CLOICH FOREST WIND FARM

EIA Report – Volume 1 – EIA Report Text

Chapter 4

EIA Methodology

ARCUS

4 EIA METHODOLOGY

4.1 INTRODUCTION

1. As the proposed Cloich Forest Wind Farm ('the Development') exceeds 50 MW, the Applicant is seeking consent from the Scottish Ministers under Section 36 of the Electricity Act 1989 (as amended)[1], and for planning permission to be deemed to be granted under Section 57(2) of the Town and Country Planning (Scotland) Act 1997[2] ('the Application').

2. Environmental Impact Assessment (EIA) is a process aimed to ensure that permissions for developments with potentially significant effects on the environment are granted only after assessment of the likely significant environmental effects has been undertaken and taken into consideration. The assessment must be carried out following consultation with statutory consultees, other interested bodies and members of the public. This Chapter of the Environmental Impact Assessment Report ('the EIA Report') describes the EIA process for the Development and is supported by the following Technical Appendices:

- Technical Appendix A4.1: Scoping Report;
- Technical Appendix A4.2: Scoping Opinion (received December 2019);
- Technical Appendix A4.3: ECU Letter Responding to Tip Height Increase;
- Technical Appendix A4.4: Tip Height Increase Consultation Exercise Responses (Received January/February 2020); and
- Technical Appendix A4.5: Gatecheck Report (submitted August 2020).

4.2 EIA PROCESS

3. With an overall generating capacity of over 50 megawatts (MW), consent for the Development is being sought from the Scottish Ministers under Section 36 of the Electricity Act 1989[3]. The requirements that apply to EIA in Scotland for wind farm generating stations with an electrical output capacity in excess of 50 MW are provided under the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017[4] (hereafter referred to as the 'EIA Regulations').

4. The EIA Regulations implement European Union (EU) Directive 2014/52/EU which amended Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment. The United Kingdom's decision to leave the European Union has no impact on the EIA Regulations, as the EU Directives on EIA were required to be translated into domestic law when the United Kingdom was a full member state of the EU.

5. The EIA Regulations outline the process of an EIA and the criteria that would determine if an EIA is necessary or not, the relevant environmental studies and statements, how the information is evaluated by the Scottish Ministers, Planning Authority and consultative bodies, and how this is implemented through consent under Section 36 of the Electricity Act 1989.

6. Schedule 2 of the EIA Regulations lists certain types of developments for which an EIA is required where there are likely to be significant effects on the environment by virtue of factors such as the nature, size or location of the development proposal.

[1] UK Government, 1989, Electricity Act 1989 [Online] Available at: http://www.legislation.gov.uk/ukpga/1989/29/contents (Accessed 22/06/2021)
[2] UK Government (1997) Town and Country Planning (Scotland) Act 1997 [Online] Available at: http://www.legislation.gov.uk/ukpga/1997/8/section/57 (Accessed 22/06/2021)
[3] UK Government, Electricity Act 1989 [Online] Available at: https://www.legislation.gov.uk/ukpga/1989/29/contents (Accessed 22/06/2021)
[4] The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017. London: HMSO [Online] Available at: http://www.legislation.gov.uk/ssi/2017/101/contents/made (Accessed 22/06/2021)

7. The results of the EIA are presented in this EIA Report which, as prescribed in Schedule 4 of the EIA Regulations, is required to include a *"description of the likely significant effects"* of the Development; the effects which are not considered to be significant do not need to be described. It is therefore necessary for the scope of the EIA to be appropriately and clearly defined to ensure that any likely significant effects are described and assessed.

4.3 EIA METHODOLOGY

8. This EIA Report has been prepared following a systematic approach to EIA and project design. The process of distinguishing environmental effects is iterative and cyclical, running concurrently with the design process, whereby the design of the Development is refined in order to avoid or reduce potential adverse environmental effects using mitigation as necessary.

9. The EIA process follows a number of stages broadly in line with the following:

- Site selection and feasibility;
- Screening – to determine if an EIA is required (unless an Applicant volunteers an EIA, as is the case with the Development);
- Pre-application consultation with statutory and non-statutory consultees;
- Scoping - to identify the parameters of the assessment issues on which the EIA should focus;
- Baseline studies - to establish the current environmental conditions at the Site;
- Identification of potential environmental effects, including cumulative effects;
- Mitigation to avoid or reduce the effects through iterative design process;
- Assessment of residual effects;
- Preparation of an EIA Report;
- Submission of the EIA Report;
- Consideration of application and environmental information by the Scottish Government, the relevant local authority (The Scottish Borders Council, referred to hereafter as 'the Council') and other statutory and non-statutory consultees;
- Determination of application; and
- Implementation and monitoring.

10. The EIA Regulations require that an EIA Report should include a range of information including: a description of the development, a description of reasonable alternatives, baseline information, a description of the likely significant effects of the development, and mitigation measures amongst other factors.

11. This EIA Report has been prepared in accordance with the EIA Regulations and includes the required information.

4.4 CONSULTATION

12. Consultation has formed an essential part of the EIA. The EIA team and Cloich Windfarm Partnership LLP ('the Applicant'), have proactively engaged interested parties throughout the EIA process to determine their views on the Development and assessment methodology, and to collect baseline information. This engagement has principally been undertaken within the following key stages:

- Pre-scoping – procuring initial feedback on the Development and agreeing extent of consultation;
- Scoping – outlining EIA methodology and documentation of key issues (October to December 2019);
- Consultation on tip-height increase following Scoping (January 2020);
- Further Technical Consultation – gathering baseline information from relevant organisations and local residents, and confirming survey methodologies outwith the formal Scoping process;
- Gatecheck – engagement with the Energy Consents Units (ECU) and key consultees to identify how comments received at Scoping have been incorporated; and
- Public Engagement: Informing site design through Online Public Exhibitions – communication with local communities and consideration of baseline information.

13. Further detail on each stage is included in the following subsections.

4.4.1 Pre-scoping

14. Consultation was commenced with the ECU of the Scottish Government in August 2019 and with the Council in April 2019, following completion of a feasibility study and prior to Scoping. The primary purpose of this engagement was to introduce the Development and to agree the approach to Scoping, including agreement on the consultees to be contacted as part of the Scoping exercise.

4.4.2 Scoping

15. The aim of the Scoping process is to identify key environmental issues at an early stage; determine which elements of the Development are likely to cause significant environmental effects; and identify issues that can be 'scoped out' of the assessment. This exercise for the Development established the studies and level of detail required to inform the EIA Report.

16. The request for a Scoping Opinion was submitted to the Scottish Government in October 2019. The request was accompanied by a Scoping Report (Technical Appendix A4.1) which described the Development, the proposed EIA methodology, and the key issues to be considered within this EIA Report. The Scoping Report was also sent to a range of consultees, as agreed with the ECU.

17. The Scoping Opinion was issued by the ECU in December 2019. A copy is included within Technical Appendix A4.2.

18. Table 4.1 provides an overview of the issues raised by the consultees at the Scoping stage. The detail of the individual responses received during the EIA, including at the Scoping stage, is set out in the relevant technical chapters. Where appropriate, reference is provided to where the comments have been addressed within this EIA Report.

Table 4.1: Scoping Responses

Consultee	No Response	No Comments	Landscape and Visual	Ecology / Ornithology	Hydrology / Hydrogeology	Peat	Cultural Heritage	Noise	Existing Infrastructure	Forestry	Socio-economics / Recreation	Access / Traffic	Climate Change / Carbon Balance	Cumulative Effects	Overarching EIA Comments	Relevant Chapter
Statutory Consultees																
Scottish Borders Council			✓	✓	✓	✓	✓	✓		✓	✓	✓		✓	✓	Chapters 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, & 17
Scottish Environment Protection Agency (SEPA)				✓	✓	✓									✓	Chapters 2, 3, 4, 7, 8, 9, & 10
NatureScot (formerly SNH)			✓	✓		✓								✓		Chapters 5, 7, 8, 9, & 15
Historic Environment Scotland (HES)							✓									Chapter 6
Non-Statutory Consultees																
Arqiva	✓															N/A
Atkins		✓														Chapter 17
British Telecommunications		✓														Chapter 17
British Horse Society	✓															N/A
Civil Aviation Authority	✓															N/A
Crown Estate Scotland	✓															N/A
Defence Infrastructure Organisation									✓							Chapter 14
Edinburgh – BAA Aerodrome Safeguarding		✓														Chapter 14
Fisheries Management Scotland				✓												Chapter 7
Galloway Fisheries Trust	✓															N/A
Glasgow Prestwick Airport		✓														Chapter 14
Highlands and Islands Airport		✓														Chapter 14
John Muir Trust		✓														Chapter 15
Joint Radio Company Limited		✓														Chapter 17
Mountaineering Scotland	✓															N/A
NATS Safeguarding									✓							Chapter 14
OFCOM	✓															N/A

Consultee	No Response	No Comments	Landscape and Visual	Ecology / Ornithology	Hydrology / Hydrogeology	Peat	Cultural Heritage	Noise	Existing Infrastructure	Forestry	Socio-economics / Recreation	Access / Traffic	Climate Change / Carbon Balance	Cumulative Effects	Overarching EIA Comments	Relevant Chapter
RSPB Scotland	✓															N/A
Scottish Forestry	✓															N/A
Scottish Rights of Way and Access Society (ScotWays)			✓								✓				✓	Chapters 2, 3, 4, 5 & 15
Scottish Water					✓											Chapter 10
Scottish Wild Land Group (SWLG)	✓															N/A
Scottish Wildlife Trust	✓															N/A
Visit Scotland	✓															N/A
Other Consultees																
Eddleston and District Community Council			✓		✓			✓			✓				✓	Chapters 2, 3, 4, 5, 9, 10, 11, & 15
Lamancha, Newlands and Kirkurd Community Council			✓								✓					Chapters 5 & 15
Manor, Stobo and Lyne Community Council			✓		✓			✓	✓						✓	Chapters 2, 3, 4, 5, 10, & 11
Royal Burgh Peebles and District Community Council			✓													Chapter 5
Inverleithen and District	✓															N/A

4.4.3 Tip Height Increase Consultation

19. Following Scoping, the Applicant sought to increase the maximum tip height of the turbines from 145 metres (m) to 149.9 m. Therefore, the Applicant undertook a further round of scoping consultation which was agreed with the ECU ('the Increased Tip Height Consultation').

20. Arcus Consultancy Services Ltd (Arcus), on behalf of the Applicant, submitted a further consultation methodology and request letter to the ECU for approval on the 20th January 2020; this letter is published on the ECU website[5] under the Reference: ECU00001956. The ECU confirmed in writing to Arcus and relevant consultees that Arcus' methodology was sufficient and confirmed that re-scoping was not required (Technical Appendix A4.3).

21. The Tip Height Increase Consultation was undertaken via email by Arcus in January 2020. A copy of responses are included within Technical Appendix A4.4.

[5] Scottish Government (2020) Energy Consents Unit [Online] Available at: https://www.energyconsents.scot/Default.aspx (Accessed 16/06/2021)

22. Table 4.2 provides an overview of the issues raised by the consultees following the Increased Tip Height Consultation. The detail of the individual responses received during the EIA, including at the Increased Tip Height Consultation stage, is set out in the relevant technical chapters. Where appropriate, reference is provided as to where the comments have been addressed within this EIA Report.

Table 4.2: Increased Tip Height Consultation Responses

Consultee	No Response	No Comments	Landscape and Visual	Ecology / Ornithology	Hydrology / Hydrogeology	Peat	Cultural Heritage	Noise	Existing Infrastructure	Forestry	Socio-economics, / recreation	Access / Traffic	Climate Change / Carbon Balance	Cumulative Effects	Overarching EIA Comments	Relevant Chapter
Statutory Consultees																
Scottish Borders Council			✓	✓			✓	✓				✓				Chapters 5, 6, 7, 8, 10, & 11
NatureScot (formerly SNH)	✓[6]															N/A
Non-Statutory Consultees																
Atkins		✓														Chapter 17
British Telecommunications		✓														Chapter 17
Civil Aviation Authority	✓															N/A
Defence Infrastructure Organisation									✓							Chapter 14
Edinburgh – BAA Aerodrome Safeguarding		✓														Chapter 14
Glasgow Prestwick Airport		✓														Chapter 14
Highlands and Islands Airport		✓														Chapter 14
Joint Radio Company Limited		✓														Chapter 17
NATS Safeguarding									✓							Chapter 14
OFCOM	✓															N/A
Other Consultees																
Eddleston and District Community Council															✓[7]	Chapter 4

[6] SNH provided no formal response to the Tip Height Increase Consultation but further/ongoing dialogue took place, culminating in 20/07/2020.

[7] Eddleston and District Community Council disagreed with the principle of the consultation and stated their intention to wait until official ECU confirmation that the processes/methodology being employed for further consultation was correct; following ECU approval, no official response was received from Eddleston and District Community Council. However, ongoing dialogue regarding the Development remained live throughout the EIA process.

Consultee	No Response	No Comments	Landscape and Visual	Ecology / Ornithology	Hydrology / Hydrogeology	Peat	Cultural Heritage	Noise	Existing Infrastructure	Forestry	Socio-economics, / recreation	Access / Traffic	Climate Change / Carbon Balance	Cumulative Effects	Overarching EIA Comments	Relevant Chapter
Lamancha, Newlands and Kirkurd Community Council	✓															N/A
Manor, Stobo and Lyne Community Council	✓															N/A
Royal Burgh Peebles and District Community Council	✓															N/A

4.4.4 Further Technical Consultation

23. In addition to the formal Scoping process, where appropriate, authors of technical assessments within this EIA Report engaged directly with statutory and non-statutory consultees throughout the duration of the EIA Report preparation stage to further refine the scope for each assessment. Consultees contacted in this manner include NatureScot, SEPA, HES, the Council's Environmental Health Department, and the Council's Transport and Structures department.

24. A summary of all relevant consultation is documented in the relevant Technical Chapters 5 to 17 of this EIA Report.

4.4.1 Gatecheck

25. In line with the ECU Gatechecking procedure[8] for Section 36 developments, a Gatecheck report was issued to the ECU and statutory consultees once an advanced design had been reached in August 2020. The Gatecheck report described how the design of the Development has evolved since the pre-scoping stage, highlighting influencing factors on the design either as a response to environmental constraints identified during the EIA process or through consultation feedback from statutory or non-statutory consultees.

26. A key element to the Gatecheck report was the collation of scoping responses with details on how the points raised by various consultees have been addressed and how this has influenced the design of the Development and the progression of the EIA. The Gatecheck report is included as Technical Appendix A4.5.

4.4.2 Public Engagement

27. Prior to the current COVID-19 restrictions taking effect, the Applicant hosted one round of Public Exhibitions during February 2020. The second and final round of Public Exhibitions required alternative arrangements to engage with the local community in light of COVID-19 restrictions; this was achieved through an 'Online Public Exhibition'.

[8] Scottish Government (2020), Gate-checking process for Section 36 and Section 37 applications [Online] Available at: https://www.gov.scot/Topics/Business-Industry/Energy/Infrastructure/Energy-Consents/Guidance/Gatecheckingprocessforsection36andsection37applica (Accessed on 22/06/2021)

28. In addition to the public exhibitions, the Applicant also corresponded with members of the local community through continued dialogue via email. Table 4.3 summarises the steps undertaken to ensure the local community were informed and involved with the process.

Table 4.3: Community Engagement throughout EIA Process

Date	Exercise
April 2019	Attendance at meeting (11 April 2019) with the Council to outline project position and re-design plans.
August 2019	Introductory letters were sent to the community councils, including: • Eddleston & District Community Council; • Lamancha, Newlands and Kirkurd Community Council; • Royal Burgh of Peebles & District; and • Manor, Stobo & Lyne Community Council.
October 2019	Attendance at meeting at the Barony Hotel, Peebles, (31st October 2019) with Community Councils and two local residents. The conversations largely related to general discussion around initial proposal, public exhibitions and main EIA elements, including: Private Water Supplies (PWS); Landscape & Visual Impact; Noise; and Telecommunications.
February 2020	First stage public exhibitions held: • Newlands Activity Centre (Romanno Bridge), Tuesday, 18th February (3 pm – 7 pm) • Eddleston Village Hall (Eddleston), Wednesday, 19th February (3 pm – 8 pm) Advertised through EDF project website[9], newspaper adverts (Peeblesshire News), letters to community councils and letters to residents (within ~5 km of the Site).
February / March 2020	Following the original public exhibitions, meetings with neighbouring community councils were not possible due to COVID 19 restrictions.
Throughout 2020 / 2021	Since the first round public exhibitions there has been extensive consultation/communication with the local community councils and residents relating largely to assessment of impacts upon private water supplies (PWS). Further consultation was undertaken with SEPA on the issues of PWS Risk Assessment Methodology; further details on this is contained within **Chapter 10: Hydrology and Hydrogeology** of this EIA Report. Extensive consultation with community councils and local residents via email and telephone calls.
April 2021	Public Exhibitions held: • Online at: www.edf-re.uk/our-sites/cloich (16 - 26 April 2021) Advertised through EDF project website[10], newspaper adverts (Peeblesshire News), letters to community councils and letters to residents (within ~5 km of the Site).

[9] EDF Renewables (2020) Cloich Wind Farm [Online] Available at: https://www.edf-re.uk/our-sites/cloich (Accessed 28/01/2021)
[10] EDF Renewables (2020) Cloich Wind Farm [Online] Available at: https://www.edf-re.uk/our-sites/cloich (Accessed 28/01/2021)

29. The public exhibitions provided information, including graphics and visualisations to the public. The first round of public exhibitions were held in Romannobridge and Eddleston, as detailed above; these exhibitions displayed visualisations of an early design iteration for the Development, alongside information relating to the EIA and consenting process, including:

- Project facts including maps of the wind farm location and layout;
- The need for the Development;
- The application, determination and public consultation processes;
- Project Benefits; and
- EIA process including the key findings to date relating to:
  - Landscape and Visual Amenity, including: figures, and photomontages or wirelines from key viewpoints;
  - Ecology;
  - Ornithology;
  - Archaeology and Cultural Heritage;
  - Noise;
  - Traffic and Transport;
  - Geology, Hydrology & Hydrogeology;
  - Socio-economics, Recreation and Tourism;
  - Climate Change and Carbon Balance; and
  - Aviation and Telecommunications.

30. The second round of public exhibitions were hosted online due to the Coronavirus pandemic, in line with the Scottish Government's COVID-19 advice and guidelines[11]. The Applicant originally planned to hold conventional second round public exhibitions in person; however, the exhibition materials, largely mirroring the above but for the final EIA design, were provided for inspection on a dedicated project online consultation webpage instead. The aim of the second exhibition was to introduce the final proposals for the Development.

31. Over the course of the online public exhibition, a total of approximately 165 visitors were recorded as having visited the dedicated project webpage.

4.5 THE EIA REPORT

32. The information that the Applicant is required to submit as part of the EIA process is presented in this EIA Report. The information contained within the EIA Report was largely identified in the Scoping Opinion issued by the ECU, which was based on consultee responses to the Scoping Report.

33. The preparation and production of this EIA Report has been conducted in accordance with relevant regulations and good practice guidance. Relevant legislation, policy and guidance are referred to in each of the technical assessments within the EIA Report. Overarching regulation, policy and guidance documents have been used in preparing this EIA Report are:

- The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (as amended)[12];
- Scottish Planning Policy (SPP) (June 2014)[13];

[11] The Scottish Government (2020) Online Public Exhibition established in accordance with COVID-19 Scottish Government advice and regulations [Online] Available online at: https://www.gov.scot/publications/coronavirus-covid-19-planning-guidance-on-pre-application-consultations-for-public-events/ (Accessed 22/06/2021)
[12] Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 [Online] Available at: http://www.legislation.gov.uk/ssi/2017/101/contents/made (Accessed 22/06/2021)
[13] The Scottish Government (2014) Scottish Planning Policy [Online] Available at: https://beta.gov.scot/publications/scottish-planning-policy/ (Accessed 22/06/2021)

- Planning Advice Note (PAN) 1/2013: Environmental Impact Assessment, 2013[14] which, whilst prepared to inform EIAs under the Town and Country Planning (Scotland) Act 1997 as amended, is also relevant to EIAs produced under the EIA Regulations;
- Planning Circular 1/2017: Environmental Impact Assessment Regulations, 2017[15];
- Environmental Impact Assessment Handbook (Scottish Natural Heritage, 2018)[16]; and
- Environmental Impact Assessment Guide to Delivering Quality Development (Institute of Environmental Management and Assessment [IEMA], 2016)[17].

34. This EIA Report conveys the findings of the assessment of the potential significant environmental effects of the Development during construction, operation and decommissioning.

35. The EIA Report comprises of the following documents:

- **Volume 1** – EIA Report Text;
- **Volume 2** – EIA Report Figures;
  - **Volume 2a** – Figures excluding LVIA;
  - **Volume 2b** – LVIA Figures;
  - **Volume 2c** – LVIA Visualisations;
- **Volume 3** – EIA Report Technical Appendices; and
- **Volume 4** – EIA Report Non-Technical Summary.

36. The EIA Report includes chapters covering the following technical areas:

- **Chapter 5:** Landscape and Visual Impact Assessment (LVIA);
- **Chapter 6:** Archaeology and Cultural Heritage;
- **Chapter 7:** Ecology;
- **Chapter 8:** Ornithology;
- **Chapter 9:** Geology, Ground Conditions, and Peat;
- **Chapter 10:** Hydrology and Hydrogeology;
- **Chapter 11:** Noise;
- **Chapter 12:** Access, Traffic, and Transportation;
- **Chapter 13:** Forestry;
- **Chapter 14:** Aviation and Radar;
- **Chapter 15:** Socio-economics, Land Use, Recreation, and Tourism;
- **Chapter 16:** Climate Change and Carbon Balance; and
- **Chapter 17:** Other Issues.

37. **Chapter 17: Other Issues** includes the following technical areas: Shadow Flicker, Telecommunications, Utilities, and Health and Safety (Including: Major Accidents and Disasters).

38. Each of the technical chapters follows the broad assessment principles outlined in Section 4.6.

[14] The Scottish Government (2013, Rev. 2017) Planning Advice Note 1/2013 Environmental Impact Assessment [Online] Available at: http://www.gov.scot/Publications/2013/08/6471 (Accessed 22/06/2021)
[15] The Scottish Government (2017) Planning Circular 1/2017 Environmental Impact Assessment regulations [Online] Available at: https://www.gov.scot/publications/planning-circular-1-2017-environmental-impact-assessment-regulations-2017/ (Accessed on 22/06/2021)
[16] Scottish Natural Heritage (2018) Environmental Impact Assessment Handbook [Online] Available at: https://www.nature.scot/handbook-environmental-impact-assessment-guidance-competent-authorities-consultees-and-others (Accessed 22/06/2021)
[17] IEMA (2016) Environmental Impact Assessment Guide to: Delivering Quality Development

39. **Chapter 18: Summary of Mitigation** presents a summary of the main effects of the Development, along with a description of any proposed mitigation measures.

4.6 TECHNICAL ASSESSMENTS

40. Each of the technical assessments follows a systematic approach with the main steps as follows:

- Introduction, assessment methodology and significance criteria;
- Description of the baseline conditions;
- Assessment of potential effects;
- Cumulative effects assessment;
- Mitigation measures and residual effects;
- Summary of effects (residual effects); and
- Statement of significance.

41. A summary of each step is highlighted below.

4.6.1 Introduction, Assessment Methodology and Significance Criteria

42. Each technical assessment sets out the relevant legislation, policy and guidance together with scope and methodology used to carry out the assessment of potential effects, including the criteria that are used to establish which effects are significant. The methodology seeks to ensure transparency in the assessment. Each technical assessment has the criteria set out for assessing significance. Where a level of significance is attributed to an effect, this is based on technical guidance and professional judgement, informed by consideration of the sensitivity of the receptor and the degree of the effect.

43. This section also sets out the scoping requirements and pre-application consultation responses that form the framework and scope of the specialist assessment work for the topic.

4.6.2 Description of Baseline Conditions

44. In order to evaluate the potential environmental effects, the existing environmental conditions were recorded through field and desktop research. Prior to fieldwork studies, desktop studies were undertaken to gain a preliminary understanding of the study area. Where appropriate, site-specific baseline field surveys were then undertaken by experienced professionals to provide an understanding of the current condition of the Site and the surrounding area.

45. This forms the baseline, alongside a prediction of these conditions into the future. Such predictions can involve a high number of variables and be subject to large uncertainties, and as a result, in some cases, the current baseline condition is assumed to remain unchanged throughout the timeframe of the Development.

46. The baseline has been used to assess the sensitivity of receptors within the study areas. Wind farms that are operational or consented at the time of commencing the assessments are treated as being part of the existing baseline except where specific guidance advises to the contrary.

47. The approach to describing baseline conditions is set out in each relevant technical chapter. Baseline information is used to inform the layout of the Development. From baseline information, constraints were identified which were considered as part of the design process. Further detail on the design process adopted for the Development is detailed in **Chapter 2: Site Selection and Design** and **Chapter 3: Project Description**.

4.6.3 Assessment of Potential Effects

48. The prediction of potential significant effects covers the three phases of the Development: construction, operation, and decommissioning, as different environmental effects are likely to arise during the different stages. The effects during construction and decommissioning are generally considered to be short term effects, and those arising as a result of the operation of the Development are generally considered to be long term effects. Each technical assessment considers the nature of effects and includes cumulative effects with other developments where appropriate.

49. Following identification of potential environmental effects, the baseline information is used to predict changes to existing conditions, and conduct an assessment of these changes.

50. The significance of effects resulting from the Development will be determined through a combination of the sensitivity of the receiving environment (the sensitivity) and the predicted degree of change (the magnitude) from the baseline state.

4.6.3.1 Sensitivity of Receptors

51. Environmental sensitivity may be categorised by multiple factors, such as the presence of rare or endangered species, transformation of natural landscapes, soil quality and land-use etc. The initial assessment, consultation and scoping stages identified these factors along with the implications of the predicted changes.

52. The sensitivity classification of the receiving environment varies between the different technical areas of assessment e.g. landscape and visual, ecology, noise etc. Sensitivity is normally defined as high, medium or low. Table 4.4 details a general framework for determining the sensitivity of receptors; however, each technical assessment will specify their own appropriate sensitivity criteria that will be applied during the EIA and details will be provided in each technical chapter.

Table 4.4: Framework for Determining Sensitivity of Receptors

Sensitivity of Receptor	Definition
Very High	The receptor has little or no ability to absorb change without fundamentally altering its present character, is of very high environmental value, or of international importance.
High	The receptor has low ability to absorb change without fundamentally altering its present character, is of high environmental value, or of national importance.
Medium	The receptor has moderate capacity to absorb change without significantly altering its present character, has some environmental value, or is of regional importance.
Low	The receptor is tolerant of change without detriment to its character, is low environmental value, or local importance.
Negligible	The receptor is resistant to change or is of little environmental value.

4.6.3.2 Magnitude of Change

53. For the purposes of environmental assessment, the magnitude of an 'effect' is generally dependent on the degree to which the change affects the feature or asset, from a fundamental, permanent or irreversible change that changes the character of the feature or asset, to barely perceptible changes that may be reversible. Magnitude would also encompass the certainty of whether an impact would occur. General criteria for assessing the magnitude of an effect are presented in Table 4.5. Each technical assessment will apply their own appropriate magnitude of effects criteria during the EIA, with the details provided in the relevant EIA chapter.

Table 4.5: Framework for Determining Magnitude of Change

Magnitude of Effects	**Definition**
High	A fundamental change to the baseline condition of the asset, leading to total loss or major alteration of character.
Medium	A material, partial loss or alteration of character.
Low	A slight, detectable, alteration of the baseline condition of the asset.
Negligible	A barely distinguishable change from baseline conditions.

54. If the effects of zero magnitude (i.e. none / no change) are identified, this will be made clear in the assessment.

4.6.3.3 Significance of Effect

55. The sensitivity of the asset and magnitude of the predicted impacts will be used as a guide, in addition to professional judgement, to assess the level of effects. Table 4.6 summarises guideline criteria for assessing the significance of effects.

Table 4.6: Framework for Assessment of the Significance of Effects

Magnitude of Effect	**Sensitivity of Receptor**				
	Very High	**High**	**Medium**	**Low**	**Negligible**
High	Major	Major	Moderate	Moderate	Minor
Medium	Major	Major / Moderate	Moderate	Minor	Negligible
Low	Moderate	Moderate	Minor	Negligible	Negligible
Negligible	Minor	Minor	Negligible	Negligible	Negligible

56. Effects predicted to be of major or moderate significance are considered to be 'significant' in the context of the EIA Regulations, and are shaded in light grey in the above table.

57. Zero magnitude effects upon a receptor will result in no effect, regardless of sensitivity.

58. This EIA Report generally follows the above principles in relation to the identification of significant effects; however, some technical assessments may adopt a variation process. The assessment criteria used to determine the significance of effects are made explicit in each technical assessment chapter within this EIA Report.

4.6.4 Mitigation Measures

59. The IEMA EIA Guide to Delivering Quality Development Report demonstrates that EIA is an iterative process rather than a unique, post-design, environmental appraisal. In adopting this approach, the findings of the technical environmental studies used to inform the design of the project, and hence achieve a 'best fit' with the environment. This approach has been adopted in respect of the Development; where potentially significant effects have been identified, their avoidance or minimisation has been prioritised at the design stage. This is referred to within this EIA Report as 'embedded mitigation', i.e. mitigation that is embedded within the project design, and includes best practice as well as design features.

60. In line with the mitigation hierarchy identified in the updated PAN 1/2013 (V1.0, 2017), the strategy of avoidance, reduction, and remediation is a hierarchical one, which seeks to:

- First to avoid potential effects;
- Then to reduce those which remain; and
- Lastly, where no other measures are possible, to propose compensatory measures.

61. Appropriate mitigation measures are discussed within each technical chapter as relevant.

4.6.5 Cumulative Effects Assessment

62. In accordance with the EIA Regulations, the assessment has considered 'cumulative effects'. By definition, these are effects that result from incremental changes caused by past, present or reasonably foreseeable developments together with the Development being assessed. For the cumulative assessment, the combined effects of several developments are considered. Individual projects may not give rise to significant effects but when considered with other developments, there may be a significant cumulative effect.

63. Cumulative assessment addresses the combined effects from the addition of the Development to a baseline of identified wind farms on landscape and visual, hydrology, ecology, ornithology, noise, cultural heritage, traffic and transport, recreation, tourism and other impacts.

64. Other developments which may come forward in the future, but which do not currently have sufficient information available in relation to their likely effects to make an informed cumulative assessment (*e.g.* those within scoping), are not considered in detail in this EIA Report.

65. The extent of any cumulative assessment is defined in each technical assessment chapter and can include both existing and proposed wind farm developments and other forms of development. The potential landscape and visual effects, for example, which relate to the intervisibility of individual wind farm development schemes, will be much more wide ranging than noise effects which will be limited to receptors in the more immediate vicinity of the Development.

66. Consideration of cumulative effects has been undertaken for all technical assessments. Where no cumulative effects are likely, this is stated. Operational wind farms are considered to be part of the baseline in the majority of assessments. In relation to some of the technical chapters, specific guidance and policy exists advising that effects associated with existing wind farm developments should be considered as cumulative effects. Where relevant, these are noted within each chapter.

4.6.6 Residual Effects

67. The residual effects of the Development are those that remain following successful implementation of the identified mitigation and enhancement measures.

68. Residual effects are identified in each technical assessment alongside an assessment of whether any residual effects are significant or not in terms of the EIA Regulations.

4.6.7 Statement of Significance

69. Following the identification of residual effects, each Chapter will present a Statement of Significance. Effects are considered to be significant for the purposes of the EIA Regulations where the effect is classified as being of 'major' or 'moderate' significance.

4.7 ASSUMPTIONS AND LIMITATIONS OF EIA

70. A number of assumptions have been made during preparation of this EIA Report, as set out below. The assumptions are:

- The principal land uses adjacent to the Site remain as they are at the time of the submission of the application, except in cases where permission has already been granted for development. In these cases, it is assumed that the approved development will take place, and these have been treated as contributing to "cumulative" effects; and
- Information provided by third parties, including publicly available information and databases is correct at the time of writing.

71. The EIA has been subject to the following limitations:

- Baseline conditions are accurate at the time of the physical surveys but, due to the dynamic nature of the environment, conditions may change during the site preparation, construction and operational phases; and
- The assessment of cumulative effects has been reliant on the availability of known information relating to existing wind farm developments as at January 2021.

72. Assumptions specific to certain environmental aspects are discussed in the relevant Chapters of this EIA Report.