VOLUME 1: CHAPTER 5: EIA PROCESS AND METHODOLOGY

Figures (Volume 2 of this EIA Report)

There are no figures associated with this Chapter

Appendices (Volume 4 of this EIA Report)

Appendix V1-5.1: EIA Team Details

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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 **Volume 1: Chapter 1 - Introduction and Background**, the EIA Report has been prepared in accordance with the EIA Regulations.

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)[1]; and
- Scottish Government Planning Circular 1/2017[2].

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 in **Volume 1** (Chapters 6 – 12) and **Volume 5** (Chapters 4 - 10) within this EIA Report, have been the subject of consultation with statutory and non-statutory consultees through the publication of, and consultation on, the "Strathy South Wind Farm Grid Connection: Scoping Report" [3] published in March 2024 (see **Volume 4: Appendix V1-4.2: Scoping Report – March 2024**).

5.2.4 The scope of the EIA Report has been informed by, and is based on, the EIA Scoping Opinion issued by the Scottish Ministers in June 2024, as discussed further within **Volume 1: Chapter 4 - Scope and Consultation** of this EIA Report and associated appendices (see **Volume 4: Appendix V1-4.3: Scoping Opinion – June 2024**).

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;

[1] Scottish Government (2013, revised 2017) Planning Advice Note 1/2013 (revision 1.0): Environmental Impact Assessment.
[2] Scottish Government (2017) Planning Circular 1/2017: Environmental Impact Assessment Regulations 2017.
[3] Strathy South Wind Farm Grid Connection: Scoping Report (March 2024), produced by SSEN Transmission.

- consultation with the relevant statutory consultees and where appropriate, non-statutory consultees; and
- 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 **Volume 1** (Chapters 6 – 12) and **Volume 5** (Chapters 4 – 10) 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, adverse or beneficial. Receptors should be defined as meaning 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) and 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 uses high, medium, low, and negligible criteria, as outlined in **Table V1-5.1** below and defined within each of the technical chapters in **Volume 1** and **Volume 5** 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 uses high, medium, low, and negligible criteria, as outlined in **Table V1-5.1** below and defined within each of the technical chapters in **Volume 1** and **Volume 5** 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 in **Table V1-5.1** and defined within each of the technical chapters in **Volume 1** and **Volume 5** of this EIA Report to determine an overall significance of effect.

Table V1-5.1: 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 in **Volume 1** and **Volume 5** of this 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 to cause a significant effect on a particular receptor. Cumulative effects have been assessed within each technical chapter in **Volume 1** and **Volume 5** of this EIA Report.

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

- Inter project effects: the combined effect of the Proposed Development together with other reasonably foreseeable future developments (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 from the Proposed Development 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 combination 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 V1-5.2** lists the developments that have broadly been considered with respect to cumulative effects within this EIA Report (see also **Volume 2: Figure V1-6.6: Cumulative Developments**). Such developments include those for which consent has been granted, 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 V1-5.2: Cumulative Developments

Development Name and Type	Application Status	Description
Strathy South Wind Farm (and on-site substation)	Consented[4]	Wind Farm development with 35 turbines and a generating capacity of 208 MW. Located to the south of Strathy Forest.
Strathy Wood Wind Farm (and on-site substation)	Consented[5]	Wind Farm development of 11 turbines[6] with a generating capacity of up to 62.4 MW. Located on the eastern edge of Strathy Forest.
Melvich Wind Energy Hub (and on-site substation)	Proposed[7]	Wind Farm and BESS development comprising 12 turbines with a generating capacity of 57.6 MW plus 42 MW of battery storage.
Kirkton Energy Park (and on-site substation)	Proposed[8]	Wind Farm and BESS development comprising 11 turbines with a generating capacity of 52.8 MW plus 20 MW of battery storage.
Strathy South Wind Farm 'Southern Section' Grid Connection	Anticipated to be Permitted Development	5 km of 132 kV underground cable (from Strathy South Wind Farm on-site substation to a cable sealing end (CSE) compound near Strathy Wood Wind Farm on-site substation)
Strathy Wood Wind Farm Grid Connection	Proposed[9]	4.5 km of 132 kV double circuit steel lattice overhead line (OHL) from a CSE compound near Strathy Wood Wind Farm on-site substation to connect to the existing network initially via a 'T' onto the existing Strathy North trident 'H' wood pole OHL for onward transmission to Connagill 275/132 kV substation.
Melvich Wind Energy Hub Grid Connection	Anticipated to be Permitted Development	132 kV underground cable (from Melvich Wind Energy Hub on-site substation to the

[4] Received consent from the Scottish Government in November 2021.
[5] Received consent from the Scottish Government in December 2021.
[6] Strathy Wood Wind Farm was approved by Scottish Ministers in December 2021[5], comprising 13 turbines of a maximum height of 180 m with an installed capacity of approximately 62.4 Megawatts (MW). Since consent was granted in 2021, the Strathy Wood Wind Farm developer has reduced the number of turbines to be constructed to 11.
[7] A section 36 application was submitted to the Scottish Government in March 2023. ECU Reference: ECU00004514.
[8] A section 36 application was submitted to the Scottish Government in November 2022. ECU Reference: ECU00003244.
[9] A section 37 application was submitted to the Scottish Government in December 2024. ECU Reference: ECU00005221.

		existing Strathy North 132 kV trident H-wood pole OHL (section to be retained)).
Kirkton Energy Park Grid Connection	Pre-Scoping	A short span (~1 km) of single circuit 132 kV trident wood pole OHL (between Kirkton Energy Park on-site substation and a 'T' on the existing Strathy North 132 kV trident H-wood pole OHL (section to be retained)).
Strathy Switching Station	Pre-Scoping	Switching station.

5.5.4 The individual topic based technical chapters within **Volume 1** of this EIA Report, and **Volume 5** for the Alternative Alignment, consider the cumulative effects of the Proposed Development with other existing or future committed development that have the potential to result in significant cumulative effects in combination with those resulting from the Proposed Development.

5.5.5 Within **Volume 1: Chapter 6: Landscape and Visual** and **Chapter 11:Traffic and Transport** (and **Volume 5: Chapter 4: Landscape and Visual – Alternative Alignment**, and **Chapter 9: Traffic and Transport – Alternative Alignment**), as the Proposed Development would be closely associated with and dependent on the construction of the consented Strathy South and Strathy Wood wind farms and the proposed Strathy Wood Wind Farm Grid Connection, the assessment of effects has taken these developments into account as part of the baseline for the Proposed Development.

5.5.6 The purpose of the Alternative Alignment is to avoid conflict with the proposed Melvich Wind Energy Hub by providing an alignment that goes around rather than through this development. The Landscape and Visual assessment in **Volume 5: Chapter 4: Landscape and Visual – Alternative Alignment** and the cultural heritage assessment in **Volume 5: Chapter 8: Cultural Heritage – Alternative Alignment**, therefore, assumes a baseline with this proposed development (and its associated grid connection) being present, as this would present a worst-case scenario for the assessment of these disciplines.

5.5.7 The cumulative assessments for the Proposed Alignment in **Volume 1** of this EIA Report assume that the proposed Melvich Wind Energy Hub and its associated grid connection would not be constructed. However, Melvich Wind Energy Hub and its associated grid connection are considered within the cumulative assessments for the Alternative Alignment within **Volume 5** of this EIA Report.

5.5.8 As discussed in **Volume 1: Chapter 1: Introduction and Background**, the Applicant's preference is to construct and operate the Proposed Alignment should the proposed Melvich Wind Energy Hub not go ahead. However, should Melvich Wind Energy Hub be granted consent, the Applicant would progress the Alternative Alignment, and therefore the cumulative assessments included in this EIA Report, considers both of these scenarios.

5.5.9 The cumulative ornithology assessment, included in **Volume 1: Chapter 8: Ornithology** for the Proposed Alignment and **Volume 5: Chapter 6: Ornithology – Alternative Alignment** for the Alternative Alignment, considered a more extensive list of cumulative sites in the surrounding area compared to other technical assessments in this EIA Report, due to birds being a highly mobile species.

5.6 Approach to Mitigation

5.6.1 Mitigation measures are identified to prevent, reduce or remedy any potentially significant adverse environmental effects identified, beyond that already taken into account as normal good practice (i.e. embedded mitigation, for example, the Construction Environment Management Plan (CEMP)). Such measures would be implemented during detailed design, construction and/or operation of the Proposed Development. Each technical chapter within **Volume 1** and within **Volume 5** 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 **Volume 1: Chapter 13: Schedule of Mitigation** and **Volume 5: Chapter 11: Schedule of Mitigation – Alternative Alignment.**

5.6.2 Any remaining predicted effects after taking into account available mitigation measures are known as 'residual effects'. The 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. The residual predicted effects are discussed for each potential effect that has not been scoped out of the assessment and a significance level identified.

5.7 EIA Quality

5.7.1 In accordance with Regulation 5(5) of the EIA Regulations, by appointing ASH design+assessment Ltd. to co-ordinate 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 Environmental Management and Assessment (IEMA).

5.7.2 The EIA Report meets the requirements of the IEMA EIA Quality Mark scheme. This is a voluntary scheme operated by IEMA 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 the details being provided in the chapters of the relevant qualifications, any professional memberships of the authors and any applicable code 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 **Volume 4: Appendix V1-5.1** for further EIA Team details):

- EIA Co-ordination – ASH design and assessment Ltd.;
- Landscape and Visual – horner + maclennan;
- Ecology – RPS Consulting Services Ltd.;
- Ornithology – RPS Consulting Services Ltd.;
- Soils, Geology and Water – SLR Consulting Ltd.;
- Cultural Heritage - Catherine Dagg;
- Traffic and Transport – Pell Frischmann Consultants Ltd.; and
- Forestry – Neil McKay Forestry.

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 to support each of the Chapters in Volume 1 and Volume 5, where required;
- Volume 3a: Visualisations to NatureScot guidelines[10];
- Volume 3b: Visualisations to The Highland Council guidelines[11];
- Volume 4: Appendices to support each of the Chapters in Volume 1 and Volume 5, where required;
- Volume 5: EIA of the Alternative Alignment; and
- Non-Technical Summary.

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

[11] The Highland Council (THC), (2016), Visualisation Standards for Wind Energy Developments.

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;
- 8: Ornithology;
- 9: Soils, Geology and Water;
- 10: Cultural Heritage;
- 11: Traffic and Transport;
- 12: Forestry; and
- 13: Schedule of Mitigation.

5.8.3 Chapters 6 to 12 comprise technical topic-based reports that each include an assessment of the likely significant effects of the Proposed Development with the Proposed Alignment 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** and **Volume 5** of the EIA Report. Figures associated with Volume 1 include the prefix 'V1' whereas figures associated with Volume 5 include the prefix 'V5'.

5.8.5 **Volume 3** (**a and b**) comprises photomontage visualisations of the Proposed Development from a series of viewpoint locations, prepared in accordance with the relevant guidance from both NatureScot (**Volume 3a**) and The Highland Council (**Volume 3b**). Visualisations are included for both the Proposed Alignment and Alternative Alignment. Those associated with the Proposed Alignment include the prefix 'V1' whereas visualisations associated with the Alternative Alignment include the prefix 'V5'.

5.8.6 **Volume 4** comprises supporting appendices for **Volume 1** and **Volume 5** of the EIA Report. Appendices associated with Volume 1 include the prefix 'V1', whereas appendices associated with Volume 5 include the prefix 'V5'. Appendices include further detailed reporting or information to support the EIA Report and technical assessments. Notable appendices include:

- Shadow Habitats Regulation Appraisals (HRAs) where the Proposed Development passes through or otherwise has the potential to adversely impact sites of European nature conservation importance are included in **Volume 4: Appendix V1-7.6: Shadow HRA for the Caithness and Sutherland Peatlands SAC and Ramsar** (the Alternative Alignment is considered in **Annex B** of this appendix), and **Volume 4: Appendix V1-8.3: Shadow HRA for European Sites of Ornithological Importance** (the Alternative Alignment is considered in **Annex A** of this appendix).

5.8.7 Other key appendices included in the EIA Report include:

- Flow Country World Heritage Site (WHS) Assessment (**Volume 4: Appendix V1-7.7**, the Alternative Alignment is considered in **Annex D** of this appendix);
- Connagill Cluster Outline Habitat Management Plan (HMP) (**Volume 4: Appendix V1-7.8**);
- 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 the construction and operation of the Proposed Development to mitigate against these risks (**Volume 4: Appendix V1-9.1** and **Volume 4: Appendix V5-7.1**);

- an Outline Peat Management Plan (PMP), to demonstrate that there has been a systematic assessment of the management and treatment of peat that would be excavated during the construction of the Proposed Development (**Volume 4: Appendix V1-9.2** and **Volume 4: Appendix V5-7.2**); and
- a Detailed Peatland Condition Assessment (PCA) which considers key hydrological, ecological and land-use based indicators of peatland condition (**Volume 4: Appendix V1-9.4** and **Volume 4: Appendix V5-7.4).**

5.8.8 **Volume 5** contains a description of the Alternative Alignment and the results of an EIA undertaken on the Alternative Alignment.

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

5.9 Supporting Documents

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

5.9.2 A Socio-economic and Tourism Technical Note is included with the application as supporting information. The Technical Note assesses the potential socio-economic and tourism impacts from the construction and operation of the Proposed Development