

CHAPTER 4: EIA PROCESS AND METHODOLOGY

4.1	Introduction	4-1
4.2	Baseline	4-1
4.3	EIA Regulations	4-1
4.4	Assessment of Likely Significant Environmental Effects	4-1
4.5	EIA Quality	4-6
4.6	Structure of the EIA Report	4-7
4.7	Supporting Documents	4-8
4.8	References	4-9

4. EIA Process and Methodology

4.1 Introduction

4.1.1 Environmental Impact Assessment (EIA) is a process that considers how a proposed development will change existing environmental conditions and what the consequences of such changes will be. It therefore informs both the project design and decision-making processes.

4.1.2 This Chapter sets out the regulatory context for undertaking EIA and the assessment methodology applied in the evaluation of effects, approach to mitigation and assessment of significance. The Chapter also outlines the structure of the EIA Report.

4.2 Baseline

4.2.1 This EIA Report provides an assessment of the likely significant effects of the Proposed Development against the existing environmental baseline conditions of the site. 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 relevant statutory consultees; and
- Identification of sensitive receptors.

4.2.2 The environmental baseline of the site is described within the respective technical chapters of this EIA Report.

4.3 EIA Regulations

4.3.1 This EIA Report has been prepared in accordance with The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017, referred to hereafter as the 'EIA Regulations'.

4.3.2 This EIA Report contains the information specified in Schedule 4 of the EIA Regulations. The approach to the assessment has been informed by current best practice guidance, including the following:

- Scottish Government Good Practice Guidance;
- Scottish Government Planning Advice Note (PAN) 1/2013 (revision 1.0); and
- Planning Circular 1/2017.

4.3.3 An overview of the guidance and methodology adopted for each technical study is provided within the respective technical chapters of this EIA Report.

4.4 Assessment of Likely Significant Environmental Effects

4.4.1 The approach to the assessment of environmental effects is detailed below.

Overview

4.4.2 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 at a defined receptor can be reversed;
- Permanent – where the effect represents a long-lasting change at a defined receptor;
- Direct – where the effect is a direct result (or primary effect) of the Proposed Development;
- Indirect – a knock-on effect on the environment which is not a direct result of the Proposed Development, often occurring away from the proposals or as a result of a complex biological or chemical pathways;
- 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;
- Transboundary – where a project implemented in Scotland is likely to have significant effects on the environment of a European Economic Area (EEA) State other than the United Kingdom;
- Beneficial – a positive, or beneficial effect, on one or more environmental receptors; and
- Adverse – a detrimental, or adverse, effect on one or more environmental receptors.

4.4.3 Where a more appropriate definition of the above terms is applicable to a technical discipline this is clearly outlined with the respective technical chapters of this EIA Report.

4.4.4 The result of the assessment is the determination of whether the likely effect of the Proposed Development on the receptor in the study area would be significant or not significant, and adverse or beneficial.

Sensitivity / Importance of Receptors

4.4.5 The sensitivity of the baseline conditions was defined according to the relative importance of existing environmental features within or in the vicinity of the site, or by the sensitivity of receptors which would potentially be affected by the Proposed Development.

4.4.6 Criteria for the determination of sensitivity (e.g. high, medium, or low) or of importance (e.g. international, national, regional or authority area) were established based on prescribed guidance, legislation, and / or statutory designation. 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.

Magnitude of Change

4.4.7 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 4-1 and defined within each of the relevant technical chapters. This has taken due cognisance of any legislative or policy standards or guidelines, and / or the following factors:

- The degree to which the environment is affected, e.g. whether the quality is enhanced or impaired;
- The scale or degree of change from the existing situation;
- Whether the effect is temporary or permanent, indirect or direct, short term, medium term or long term;
- Any in-combination effects; and
- Potential cumulative effects.

4.4.8 In some cases the likelihood of effect occurrence may also be relevant, and where this is a determining feature of the assessment this is clearly stated.

Evaluation of Effects

4.4.9 Each effect has been assessed taking account of the predicted magnitude of change and the sensitivity of the receptor as shown in Table 4-1 to determine an overall significance.

Table 4-1: 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

4.4.10 It does not follow that all high magnitude impacts will cause, or that high sensitivity receptors will always be subject to, significant effects. The converse is also true.

Significance of Effects

4.4.11 In identifying the likely significant effects, an attempt is made to reduce the scope of the assessment process to the most important potential effects. There is no general definition of what constitutes significance. Any consideration of the significance of environmental effects must recognise that environmental assessment is inherently a human concept which is centred on the effects of human activities and the importance that humans place upon them. Accordingly, the assessment of significance or the importance of effects ultimately involves a judgement based on values which reflect environmental, social and economic criteria.

4.4.12 For obvious reasons, the question of significance of effect varies according to the environmental factor under consideration and the context in which the assessment is made. It depends on the availability of data relating to existing environmental

conditions (which is unlikely ever to be complete) and the value placed on those conditions. Any limitations identified when compiling each technical discipline are identified in the appropriate chapter.

4.4.13 The assessment of significance has considered the magnitude of change (from the baseline conditions), the sensitivity of the affected environment / receptors and (in terms of determining residual effects) the extent to which mitigation and enhancement will reduce or reverse adverse effects. In the assessment of all environmental effects which are likely to be significant, the following factors require consideration:

- Likelihood of occurrence;
- Adherence of the Proposed Development to legislation and planning policy;
- The relative importance of the environment i.e. whether of international, national, regional, county, district or local importance;
- The degree to which the environment is affected e.g. is its quality enhanced or impaired;
- The scale of the change e.g. the land area, number of people affected and degree of change from the existing situation;
- The scale of change resulting from cumulative effects;
- Whether the effect is temporary or permanent and, if temporary, its duration; and
- The degree of mitigation that can be achieved.

4.4.14 Against this background, the environmental assessment for the Proposed Development has been progressed through the identification of four levels of impact as appropriate:

- Major;
- Moderate;
- Minor; and
- Negligible

4.4.15 Major and moderate effects are considered to be significant in the context of the EIA Regulations. Minor and negligible effects are not considered significant. Occasionally, where it assists in describing the level of impact, a "Not Significant" category is also used. These terms are generally used to define the level of impact arising for the environmental factors. Where different terms to the above are used, they are defined within the methodology section for the topic area as appropriate.

4.4.16 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.

Mitigation

4.4.17 Following the initial assessment, mitigation measures have been recommended to prevent, reduce or remedy any potentially significant adverse environmental effects identified, beyond that already taken into account as normal good practice (e.g. the Construction Environment Management Plan (CEMP), a draft of which is included in Technical Appendix 3.1 of this EIA Report). Such measures will be implemented during detailed design, construction and / or operation of the Proposed Development. Each technical chapter details the measures recommended to mitigate any identified

significant effect, and a summary of the recommended mitigation measures is provided in Chapter 18: Schedule of Mitigation.

Assessment of Residual Effects

- 4.4.18 Any remaining effects following implementation of available mitigation measures are known as 'residual effects'. This assessment takes into account the mitigation as specified in the EIA Report to identify the remaining (residual) effects with this mitigation implemented. The residual effects are discussed for each potential effect and a significance level identified.

Cumulative Effects

- 4.4.19 In accordance with the EIA Regulations, the assessment has considered 'cumulative effects'. Cumulative impact assessment is a key part of the EIA process and is concerned with identifying situations where a number of potential effects from separate projects could combine to cause a significant impact on a particular resource. Cumulative effects have been assessed within each chapter, at a scale appropriate to that subject.

- 4.4.20 There are two aspects to Cumulative Effects, defined as follows:

- In-combination effects: the combined effect of the Proposed Development together with other reasonably foreseeable 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 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.

- 4.4.21 Of particular note within the assessment of cumulative effects are other wind farm developments within the vicinity of the Proposed Development. There are a number of other wind farm developments within the wider area that are considered within the cumulative assessment of the relevant technical chapters of this EIA Report, where appropriate. These include operational wind farms, those under construction, consented sites and those whereby applications for consent have been submitted and are yet to be determined. Potential wind farm sites at the scoping stage (i.e. those that have not submitted a formal application) are not considered, given the uncertainty associated with such sites.

- 4.4.22 Cumulative wind farms sites of most relevance to the Proposed Development include:

- Stronelairg Wind Farm (Operational);
- Dell Wind Farm (Consented); and
- Glensherro Wind Farm (Application).

- 4.4.23 Figure 7.7.1: Cumulative Sites within 60km illustrates the cumulative baseline scenario within a 60km radius of the Proposed Development as of 30th November 2019. Where relevant, each technical chapter considers cumulative effects and notes the cumulative developments considered as appropriate to that particular chapter.

Assumptions and Limitations

4.4.24 The key assumptions and limitations that have been identified in undertaking the EIA Report are set out below:

- Baseline conditions established from a variety of sources, including historical data, are correct and accurate, but due to the dynamic nature of certain aspects of the environment, conditions will change during the construction and operation of the Proposed Development;
- Information received by third parties is complete and up to date; and
- The design, construction and completed stages of the Proposed Development would satisfy minimum environmental standards, consistent with contemporary legislation, practice and knowledge.

4.4.25 Assumptions and limitations specific to certain topics are identified in the appropriate technical chapters.

4.5 EIA Quality

4.5.1 In accordance with Regulation 5(5) of the EIA Regulations, by appointing ASH design+assessment Ltd. (ASH) to coordinate the EIA Report for the Proposed Development the Applicant 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). 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, the Applicant confirms that each of the impact assessment chapters has been prepared by competent experts, with the chapter providing details of the relevant professional memberships of the authors and any applicable code of practice followed. The following provides a summary of specialist consultants appointed by the Applicant for this EIA Report:

- EIA Co-ordination – ASH design+assessment Ltd;
- Landscape and Visual Amenity – ASH design+assessment Ltd;
- Ecology – Ramboll;
- Ornithology – MBEC;
- Hydrology and Hydrogeology – Ramboll;
- Geology and Soils – Mott MacDonald;
- Cultural Heritage – AOC Archaeology;
- Traffic and Transport – WYG;
- Socio-Economics – BiGGAR Economics;
- Land Use and Recreation – ASH design+assessment Ltd;
- Aviation – Cyrrus;
- Noise – TNEI; and
- Planning – Montagu Evans

4.6 Structure of the EIA Report

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

Volume 1: Non-Technical Summary

4.6.2 The Non-Technical Summary (NTS) summarises in non-technical language the findings of the EIA as reported in the EIA Report.

Volume 2: Main Report

4.6.3 The Main Report (this document) describes the project and the legal and policy framework within which the application will be determined. Details of alternatives considered are also included. The Main Report includes the individual assessments undertaken under each of the specialist environmental topics identified, providing an assessment of the likely significant effects of the Proposed Development.

4.6.4 Volume 2 of the EIA Report contains the following chapters:

- 1: Introduction
- 2: Site Selection and Design Evolution
- 3: Description of Development
- 4: EIA Process and Methodology
- 5: Scoping and Consultation
- 6: Planning Policy
- 7: Landscape and Visual Amenity
- 8: Ecology
- 9: Ornithology
- 10: Hydrology and Hydrogeology
- 11: Geology and Carbon Balance
- 12: Cultural Heritage
- 13: Traffic and Transport
- 14: Socio-economics and Tourism
- 15: Land Use and Recreation
- 16: Aviation
- 17: Noise
- 18: Schedule of Mitigation

4.6.5 The following chapter structure is generally followed for those topics covered in the EIA Report:

- Introduction
- Scope of Assessment
- Legislation, Policy and Guidance
- Methodology
- Baseline
- Potential Effects
- Mitigation

- Residual Effects
- Cumulative Effects
- Conclusions

Volume 3: Figures

- 4.6.6 This volume includes all accompanying figures referred to in the assessments in Volume 2, with figure numbering corresponding to the chapter numbers e.g. Figure 1.1, 2.1 etc.

Volume 3A: Landscape and Visual Photomontages (SNH Methodology)

- 4.6.7 Wirelines and photomontages produced from a series of viewpoints to accompany the Landscape and Visual Impact Assessment (LVIA) (Chapter 7: Landscape and Visual, of Volume 2). All wirelines and photomontages in this volume have been produced in accordance with SNH Methodology (Visual Representation of Wind Farms, Version 2.2, February 2017). All viewpoint locations have been agreed in consultation with THC and SNH.

Volume 3B: Landscape and Visual Photomontages (THC Methodology)

- 4.6.8 Wirelines and photomontages produced from a series of viewpoints to accompany the LVIA (Chapter 7: Landscape and Visual, of Volume 2). All wirelines and photomontages in this volume have been produced in accordance with THC Methodology (The Highland Council's Visualisation Standards for Wind Energy Developments, July 2016). All viewpoint locations have been agreed in consultation with THC and SNH.

Volume 4: Technical Appendices

- 4.6.9 This volume includes all accompanying technical appendices referred to in the assessments in Volume 2, with appendix numbering corresponding to the chapter numbers e.g. Technical Appendix 1.1, 2.1 etc.

4.7 Supporting Documents

- 4.7.1 A Planning Statement is included with the application as supporting information, prepared by Montagu Evans. The Planning Statement considers the acceptability of the Proposed Development in the context of existing and emerging planning policies.

4.8 References

Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017. Available at: <http://www.legislation.gov.uk/ssi/2017/101/contents/made> (Accessed 22 January 2020).

Scottish Natural Heritage, (2017). *Visual Representation of Wind Farms, Version 2.2*. Available at: <https://www.nature.scot/visual-representation-wind-farms-version-22-february-2017> (Accessed 24 January 2020).

The Highland Council, (2016). *Visualisation Standards for Wind Energy Developments*. Available at: https://www.highland.gov.uk/downloads/file/12880/visualisation_standards_for_wind_energy_developments (Accessed 24 January 2020).

The Scottish Government, (2013, revised 2017). Planning Advice Note 1/2013: Environmental Impact Assessment, (revision 1.0). Available at: <https://www.gov.scot/publications/planning-advice-note-1-2013-environmental-impact-assessment/> (Accessed 24 October 2020).

The Scottish Government, (2017). *Planning Circular 1/2017: The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017*. Available at: <https://www.gov.scot/publications/planning-circular-1-2017-environmental-impact-assessment-regulations-2017/> (Accessed 24 January 2020).