection to a proposed wind farm to the north of Fetteresso. If this results in a connection agreement to Fetteresso substation, it is likely that the connection would be similar to Glendye, comprising a single circuit 132 KV OHL with a short section of UGC at the approach to the substation.

5.5.4 The individual topic based technical chapters of this EIA Report consider the cumulative effects of the Proposed Development with other existing or future committed developments that have potential to result in significant cumulative effects, in combination with those resulting from the Proposed Development.

5.6 Approach to Mitigation

5.6.1 Where a significant effect during the construction or operational phase cannot be avoided altogether, mitigation measures are devised as means of preventing, reducing, or if possible, offsetting that effect. Mitigation measures take two forms: embedded mitigation relates to mitigation measures that are intrinsic to the design (e.g. routing stages), or standard means of mitigating a particular type of effect (such as the protocols set out in a Construction Environment Management Plan (CEMP)). An initial assessment of effects takes account of that embedded mitigation. If the assessment is that the effect would be significant (even taking account of embedded mitigation), then additional bespoke mitigation is identified, known as 'additional mitigation'. Embedded and additional measures would be implemented during detailed design, construction and / or operation of the Proposed Development. Each technical chapter of this EIA Report details the measures recommended to mitigate identified likely significant effects, and a summary of the recommended mitigation measures is provided in **Appendix 14.1 – Schedule of Mitigation**.

5.6.2 Any remaining predicted effects after taking into account available mitigation measures are known as 'residual effects'. This assessment takes into account the mitigation as specified in the EIA Report to identify the residual effects, based on the assumption that the identified mitigation is implemented in line with suitably worded planning conditions. The residual predicted effects are discussed for each potential effect that has not been scoped out of the assessment, with a significance level identified. Where there are residual significant effects on a receptor, the technical chapters explain the extent to which offsetting can be achieved.

5.7 EIA Quality

5.7.1 In accordance with Regulation 5(5) of the EIA Regulations, by appointing ASH to coordinate the EIA Report for the Proposed Development, SSEN Transmission has ensured that the EIA Report has been prepared by competent experts. The EIA Report has been compiled and approved by professional EIA practitioners at ASH, holding relevant undergraduate and post-graduate degrees, and membership of the Institute of Sustainability and Environment Professionals (ISEP) (formerly known as the Institute of Environmental Management and Assessment (IEMA)).

5.7.2 The EIA Report meets the requirements of the ISEP EIA Quality Mark scheme. This is a voluntary scheme operated by ISEP that allows organisations to make a commitment to excellence in EIA and to have this commitment independently reviewed on an annual basis. In addition, SSEN Transmission and ASH can confirm that each of the topic-based impact assessment chapters has been prepared by competent experts, with details of expertise provided in the EIA chapters; including relevant qualifications, professional memberships of the authors, and applicable codes of practice followed in their assessment work. The following summary is provided of the specialist consultants appointed by SSEN Transmission for this EIA Report (see also **Appendix 5.1** for further EIA Team details):

- EIA Co-ordination – ASH design and assessment Ltd.;
- Landscape and Visual – ASH design and assessment Ltd.;
- Ecology – SLR Consulting Ltd.;
- Ornithology – SLR Consulting Ltd.;
- Geology Hydrology and Hydrogeology – SLR Consulting Ltd.;
- Forestry – McKay Forestry;
- Traffic and Transport – Pell Frischmann Consultants;
- Socio-Economic Tourism and Recreation - MKA Economics Ltd.; and
- Cultural Heritage – CFA Archaeology.

5.8 Structure of the EIA Report

5.8.1 This EIA Report contains the environmental information required by the EIA Regulations and comprises a number of volumes as detailed below:

- Volume 1: Main Report;
- Volume 2: Figures;
- Volume 3: Visualisations to NatureScot guidelines⁷;
- Volume 4: Appendices to support each of the Chapters in the EIA Report where required; and
- Non-Technical Summary.

5.8.2 Volume 1 of the EIA Report (this document) contains the following chapters:

- 1: Introduction and Background;
- 2: The Routeing Process and Alternatives;
- 3: The Proposed Development;
- 4: Scope and Consultation;
- 5: EIA Process and Methodology;
- 6: Landscape and Visual;
- 7: Ecology;

⁷ NatureScot (Formerly Scottish Natural Heritage (SNH)), (2017), Visual Representation of Wind Farms (Version 2.2).

- 8: Ornithology;
- 9: Geology, Hydrology and Hydrogeology;
- 10: Cultural Heritage;
- 11: Forestry
- 12: Socio-Economic, Tourism and Recreation;
- 13: Traffic and Transport; and
- 14: Summary of Effects.

5.8.3 **Chapters 6 to 13** comprise technical topic-based reports that each include an assessment of the likely significant effects of the Proposed Development on the particular receptors of relevance to the topic, a description of the proposed mitigation measures relevant and confirmation of the predicted residual effects. The consideration of cumulative effects is also discussed where relevant in each specialist topic.

5.8.4 **Volume 2** contains supporting figures referred to in **Volume 1** of the EIA Report.

5.8.5 **Volume 3** comprises photomontage visualisations of the Proposed Development from a series of viewpoint locations, prepared in accordance with the relevant guidance from NatureScot⁷.

5.8.6 **Volume 4** comprises supporting appendices for **Volume 1** of the EIA Report. Appendices include further detailed reporting or information to support the EIA Report and technical assessments. Notable appendices include:

- a Peat Landslide Hazard and Risk Assessment (PLHRA), to consider the potential risk of peat landslides occurring within the vicinity of the Proposed Development, so that suitable controls and appropriate methodologies can be employed during both construction and operation to mitigate against these risks (**Appendix 9.1**); and
- a Peat Management Plan (PMP), to demonstrate that there has been a systematic assessment to the management and treatment of peat that would be excavated during the construction of the Proposed Development (**Appendix 9.2**).

5.8.7 A standalone Non-Technical Summary is also provided, which describes the Proposed Development and the likely significant effects predicted in a concise, non-technical manner.

5.9 Supporting Documents

5.9.1 A Planning Statement is also included with the application as supporting information. The Planning Statement considers the compatibility of the Proposed Development in the context of existing development plans and national energy and planning policies.

5.9.2 Furthermore, a Pre-Application Consultation Report is included with the application as supporting information to summarise the public consultation undertaken by the Applicant in relation to the Proposed Development.