

## 5 EIA METHODOLOGY

### 5.1 INTRODUCTION

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. 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 (EIA Report) describes the EIA process for Ackron Wind Farm (the Development) and is supported by the following Technical Appendix documents provided in Volume 3 Technical Appendices:

- Appendix A5.1: Scoping Report (April 2019);
- Appendix A5.2: Scoping Opinion (received June 2019);
- Appendix A5.3: Updated Scoping Report (October 2019); and
- Appendix A5.4: Updated Scoping Opinion (received December 2019).

### 5.2 EIA PROCESS

With a potential overall generating capacity of up to 49.9 MW, consent for the Development is being sought from the Highland Council (the Council) under the Town and Country Planning (Scotland) Act 1997<sup>1</sup>, as amended by the Planning etc. (Scotland) Act 2006<sup>2</sup> (the Planning Act). The requirement for EIA for wind farm generating stations with an electrical output capacity of up to 50 MW in Scotland is provided under Part 4 of the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017<sup>3</sup> (hereafter referred to as the EIA Regulations).

The EIA Regulations implement European Union (EU) Directive 2014/52/EU<sup>4</sup> which amended Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment.

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 Council and consultative bodies, and how this is implemented through consent under the Planning Act.

Schedule 2 of the EIA Regulations lists developments where there are likely to be significant effects on the environment by virtue of factors such as the nature, size or locations of the development proposal. For these developments, an EIA is required.

The results of the EIA are presented in this EIA Report which, as prescribed in 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 defined, described and assessed.

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<sup>1</sup> Scottish Government (1997) Town and Country Planning (Scotland) Act 1997 [Online] Available at: <https://www.legislation.gov.uk/ukpga/1997/8/contents> (Accessed 4/8/2020)

<sup>2</sup> Scottish Government (2006) Planning etc. (Scotland) Act 2006 [Online] Available at: <https://www.legislation.gov.uk/asp/2006/17/contents> (Accessed 4/8/2020)

<sup>3</sup> Scottish Government (2017) Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017 [Online] Available at: <http://www.legislation.gov.uk/ssi/2017/102/contents/made> (Accessed 4/8/2020)

<sup>4</sup> European Commission (2014) Directive 2014/52/EU [Online] Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32014L0052> (Accessed 4/8/2020)

The preparation and production of the 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 Town and Country Planning (Scotland) Act 1997<sup>5</sup>;
- The Planning etc. (Scotland) Act 2006<sup>6</sup>;
- The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017<sup>7</sup>;
- Planning Advice Note (PAN) 1/2013: Environmental Impact Assessment, 2013<sup>8</sup>;
- Planning Advice Note (PAN) 1/2017: Environmental Impact Assessment, 2017<sup>9</sup>; and
- Environmental Impact Assessment Handbook (2018)<sup>10</sup>.

### 5.3 EIA METHODOLOGY

The 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.

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

- Site selection and feasibility;
- Pre-application consultation with statutory and non-statutory consultees;
- Scoping to identify key issues on which the EIA should focus;
- Baseline studies to establish the current environmental conditions at the Site;
- Identification of potential environmental 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 Highland Council (the Council) and other consultees;
- Determination of application (with or without conditions); and
- Implementation and monitoring.

The EIA Regulations require that an EIA Report should include a range of information including: a description of the development (**Chapter 4: Development Description**), a description of reasonable alternatives (**Chapter 3: Site Selection and Design**), baseline information, a description of the likely significant effects of the Development, and mitigation measures amongst other factors (**Technical Chapters 6-16**).

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<sup>5</sup> Scottish Government (1997) Town and Country Planning (Scotland) Act 1997 [Online] Available at: <https://www.legislation.gov.uk/ukpga/1997/8/contents> (Accessed 4/8/2020)

<sup>6</sup> Scottish Government (2006) Planning etc. (Scotland) Act 2006 [Online] Available at: <https://www.legislation.gov.uk/asp/2006/17/contents> (Accessed 4/8/2020)

<sup>7</sup> Town and Country Planning (2017) Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017 [Online] Available at: <http://www.legislation.gov.uk/ssi/2017/102/schedule/4/made> (Accessed 4/8/2020)

<sup>8</sup> 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 4/8/2020)

<sup>9</sup> Scottish Government (2017) Planning Advice Note 1/2017 Environmental Impact Assessment [Online] Available at: <https://www.gov.scot/publications/planning-circular-1-2017-environmental-impact-assessment-regulations-2017/> (Accessed 4/8/2020)

<sup>10</sup> SNH (2018) Environmental Impact Assessment Handbook [Online] Available at: <https://www.nature.scot/handbook-environmental-impact-assessment-guidance-competent-authorities-consultees-and-others> (Accessed 4/8/2020)

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

## 5.4 CONSULTATION

Consultation forms an essential part of the EIA. The EIA team and Ackron Wind Farm Ltd (the Applicant) have engaged with a number of interested parties over the course of the project to determine their views on the Development, inform the design process, and to collect baseline information, principally within the following key stages:

- Pre-scoping round table meeting– Procuring initial feedback on the Development;
- Scoping – Documentation and agreement on EIA scope and methodologies. Two rounds of Scoping were undertaken. Scoping Reports issued in April 2019 and October 2019;
- Technical Assessments – Gathering baseline information from relevant organisations and confirming survey methodologies;
- Informing Site Design including Public Information Days – Communication with local communities and consideration of baseline information; and
- Mitigation and Enhancement – Discussing opportunities for mitigation and improvement with statutory and non-statutory consultees.

### 5.4.1 *Pre-scoping*

Preliminary consultation with NatureScot<sup>11</sup> took place in 2018 to agree the scope of ornithology and ecology surveys at the Site.

Consultation with the Council and other key consultees commenced in January 2019, following initial feasibility studies and prior to scoping. The primary purpose 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.

### 5.4.2 *Scoping and Updated Scoping*

As per Section 17 (2) of Part 4 of the EIA Regulations, the Scoping Reports (Technical Appendices A5.1 and A5.3) sought to confirm the scope of the required assessment which is to be provided in the EIA Report (i.e. a Scoping Opinion – Technical Appendices A5.2 and A5.4). To aid this process, the scoping reports included the following:

- A description of the location of the Development including figures identifying the Site and the parameters of Development;
- Figures identifying the designated and sensitive environmental receptors surrounding the Site;
- A brief description of the nature and purpose of the Development and its potential resultant effects; and
- Proposed methodology for assessing potential environmental impacts of the Development.

The Scoping Reports (Technical Appendices A5.1 and A5.3) considered the different aspects of the environment likely to be significantly affected by the Development and identified those topics which require consideration as part of the EIA, with a view to inviting comments on the approach to the EIA and the content of the EIA Report from the Council and consultees.

The aim of the scoping process is to identify key environmental issues at an early stage, to determine which elements of the Development are likely to cause significant

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<sup>11</sup> Scottish Natural Heritage (SNH) rebranded in August 2020 as NatureScot. Where relevant reference is still made to SNH within this chapter in respect of guidance which remains valid and is yet to be republished etc.

environmental effects and identify issues that can be 'scoped out' of the assessment. This establishes the work and level of detail required for preparation of the EIA Report.

The initial request for a Scoping Report (Appendix A5.1) was submitted to the Council in April 2019, and the second Scoping Report, containing alternative design parameters to the initial Scoping request, was submitted in October 2019 (Appendix A5.3). Both Scoping Reports described the Development, the proposed EIA methodology and the key issues to be addressed. The Scoping Reports were sent to a range of consultees as agreed in advance with the Council.

The Scoping Opinion and Updated Scoping Opinion were issued by the Council and received in 6th June 2019 and 11<sup>th</sup> December 2019; copies of which are included as Appendices A5.2 and A5.4, respectively.

Table 5.1 provides an overview of the issues raised by the consultees in the Scoping Reports (January 2019 and October 2019). The detail of the individual responses received during the EIA, including at the scoping stage, is set out in the relevant technical chapters and in Technical Appendices A5.2 and A5.4. Where appropriate, reference is provided as to where the comments have been addressed within this EIA Report.

**Table 5.1: Scoping Responses**

Consultee	No Response	No Comments	Landscape and Visual	Ecology / Ornithology	Hydrology / Hydrogeology	Geology / Peat	Cultural Heritage	Noise	Existing Infrastructure	Socio-economics / recreation	Access / Traffic	Climate Change / Carbon Balance	Cumulative Effects	Overarching	Relevant Chapter
<b>Statutory Consultees</b>															
Highland Council			✓	✓	✓	✓	✓	✓		✓	✓	✓			Chapters 6-17
Scottish Environment Protection Agency (SEPA)				✓	✓	✓						✓			Chapters 7, 12, 13 and 15
NatureScot				✓	✓	✓									Chapters 7, 8, 12 and 13
Historic Environment Scotland							✓								Chapter 9
Melvich Community Council	✓														
Caithness West Community Council	✓														
<b>Non-Statutory Consultees</b>															
Atkins	✓														
BT	✓														
Civil Aviation Authority (CAA)	✓														
Crown Estate Scotland	✓														
Defence Infrastructure Organisations (MOD)		✓													

Consultee	No Response	No Comments	Landscape and Visual	Ecology / Ornithology	Hydrology / Hydrogeology	Geology / Peat	Cultural Heritage	Noise	Existing Infrastructure	Socio-economics / recreation	Access / Traffic	Climate Change / Carbon Balance	Cumulative Effects	Overarching	Relevant Chapter
Fisheries Management Scotland	✓														
Scottish Forestry	✓														
Highlands and Islands Airports (HIA)		✓													
John Muir Trust	✓														
Marine Scotland	✓														
Mountaineering Scotland	✓														
National Air Traffic Services (NATS)	✓														
Ofcom	✓														
RSPB Scotland				✓											Chapter 8
Scottish Rights of Way and Access Society (ScotWays)	✓														
Scottish Water					✓										Chapters 12 and 16.
Scottish Wild Land Group (SWLG)	✓														
Scottish Wildlife Trust	✓														
Transport Scotland	✓														
Visit Scotland	✓														

### 5.4.3 Other Consultation with Consultees

#### 5.4.3.1 Telecommunications

Consultation with telecommunications operators was undertaken in February during the Scoping consultation and in August 2020 after design freeze. Operators were contacted to understand if there were any potential communication conflicts that could result in an objection or that would require mitigation. The following consultees were contacted:

- JRC;
- Spectrum licensing;
- Atkins; and
- Arqiva.

JRC confirmed that no links were affected with relation to the layouts. Atkins confirmed that they posed no objection with relation to potential effects on the telemetry communications used by their clients in the Site. Arqiva confirmed that they have no objections with relation to the turbine layouts provided.

Spectrum licensing, who manage fixed link licence information, did not provide comment.

### 5.4.3.2 The Council

#### *Landscape and Visual Impact Assessment*

Consultation was undertaken with the Council with a series of email exchanges between February 2020 and July 2020 and a virtual meeting held on 16<sup>th</sup> April 2020.

Proposed viewpoints for the Landscape and Visual Impact Assessment (LVIA) were sent to the Council on 14<sup>th</sup> April 2020, and a request for confirmation was sent on 4<sup>th</sup> May 2020. The final list of LVIA viewpoints incorporated comments from the Council's Landscape Architect with further visualisations provided to support the cultural heritage assessment based upon comments from Historic Environment Scotland. In an email reminder sent on 16<sup>th</sup> June 2020 stating that unless otherwise advised by the Council, the viewpoint locations would be deemed to be accepted. No further communication was received from the Council on this matter, such that the viewpoints locations are assumed to be acceptable to the Council.

As stated in the November 2019 Scoping Report (Appendix A5.3), the Applicant intended to agree cumulative schemes to be included in the EIA with a 'cut-off' date two months prior to submission to ensure the cumulative assessment is as up-to-date as possible. The Scoping Report set out the Applicant's intention to have cumulative search criterion which focused on wind farms of turbines over 50 metres (m) to blade tip within approximately 25 km of the Development, except where sequential experiences along routes require more distant wind farms to be considered. A list of cumulative developments was issued in an email dated 15 May 2020. An email dated 19 May 2020 from the Council's Planning Department suggested 40-45 km cumulative radius would be expected as a study area for the cumulative assessment. As advised, the LVIA has considered patterns of development within 40-45 km of the Development, but has sought to focus on the closer wind farms that give rise to potentially significant additional effects.

#### *Access Junction*

In May 2020, Highland Council Transport Planning was contacted about relocating the access junction to the A897. It was previously intended that the site entrance junction would be directly onto the A836, but following further design considerations, the A897 north of the existing quarry was preferred in order to help alleviate visual effects from the coastal landscape and North Coast 500 (NC500) as well as the nearby scheduled monument (SM3304). The Council responded that they had no objection in principle to the revised access location proposed, subject to detailed information to demonstrate that the safety and free flow of main road (A897) traffic will not be adversely affected by operation of the new access. Full details are found in the **Chapter 11: Access, Transport and Traffic**.

#### *Environmental Health Officer*

Following scoping, modelling was carried out to determine if operational noise from the Development is likely to exceed the noise criteria at the surrounding residential receptors. The results of the modelling predicted that simplified noise criteria of 45 dB LA90 at the two nearest receptors (which are financially involved) and 35 dB LA90 at the remaining receptors is unlikely to be exceeded. Additional consultation was carried out with THC Environmental Health Officer with confirmation via email on the 18<sup>th</sup> November 2019 that baseline monitoring is not required.

Consultation with the Council's Environmental Health Officer (EHO) is detailed in Full in **Chapter 10: Noise**.

### 5.4.3.3 NatureScot

#### *Bat Surveys*

On 16<sup>th</sup> April 2019, NatureScot was consulted on the scope of the proposed baseline bat surveys, to ensure they were sufficient to inform a robust EIA. In a response via email, dated 6<sup>th</sup> May 2019, NatureScot agreed with the proposed low-risk bat survey approach proposed by Arcus, but made reference to the recent NatureScot 2019 guidance<sup>12</sup> requesting that Arcus ensure that the guidance is incorporated both in to the survey methodology and into the embedded design mitigation for the Development.

Following the change to the proposed Site boundary, additional consultation with NatureScot was sought on 29<sup>th</sup> October 2019. At this time, the Updated Scoping Report issued to NatureScot detailed issues experienced during bat surveys carried out in spring 2019. Due to a technical error, bat data recorded in April 2019 during Remote Monitoring Activity Surveys was lost, and surveys were required to be repeated. These surveys were carried out between 4 and 14 June 2019, just outwith the time period defined as 'spring' within guidance. Further to this, NatureScot was advised that following the development of the updated layout in July 2019, summer and autumn survey scope had to be amended to ensure sufficient survey coverage.

In its response dated 11<sup>th</sup> December 2019, NatureScot confirmed that it did not have any concerns with respect to bat surveys, stating; *"We do not have concerns regarding the issues around bat surveys in the updated Scoping Report. In our opinion, the late timing of the spring survey is unlikely to make much difference to the overall findings, given the exposed far north location. In addition, the necessary amendments to the summer and autumn surveys are not likely to alter the conclusions, especially as the preliminary bat assessment in July and August suggests very low levels of foraging activity."*

#### *Ornithology*

A request for informal scoping advice regarding key ornithological features and the scope of the 2018 baseline ornithology surveys was submitted to NatureScot on 6 April 2018. In the response (via email dated 16 April 2018), NatureScot stated that the proposed approach to the baseline ornithological survey work was reasonable and proportionate, but recommended that the proposed Breeding Raptor Survey Area should be extended to 6 km for Golden Eagle. NatureScot further advised that the Highland Raptor Study Group (HRSG) should be consulted to obtain the most up-to-date information, which should be used to inform survey requirements.

Additional consultation with NatureScot regarding scoping out potential impacts on qualifying ornithological interests of certain statutory sites took place in April 2018 and is detailed in **Chapter 8: Ornithology**.

Following completion of the 2018 breeding season ornithology surveys, a further request was made to NatureScot on 1 November 2018 for comment on the requirement for further surveys to inform a planning application, anticipated in 2020. The request was supported by a brief report summarising the ornithology data collected to date. In its response (via email dated 3 December 2018), NatureScot advised that essentially the information submitted all appeared to be satisfactory. NatureScot also noted that submission of an application in early 2020 would allow inclusion of two years of breeding bird survey data collected within the previous five years. While NatureScot commented that a 2020 submission date would only allow inclusion of one year of non-breeding bird survey data collected within the previous five years if no further non-breeding season

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<sup>12</sup> SNH (2019) Bats & Onshore Wind Turbines: Survey, Assessment & Mitigation [Online] Available at: <https://www.nature.scot/sites/default/files/2019-01/Bats%20and%20onshore%20wind%20turbines%20-%20survey%2C%20assessment%20and%20mitigation.pdf> (Accessed 07/08/20)

surveys were completed. It was further noted by NatureScot that this was not critical because the Special Protection Area (SPA) and Site of Special Scientific Interest (SSSI) bird interest is for breeding birds<sup>13</sup>. In its response, NatureScot also provided comments relating to the assessment of impacts on particular species, details of which are provided in **Chapter 8: Ornithology**.

As part of the Updated Scoping (Appendix: A5.4) to provide further opportunity for design changes necessary to address effects identified within the Drum Hollistan decision, the Site boundary for the Development was extended to the south and west. Consultation was undertaken with NatureScot to agree that the ornithology survey areas covered the additional 500 m turbine developable area. NatureScot agreed that the ornithology surveys undertaken in 2014 and 2018 were sufficient to inform a robust ornithological impact assessment, and no further ornithology surveys were required for the extended turbine developable area.

#### **5.4.3.4 SEPA**

Following design freeze and further confirmatory probing (Phase 2b) consultation was undertaken with SEPA in July 2020, in line with scoping requirements. This provided an opportunity for Arcus to illustrate the level of probing and the considerations taken account of in relation to the impact of the development on peat while informing SEPA of the peat depths and rationale of the survey methodology.

The response from SEPA, also July 2020, stated that 'it was clear from the Proposed Site Layout Constraints and Design Evolution that you have made a number of changes to reduce the impact on peat' and welcomed the amendments and the level of peat probing undertaken and our approach to site layout design, offering minor feedback on track arrangements, but welcomed the avoidance of deep peat across turbines locations.

#### **5.4.3.5 Historic Environment Scotland**

Consultation was undertaken with Historic Environment Scotland (HES) in May 2020 on the final selection of heritage assets for inclusion in the EIA. HES responded in June 2020 (Case ID: 300034216) agreeing with the selection but requested that a visualisation from Knock Stanger Scheduled Monument (SM458) and the inclusion of Creag Bhreac Mhor stone rows (SM2386) in the assessment. Further details can be found in **Chapter 9: Archaeology and Cultural Heritage**. The Council Historic Environment Team was included in this, but no response was received from the Council.

#### **5.4.4 Public Consultation**

Public consultation is a key component of the EIA process. The Applicant has engaged with members of the local community through hosting two rounds of public consultation events in June 2019 and November 2020.

Details of the attendance at the two rounds of public exhibitions is listed below:

- Round 1 – 26<sup>th</sup> June 2019, Melvich Community Hall.
- Round 2 – 20<sup>th</sup> October – 10<sup>th</sup> November 2020, virtual consultation event.

The Round 1 public consultation event provided members of the public the opportunity to speak with representatives of the Applicant and EIA team; learn more about the Development and preliminary findings of the EIA; and provide comment on the Development. The aim of the public consultation events was to provide information regarding the Development and invite comments from the local community to take into account in the iterative EIA process.

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<sup>13</sup> Specific statutory sites were not named, but this is presumed to refer to the Caithness and Sutherland Peatland SPA and Ramsar site, and North Caithness Cliffs SPA, as well as the component SSSIs.



The first exhibition included a series of information boards which outlined details of the Development as the design evolved, including the proposed number of turbines, access to the Site and anticipated ancillary infrastructure. The latter exhibitions involved a range of visualisations from surrounding viewpoints and interactive flythrough visualisations.

The Round 2 public consultation was a virtual event as since March 2020 the COVID-19 pandemic has prevented the regular method of face to face community engagement. As a result, the Applicant developed alternative ways to engage with the local community, namely the 'Virtual Exhibition'.

Table 5.2 summarises the steps undertaken to ensure the local community were informed and involved with the process. Further detail of public consultation is provided in the Pre-Application Consultation (PAC) Report which accompanies the application.

**Table 5.2: Community Engagement throughout EIA Process**

Date	Exercise
<b>June 2019</b>	<p>First stage public exhibitions held at Melvich Community Hall on Wednesday 26 June 2019 (2.00pm – 8.00pm)</p> <p>Advertised through newspaper adverts in Northern Times and John O’Groat Journal.</p> <p>Information leaflets with reply cards sent to approximately 651 dwellings within 13 km which covered the settlements of Portskerra, Melvich and Reay.</p> <p>Poster advertisements posted at 15 commercial properties within 13 km radius.</p> <p>Exhibition boards were on display at the Public Information Day and brochures were available to take away. More than 40 residents and other interested parties attended the public exhibition at Melvich Community Hall.</p> <p>Website project page: <a href="http://www.ackron-windfarm.co.uk">http://www.ackron-windfarm.co.uk</a></p>
<b>October 2020 – November 2020</b>	<p>Public notices in John O’Groat Journal and Northern Times as well as Facebook adverts for those living in the area.</p> <p>Information leaflets with reply cards sent to over 600 dwellings within 13 km which covered the settlements of Portskerra, Melvich and Reay to inform them of upcoming Virtual Exhibition.</p> <p>Virtual Exhibition live from 20<sup>th</sup> October to 10<sup>th</sup> November and included:</p> <ul style="list-style-type: none"> <li>• Interactive images showing proposal from various viewpoints;</li> <li>• Wind farm animation;</li> <li>• Project manager video;</li> <li>• Virtual banners; and</li> <li>• Live chat sessions on 4th November (11am-1pm; 5pm-7pm) and on 10th November (11am-1pm; 5pm-7pm).</li> </ul> <p>Website project page: <a href="http://www.ackron-windfarm.co.uk">http://www.ackron-windfarm.co.uk</a></p>

## 5.5 TECHNICAL ASSESSMENTS

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;
- Mitigation measures and residual effects;
- Cumulative effects assessment;

- Summary of effects (residual effects); and
- Statement of significance.

A summary of each step is highlighted below.

### **5.5.1 Introduction, Assessment Methodology and Significance Criteria**

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 used to establish which effects are significant. 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 magnitude of change.

A range of study areas have been used throughout the EIA Report. The methodology section of each individual technical assessments defines its own study area which responds to the type of environmental effect on a particular receptor that could occur as a result of the Development. The extent of each technical assessment study area has been agreed with consultees through the scoping exercise.

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.

### **5.5.2 Description of Baseline Conditions**

In order to evaluate the potential environmental effects, the existing environmental conditions were recorded through field and desktop research. Prior to the fieldwork studies, desktop studies were undertaken to gain a better understanding of the study areas. Where appropriate and required, site-specific baseline field surveys were undertaken by experienced professionals to provide an understanding of the current condition of the Site and the surrounding area. The results of the desk-based analysis and site surveys, undertaken where appropriate, form the current baseline for individual technical receptors.

In addition, the EIA Regulations require an outline of the projected future baseline i.e. the evolution of the baseline in absence of the project, where this "*can be assessed with reasonable effort on the basis of the availability of relevant information and scientific knowledge*"<sup>14</sup>. As predictions can involve a high number of variables and be subject to large uncertainties, in some cases, the current baseline condition is assumed to remain unchanged throughout the timeframe of the Development with the exception to **Chapter 15: Climate Change and Carbon Balance**. In Chapter 15, a qualitative review is undertaken whether climate change predictions would modify the future baseline to the point that it would change the results of the assessments undertaken in other chapters. Technical assessments are not repeated in Chapter 15 as it should be read in conjunction with the technical chapters.

The baseline has been used to assess the sensitivity of receptors within the study areas. Wind farms that are operational or under construction at the time of commencing the assessments are treated as being part of the existing baseline except where specific guidance advises to the contrary. 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 4: Development Description** and **Chapter 3: Site Selection and Design**.

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<sup>14</sup> Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017, Schedule 4.

### 5.5.3 Assessment of Potential Effects

Predicting 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, permanent 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.

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

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 condition.

### 5.5.4 Sensitivity of Receptors

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

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, Low or Negligible. Table 5.3 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, with details provided in each technical chapter.

**Table 5.3: 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 and is of little environmental value.

#### 5.5.4.1 Magnitude of Change

For the purposes of environmental assessment, the magnitude of an impact 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. Magnitude is generally

classified as High, Medium, Low or Negligible. General criteria for assessing the magnitude of change is presented in Table 5.4. Each technical assessment will apply their own appropriate magnitude of change criteria during the EIA, with the details provided in the relevant EIA chapter.

**Table 5.4: Framework for Determining Magnitude of Change**

Magnitude of Change	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.

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

### 5.5.5 Significance of Effect

The sensitivity of a feature or asset and the magnitude of the predicted impacts will be used as a guide, in addition to professional judgement, to assess the level of effects, and whether these can be considered to be 'significant'. Table 5.5 summarises guideline criteria for assessing the significance of effects.

**Table 5.5: Framework for Assessment of the Significance of Effects**

Magnitude of Change	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

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.

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

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.

### **5.5.6 Mitigation Measures and Residual Effects**

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.

In line with the mitigation hierarchy identified in Planning Advice Note (PAN) 1/2013<sup>15</sup>, 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.

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

### **5.5.7 Cumulative Effects Assessment**

In accordance with the EIA Regulations, the assessment has considered 'cumulative effects'. By definition, these are effects that result from 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 that may on an individual basis be insignificant but cumulatively, have a significant effect, such as landscape and visual effects, have been considered.

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.

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, are not considered in detail in this EIA Report.

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 wider ranging than noise effects which will be limited to receptors in the more immediate vicinity of the Development.

Consideration of cumulative effects has been undertaken for all technical assessments. Where no cumulative effects are likely, this is stated. As set out in Section 5.5.2, operational and under construction 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.

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<sup>15</sup> 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 4/8/2020)

### 5.5.8 *Summary of Effects*

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

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

## 5.6 **ASSUMPTIONS AND LIMITATIONS OF EIA**

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 submissions.

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;
- Unless stated otherwise, baseline conditions are based on data available prior to the Covid-19 pandemic as this represents the normal situations;
- Some surveys were limited by Covid-19 restrictions as discussed in each technical chapter; and
- The assessment of cumulative effects has been reliant on the availability of known information relating to wind farm developments as of 15<sup>th</sup> September 2020.

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

## 5.7 **THE EIA REPORT**

The information that an applicant is required to submit as part of the EIA process is presented in this EIA Report. 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.

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

The EIA Report comprises of the following documents:

- **Volume 1** – EIA Report Text;
- **Volume 2** – EIA Report Figures;
  - **Volume 2a** – Figures excluding Landscape and Visual;
  - **Volume 2b** – Landscape and Visual Plan Figures;
  - **Volume 2c** – NatureScot Visualisations;
  - **Volume 2d** – THC Visualisations;
- **Volume 3** – EIA Report Technical Appendices; and
- **Volume 4** – EIA Report Non-Technical Summary.

The EIA Report includes chapters covering the following technical areas:

- **Chapter 6: Landscape and Visual;**
- **Chapter 7: Ecology;**
- **Chapter 8: Ornithology;**
- **Chapter 9: Archaeology and Cultural Heritage;**
- **Chapter 10: Noise;**
- **Chapter 11: Access, Transport and Traffic;**
- **Chapter 12: Hydrology and Hydrogeology;**
- **Chapter 13: Geology and Peat;**
- **Chapter 14: Land Use, Socio-Economics and Tourism;**
- **Chapter 15: Climate Change and Carbon Balance;**
- **Chapter 16: Other Issues;** and
- **Chapter 17: Summary of Mitigation.**

Each of the technical chapters follows the broad assessment principles outlined in Section 5.5.

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