

4 Approach to EIA

Contents

4.1	Executive Summary	4-1
4.2	Introduction	4-1
4.3	Legislation, Policy and Guidelines	4-1
4.4	The EIA Process	4-2
4.5	Scope of the EIA	4-7
4.6	EIA Report	4-8
4.7	Consultation	4-15
4.8	Consideration of Alternatives	4-15
4.9	Assumptions, Limitations and Uncertainty	4-15
4.10	Summary	4-16
4.11	References	4-16

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4 Approach to EIA

4.1 Executive Summary

4.1.1 This chapter of the EIA Report sets out the broad approach taken to produce the EIA for the Proposed Development. It also includes details of the consultation undertaken.

4.2 Introduction

4.2.1 The EIA process assists the consenting authority in its determination of the application by identifying where significant environmental effects are predicted. This assessment has been completed in conjunction with consultation with statutory consultees, interested parties and the general public.

4.2.2 The structure of the EIA Report follows the requirements of Schedule 4 of the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017 (as amended) (hereafter referred to as the 'EIA Regulations') (Scottish Government, 2017a) and other relevant good practice guidance. The EIA Report comprises two main components – a Non-Technical Summary (NTS) and the main EIA Report text, figures and technical appendices.

4.2.3 This chapter is structured as follows:

- overview of the relevant legislation, policy and guidance;
- an outline of the EIA process utilised;
- the scope of the assessment completed;
- details of the assessment of potential effects;
- mitigation measures;
- enhancement; and
- the assumptions made, limitations encountered and uncertainty.

4.2.4 This chapter is linked to the following appendices:

- Appendix 4.1: EIA Scoping Report (April 2018);
- Appendix 4.2: Energy Consents Unit (ECU) EIA Scoping Opinion (August 2018);
- Appendix 4.3: Summary of how the EIA Scoping Opinion has been addressed;
- Appendix 4.4: Additional EIA Consultation Responses;
- Appendix 4.5: Disasters and Accidents;
- Appendix 4.6: Proposal of Application Notice (February 2020); and
- Appendix 4.7: Details of Legal Agreement (Confidential).

4.3 Legislation, Policy and Guidelines

4.3.1 During the EIA, a number of legislative and best practice documents have informed the process.

4.3.2 The Proposed Development meets *Schedule 2, Category (j)* criteria of the EIA Regulations, by nature of it being classed as an '*Installation for harnessing of wind power for energy production (wind farms)*' which has more than 2 turbines and a hub height of over 15 m. The criteria for considering whether a Schedule 2 development requires the preparation of an EIA is set out in Schedule 3 of the EIA Regulations, and the Applicant has voluntarily accepted that an EIA is required. Regulation 4 of the EIA Regulations details the EIA process while Regulations 4, 5 and Schedule 4 of the EIA Regulations provides details of the information to be included within the EIA Report.

4.3.3 In addition to the EIA Regulations the Government legislation, regulations and best practice guidance which have been followed to undertake the EIA are referred to below:

- The Town and Country Planning Act (Scotland) 1997;
- The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017 (as amended), Planning Circular 1/2017 (Scottish Government, 2017b);
- Scottish Planning Policy (Scottish Government, 2014);
- Planning Advice Note (PAN) 1/2013 Environmental Impact Assessment (Scottish Government, 2017c);
- Guidelines for Environmental Impact Assessment, Institute of Environmental Management and Assessment (IEMA, 2006);
- Good Practice during Wind Farm Construction Version 4 (SNH, SEPA, Scottish Renewables, FCS, HES, MSS, 2019);
- A Handbook on Environmental Impact Assessment Version 5 (SNH, 2018); and
- Assessing the Cumulative Impact of Onshore Wind Energy Developments, (SNH, 2012).

4.4 The EIA Process

Overall EIA Process

4.4.1 In order for the EIA process to be as effective as possible it should be used as an iterative process throughout the design stage, rather than a single assessment performed once the design is finalised.

4.4.2 The findings of the EIA are presented in this EIA Report, which has been prepared in accordance with the EIA Regulations.

4.4.3 The broad approach which has been followed in undertaking the EIA is presented in this chapter and an overview of the methodology adopted for each technical study is provided within the respective EIA Report technical chapters (Chapters 6 to 16).

Screening

4.4.4 Screening is the process by which it is determined whether or not an EIA should be conducted for the Proposed Development.

4.4.5 As set out in paragraph 4.3.1 the Proposed Development falls within Schedule 2 of the EIA Regulations. Schedule 3 of the EIA Regulations sets out the criteria that should be considered in determining whether a Schedule 2 development is likely to have significant environmental effects and hence require a formal EIA. These criteria are:

- the characteristics of the development (e.g. its size, cumulation with other developments, use of natural resources, resultant pollution, waste generated);
- the environmental sensitivity of the location; and
- the characteristics of the potential impacts (including extent, magnitude, probability and duration).

4.4.6 A formal Screening Opinion was not sought, as the Applicant has voluntarily accepted that an EIA is required.

Scoping

4.4.7 The EIA scoping process is undertaken to identify the potentially significant environmental impacts that should be considered when assessing the potential effects of the Proposed Development. An EIA Scoping Opinion may be obtained from the consenting authority, which sets out the matters that should be considered through the EIA.

- 4.4.8 The Applicant requested an EIA Scoping Opinion from ECU in April 2018 through the submission of an EIA Scoping Report (refer to Appendix 4.1), as prepared by the EIA Project Team. This EIA Scoping Report contained details of the site baseline and the Proposed Development. It also proposed which environmental impacts would be assessed in the EIA, and the assessment methodologies that would be used.
- 4.4.9 The ECU consulted with a variety of statutory and non-statutory consultees before providing an EIA Scoping Opinion in August 2018 (refer to Appendix 4.2).
- 4.4.10 At the time the Scoping Report was submitted, the generating capacity of the development being proposed was in excess of 50 MW and as such the Scoping Report was submitted to the ECU, in accordance with the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017, which are applicable for wind energy developments of that scale. However, the Proposed Development has since been refined through a process of detailed design and now sits below the 50 MW threshold, consequently, this application has been submitted to OIC. Prior to submission, the Applicant requested advice from OIC as to whether a new Scoping Opinion would be required. The response was as follows:
- “In providing the Scoping Opinion, the Scottish Ministers took into account the specific characteristics of the proposed development, the specific characteristics of that type of development, and the environmental features likely to be affected.*
- The amended proposed development includes a reduction in number of turbines and amendment to site layout, and an increase in maximum height to 150 metres.*
- Critically, there is no material change to the characteristics of the wind farm or the environmental features likely to be affected, and the proposed development is considered to be materially the same as the proposed development which was subject to the Scoping Opinion.*
- Therefore, the planning authority can confirm that a fresh Scoping Opinion is not required.”*
- 4.4.11 Consequently, the EIA Report has been based on the Scoping Opinion that has been received (refer to Appendix 4.3). Where changes to the scope of any surveys or assessments were considered to be reasonable, this was discussed and agreed with the relevant technical consultees. Details of relevant consultations are included in each technical chapter, and copies of additional consultee correspondence are provided in Appendix 4.4.

EIA

- 4.4.12 EIA is the systematic process of compiling, assessing and presenting all the significant environmental effects of a proposed development. The assessment is designed to inform the decision-making process by way of setting out the likely environmental profile of a project. Identification of potentially significant adverse environmental effects then leads to the design and incorporation of appropriate mitigation measures into both the design of the scheme and the way in which it is constructed.
- 4.4.13 The main steps in the EIA assessment process for the Proposed Development have been:
- Baseline surveys (where appropriate and where possible) to provide information on the existing environmental character of the proposed site and the surrounding area.
 - Consideration given to the possible interactions between the Proposed Development and the existing and predicted future site conditions. These interactions or effects are assessed using stated criteria based on accepted guidance and best practice.
 - Using the design parameters for the Proposed Development, prediction of the likely environmental effects, including direct effects and any indirect, secondary, short, medium and long-term, permanent and temporary, positive and negative effects.
 - Identification of mitigation measures designed to avoid, reduce or offset adverse effects as well as enhancement measures that could result in beneficial effects. Assessment of alterations to

the design and the reassessment of previously proposed mitigation to establish suitable mitigation for the Proposed Development.

- Assessment of the significance of any residual effects after mitigation, in relation to the sensitivity of the feature impacted upon and the magnitude of the effect predicted, in line with the methodology identified below (refer to Section 4.7).
- Identification of any uncertainties inherent in the methods used, the predictions made, and the conclusions drawn during the course of the assessment process.
- Reporting of the results of the EIA in this EIA Report.

4.4.14 The EIA process is an iterative process where its findings have informed the design evolution of the project.

Assessment of Effects

4.4.15 Throughout the assessment, a distinction has been made between the term 'impact' and 'effect'. The EIA Regulations refer to the requirement to report the significance of 'effects'. An 'impact' is defined as the likely change to the characteristics/nature of the receiving environment as a result of the Proposed Development (e.g. noise from turbines), whereas the 'effect' relates to the significance of the impact (e.g. a significant residual noise effect on residential properties). These terms have been adopted throughout this EIA to present a consistent approach to the assessment and evaluation of effects and their significance.

4.4.16 The exception to this is the Landscape and Visual Impact Assessment which classifies the level of physical and perceptual change to the receiving environment as the 'magnitude of change' in line with the recommendations of the Guidelines for Landscape and Visual Impact Assessment third edition (GLVIA3). However, this terminology should be considered interchangeable with 'magnitude of impact'.

4.4.17 Within the EIA Report, the assessment of effects for each environmental topic takes into account the environmental impacts of both the construction/decommissioning and operational phases of the Proposed Development and the environmental impacts should the Proposed Development not be consented (the do-nothing scenario).

4.4.18 In order to determine whether or not the potential effects of the Proposed Development are likely to be 'significant', a number of criteria are used. These significance criteria vary between topics but generally include:

- international, national and local designations or standards;
- relationship with planning policy;
- sensitivity of the receiving environment;
- magnitude of impact;
- reversibility and duration of the effect; and
- inter-relationship between effects.

4.4.19 Effects that are considered to be significant, prior to mitigation but following the implementation of best practice, are identified within the EIA Report. The significance attributed to the resultant effect is informed by professional judgement, as to the sensitivity of the affected receptor(s) and the nature and magnitude of the predicted changes/impacts. For example, a major adverse change/impact on a feature or site of low importance will have an effect of lesser significance than the same impact on a feature or site of high importance. Table 4.1 below is used as a guide to the relationship between the sensitivity of the identified receptor and the anticipated magnitude of an impact/change. Professional judgement is however equally important in establishing the suitability of this guiding 'formula' to the assessment of the significance of each individual effect.

Table 4.1 - Guide to the Inter-Relationship between Magnitude of Impact and Sensitivity of Receptor

		Sensitivity of Receptor / Receiving Environment to Change			
		High	Medium	Low	Negligible
Magnitude of Impact/Change	High	major	moderate to major	minor to moderate	negligible
	Medium	moderate to major	moderate	minor	negligible
	Low	minor to moderate	minor	negligible to minor	negligible
	Negligible	negligible	negligible	negligible	negligible

4.4.20 The following terms are used in the EIA Report, unless otherwise stated, to determine the level of effects predicted to occur:

- **major** beneficial or adverse effect – where the Proposed Development would result in a significant improvement (or deterioration) to the existing environment;
- **moderate** beneficial or adverse effect – where the Proposed Development would result in a noticeable improvement (or deterioration) to the existing environment;
- **minor** beneficial or adverse effect – where the Proposed Development would result in a small improvement (or deterioration) to the existing environment; and
- **negligible** – where the Proposed Development would result in no discernible improvement (or deterioration) to the existing environment.

4.4.21 This is a well-tested and well-established methodology and means of describing the level of effects and is considered more comprehensive and appropriate than the ‘four point scale’ suggested by the Local Planning Authority.

4.4.22 Using professional judgement and with reference to the Guidelines for Environmental Impact Assessment (IEMA, 2004), the majority of the assessments within this EIA Report consider effects of moderate and greater significance to be significant. Those of minor significance and less are considered to be non-significant. If there are deviations from this these will be clearly stated within the individual technical chapters.

4.4.23 Summary tables that outline the predicted effects associated with an environmental issue, the appropriate mitigation measures required to address these effects, and subsequent overall residual effects are provided at the end of each technical chapter of the EIA Report. Distinction has also been made between direct and indirect, short and long term, permanent and temporary, beneficial and adverse effects.

Cumulative Effects

4.4.24 Part 5 of Schedule 4 of The EIA Regulations sets out the matters that require to be incorporated within EIA Reports. The EIA Regulations state that EIA Reports should include an assessment of “*the cumulation of effects with other existing and/or approved development, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources*”.

4.4.25 Cumulative effects are those which result from incremental changes caused by past, present or reasonably foreseeable future actions resulting from the introduction of the Proposed

Development. These cumulative effects cover the combined effect of individual impacts from the Proposed Development and combined impacts of several developments, as noted within the guidance provided by SNH in the document *Assessing the Cumulative Impact of Onshore Wind Energy Developments (2012)*. Developments considered in addition to the Proposed Development are existing and other proposals of a similar nature and scale which could give rise to cumulative effects, including other wind farms.

4.4.26 Table 4.2 and Figure 6.12 show application stage, consented, under construction and operational wind farm developments of over 50 m within a 40 km radius of the Proposed Development.

Table 4.2 – Cumulative Wind Energy Developments

Site Name	Local Authority	Status
Barnes of Ayre	Orkney	Operational
Burgar Hill	Orkney	Operational
Crowness Business Park	Orkney	Operational
Hammars Hill	Orkney	Operational
Holodykes	Orkney	Operational
Howe, Shapinsay	Orkney	Operational
Kingarly Hill	Orkney	Operational
Northfield, Burray	Orkney	Operational
Ore Brae, Hoy	Orkney	Operational
Rennibister	Orkney	Operational
Upper Stove, Deerness	Orkney	Operational
West Hill, Flotta	Orkney	Operational
Akla	Orkney	Under Construction
Berriedale	Orkney	Under Construction
Work Farm	Orkney	Under Construction
Costa Head	Orkney	Consented
Hesta Head	Orkney	Consented
Quanterness	Orkney	Application
Dounreay Tri	Offshore	Under Construction
Baillie Hill	Highland	Operational
Forss	Highland	Operational
Lochend Farm	Highland	Operational
Stroupster	Highland	Operational
Taigh na Muir	Highland	Operational
Weydale	Highland	Operational
Cogle Moss	Highland	Consented
Hill of Lybster	Highland	Consented
Slickly	Highland	Application

4.4.27 Consent was granted in 2012 for two turbines at Binga Fea. Development commenced; however, no turbines have been erected. There is now an agreement in place with the landowner at Binga Fea (see Appendix 4.7 (Confidential)) that precludes further development of the consent. Consequently, and in agreement with OIC, these turbines have been excluded from the cumulative assessments. If considered necessary, an appropriately worded planning condition could be applied.

4.4.28 Further detailed discussion on the approach to cumulative assessment is presented in each technical assessment chapter as relevant.

Mitigation and Monitoring Measures

- 4.4.29 The EIA Regulations require the EIA to present a description of the measures proposed to avoid, reduce and, if possible, offset significant adverse effects. Wherever reasonably practicable, mitigation measures are proposed for each significant environmental effect predicted, and can take various forms including:
- changes to the scheme design;
 - physical measures applied on site; and
 - measures to control particular aspects of the construction or operation of the scheme.
- 4.4.30 Where none of the above are deemed practicable, the detailed Proposed Development design will be required to include measures to offset any significant adverse effects. Monitoring measures are designed to examine the mitigation measures to ensure that they have the desired outcomes.
- 4.4.31 Mitigation measures and monitoring requirements are presented as commitments in order to ensure a level of certainty as to the environmental effects of the Proposed Development. There are various ways in which a level of certainty can be ensured, such as through the use of planning conditions. Therefore, notwithstanding any statutory mechanisms to ensure implementation, the Applicant and therefore the Contractors will be committed to implementing all mitigation measures and monitoring requirements identified in this EIA Report relating to construction of the Proposed Development.
- 4.4.32 A schedule of all of the mitigation measures and monitoring requirements proposed in this EIA Report is presented in Chapter 17.

Enhancement

- 4.4.33 Similar to the reporting of mitigation measures, where opportunities for environmental enhancement are proposed, these have been included in the summary of environmental commitments reported at the end of each technical chapter, and in Chapter 17.

4.5 Scope of the EIA

Technical Scope

- 4.5.1 The technical scope of the assessment will cover all the impacts agreed through the EIA Scoping and consultation process. The following technical areas have been scoped out of the EIA:

Television

- 4.5.2 Due to the low risk of interference with television reception (Chapter 16), a detailed assessment of potential effects has been scoped out of the EIA.

Health and Safety

- 4.5.3 No significant health and safety effects have been identified with respect to construction and operation of the Proposed Development, which would not be appropriately mitigated through good practice in construction and adherence to relevant legislation and guidance, as noted in Sections 3.5 and 3.6 of this EIA Report. Infrastructure including roads and properties have been appropriately buffered and are sufficiently separated from the proposed turbine locations to limit any potential health and safety concerns. Therefore, further assessment of health and safety effects has been scoped out of the EIA.

Air Quality

- 4.5.4 The main source of impact on air quality would be increased traffic flows on local roads during construction and emissions from construction activities including exhaust fumes and dust generated from earthworks and from unmade ground in dry conditions. It is not considered that the effects of these activities would be significant, provided mitigation measures including adopting recognised best management practices on site were implemented.

4.5.5 There would be no routine emissions to air during operation with the only source being occasional vehicles accessing the site for maintenance purposes. Operation of the wind farm would displace alternative sources of power generation, mainly fossil fuels, and therefore would result in reduced emissions of carbon dioxide and other pollutant gases (NOx and PM10 etc.).

4.5.6 Consequently, assessment of air quality impacts has been scoped out of the EIA.

Bat Surveys

4.5.7 The extended NVC survey outlined that the development area was not suitable roosting or foraging habitat for bats. The local bat group were contacted and had no records of bats available for Hoy and outlined contacting the local records centre, which was/closed due to COVID-19. The desk study returned no records of bat activity within the study area, as such bat survey work was not considered necessary and was scoped out of the EIA.

Accidents and Disasters

4.5.8 An assessment of accidents and disasters has been scoped out as detailed in Appendix 4.5.

Spatial Scope

4.5.9 The spatial scope of the EIA, in other words the geographical coverage of the assessment undertaken, has taken account of a number of factors, in particular:

- the extent of the Proposed Development (refer to Figure 1.2);
- the nature of the baseline environment, sensitive receptors and the likely impacts that could arise; and
- the distance over which predicted effects are likely to remain significant and in particular the existence of pathways which could result in the transfer of effects to a wider geographical area than the extent of proposed physical works.

Temporal Scope

4.5.10 The baseline years used for the assessment of environmental effects are 2018-2020, as these are the years in which the assessment work was undertaken.

4.5.11 For the purposes of the EIA, construction is anticipated to commence in c.2024/2025 and expected to last for a period of 18 months. For construction effects, the assessment also takes into account the time of day that works are likely to be undertaken, for example if any night-time working is required to minimise disruption to road users.

4.5.12 No decommissioning date is anticipated for the Proposed Development, consent in perpetuity is being applied for. However, if the Proposed Development is decommissioned in the future then it is anticipated that the decommissioning effects will be similar to or less than the construction effects.

4.6 EIA Report

4.6.1 The EIA Regulations 4 and 5 and Schedule 4 set out the information required to be included within the EIA Report, as summarised in Table 4.3.

Table 4.2 – Information Required in the EIA Report

EIA Regulations	Required Information (EIA Regulations)	Relevant Reference within this EIA Report
Regulation 4	(2) The environmental impact assessment must identify, describe and assess in an appropriate manner, in light of the circumstances relating to the proposed	The EIA Report includes an assessment of the direct and indirect effects of the Proposed Development

EIA Regulations	Required Information (EIA Regulations)	Relevant Reference within this EIA Report
	development, the direct and indirect significant effects of the proposed development (including, where the proposed development will have operational effects, such operational effects) on the factors specified in paragraph (3) and the interaction between those factors.	during construction and operation (refer to Chapters 6 -16).
	<p>(3) The factors are—</p> <p>(a) population and human health;</p> <p>(b) biodiversity, and in particular species and habitats protected under Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora(1) and Directive 2009/147/EC of the European Parliament and of the Council on the conservation of wild birds(2);</p> <p>(c) land, soil, water, air and climate; and</p> <p>(d) material assets, cultural heritage and the landscape</p>	<p>The receptors potentially affected by the Proposed Development are detailed within each of the technical chapters.</p> <p>Effects on population and human health are assessed in relation to visual impacts, socio-economics, recreation, tourism, traffic, noise and shadow flicker.</p> <p>Biodiversity is covered in the ecology and ornithology chapters.</p> <p>Impacts on the water environment are covered in the geology, peat, hydrology and hydrogeology chapter.</p> <p>Material assets are addressed through the assessment of cultural heritage effects and other chapters as appropriate.</p>
	(4) The effects to be identified, described and assessed under paragraph (2) include the expected effects deriving from the vulnerability of the development to risks, so far as relevant to the development, of major accidents and disasters.	Appendix 4.5 assesses the vulnerability of the Proposed Development to major accidents and disasters.
Regulation 5	<p>(2) An EIA report is a report prepared in accordance with this regulation by the developer which includes (at least)—</p> <p>(a) a description of the development comprising information on the site, design, size and other relevant features of the development;</p>	<p>Chapter 3 of the EIA Report contains a description of the Proposed Development.</p> <p>Chapters 6-16 of the EIA Report contain a description of the likely significant effects and the measures envisaged in order to avoid, prevent, reduce or offset significant adverse effects.</p>

EIA Regulations	Required Information (EIA Regulations)	Relevant Reference within this EIA Report
	<p>(b) a description of the likely significant effects of the development on the environment;</p> <p>(c) a description of the features of the development and any measures envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment;</p> <p>(d) a description of the reasonable alternatives studied by the developer, which are relevant to the development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the development on the environment;</p> <p>(e) a non-technical summary of the information referred to in sub-paragraphs (a) to (d); and</p> <p>(f) any other information specified in schedule 4 relevant to the specific characteristics of the development and to the environmental features likely to be affected.</p>	<p>Chapter 2 contains a description of the reasonable alternatives studied by the Applicant.</p> <p>A Non-Technical Summary has been included with the application.</p>
	<p>(3) Where a scoping opinion (or scoping direction) is issued, the EIA report must be based on that scoping opinion (or scoping direction, as the case may be), and include the information that may reasonably be required for reaching a reasoned conclusion on the significant effects of the development on the environment, taking into account current knowledge and methods of assessment.</p>	<p>The EIA and EIA Report is based on the Scoping Opinion. Where changes to the scope of any surveys or assessments were considered to be reasonable, this was discussed and agreed with the relevant technical consultees. Details of relevant consultations are included in each technical chapter, and copies of additional consultee correspondence are provided in Appendix 4.4.</p>
	<p>(5) In order to ensure the completeness and quality of the EIA report—</p> <p>(a) the developer must ensure that the EIA report is prepared by competent experts; and</p>	<p>Chapter 1 contains details of the expertise and qualifications of the competent experts.</p>

EIA Regulations	Required Information (EIA Regulations)	Relevant Reference within this EIA Report
	(b) the EIA report must be accompanied by a statement from the developer outlining the relevant expertise or qualifications of such experts.	
Schedule 4	<p>1. A description of the development, including in particular:</p> <p>(a) a description of the location of the development;</p> <p>(b) a description of the physical characteristics of the whole development, including, where relevant, requisite demolition works, and the land-use requirements during the construction and operational phases;</p> <p>(c) a description of the main characteristics of the operational phase of the development (in particular any production process), for instance, energy demand and energy used, nature and quantity of the materials and natural resources (including water, land, soil and biodiversity) used;</p> <p>(d) an estimate, by type and quantity, of expected residues and emissions (such as water, air, soil and subsoil pollution, noise, vibration, light, heat, radiation and quantities and types of waste produced during the construction and operation phases.</p>	<p>The Proposed Development is described in Chapter 3 of the EIA Report, including consideration of anticipated construction methods and the operation of the Proposed Development.</p> <p>The land use requirements during construction and operational phases are also described in Chapter 3.</p> <p>Expected residues and emissions are addressed, where relevant, in the appropriate technical chapters of this EIA Report.</p>
	2. A description of the reasonable alternatives (for example in terms of development design, technology, location, size and scale) studied by the developer, which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects.	Chapter 2 of the EIA Report describes the design iteration process and details how the Proposed Development site was chosen and the environmental constraints taken into consideration.

EIA Regulations	Required Information (EIA Regulations)	Relevant Reference within this EIA Report
	<p>3. A description of the relevant aspects of the current state of the environment (the “baseline scenario”) and an outline of the likely evolution thereof without implementation of the project as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of relevant information and scientific knowledge.</p>	<p>A description of the existing (baseline) environment is provided within each technical chapter.</p>
	<p>4. A description of the factors specified in regulation 4(3) likely to be significantly affected by the development: population, human health, biodiversity (for example fauna and flora), land (for example land take), soil (for example organic matter, erosion, compaction, sealing), water (for example hydromorphological changes, quantity and quality), air, climate (for example greenhouse gas emissions, impacts relevant to adaptation), material assets, cultural heritage, including architectural and archaeological aspects, and landscape.</p>	<p>The receptors potentially affected by the Proposed Development are detailed within each of the technical chapters.</p> <p>Effects on population and human health are assessed in relation to visual impacts, socio-economics, recreation, tourism, traffic, noise and shadow flicker.</p> <p>Biodiversity is covered in the ecology and ornithology chapters.</p> <p>Impacts on the water environment are covered in the hydrology, hydrogeology and geology chapter.</p> <p>Material assets are addressed through the assessment of cultural heritage effects and other chapters as appropriate.</p>
	<p>5. A description of the likely significant effects of the development on the environment resulting from, inter alia:</p> <p>(a) the construction and existence of the development, including, where relevant, demolition works;</p> <p>(b) the use of natural resources, in particular land, soil, water and biodiversity, considering as far as possible the sustainable availability of these resources;</p> <p>(c) the emission of pollutants, noise, vibration, light, heat and radiation, the</p>	<p>The predicted significant effects of the Proposed Development are reported after best-practice mitigation measures have been applied to an identified effect, in each of the technical chapters of the EIA Report. Effects have been predicted in relation to the construction and, operational phases of the Proposed Development, including the nature of these effects and their duration.</p> <p>The overall approach and methods used in the assessment of</p>

EIA Regulations	Required Information (EIA Regulations)	Relevant Reference within this EIA Report
	<p>creation of nuisances, and the disposal and recovery of waste;</p> <p>(d) the risks to human health, cultural heritage or the environment (for example due to accidents or disasters);</p> <p>(e) the cumulation of effects with other existing and/or approved development, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources;</p> <p>(f) the impact of the development on climate (for example the nature and magnitude of greenhouse gas emissions) and the vulnerability of the development to climate change;</p> <p>(g) the technologies and the substances used.</p> <p>The description of the likely significant effects on the factors specified in regulation 4(3) should cover the direct effects and any indirect, secondary, cumulative, transboundary, short-term, medium- term and long-term, permanent and temporary, positive and negative effects of the development. This description should take into account the environmental protection objectives established at Union or Member State level which are relevant to the development including in particular those established under Council Directive 92/43/EEC3 and Directive 2009/147/EC.</p>	<p>environmental impacts are discussed in this chapter of the EIA Report. Prediction methods are discussed in detail within each relevant technical chapter of the EIA Report.</p>
	<p>6. A description of the forecasting methods or evidence, used to identify and assess the significant effects on the environment, including details of difficulties (for example technical deficiencies or lack of knowledge) encountered compiling the required</p>	<p>An overview of the methodology of the assessment is provided within Chapter 4 while the individual technical chapters provide details of each technical assessment.</p>

EIA Regulations	Required Information (EIA Regulations)	Relevant Reference within this EIA Report
	information and the main uncertainties involved.	
	7. A description of the measures envisaged to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects on the environment and, where appropriate, of any proposed monitoring arrangements (for example the preparation of a post-project analysis). That description should explain the extent, to which significant adverse effects on the environment are avoided, prevented, reduced or offset, and should cover both the construction and operational phases.	Specific mitigation measures and where appropriate monitoring arrangements are reported in each relevant technical section of the EIA Report and in the schedule of committed mitigation measures presented in Chapter 17.
	8. A description of the expected significant adverse effects of the development on the environment deriving from the vulnerability of the development to risks of major accidents and/or disasters which are relevant to the project concerned. Relevant information available and obtained through risk assessments pursuant to legislation of the European Union such as Directive 2012/18/EU of the European Parliament and of the Council or Council Directive 2009/71/Euratom or relevant assessments may be used for this purpose provided that the requirements of this Directive are met. Where appropriate, this description should include measures envisaged to prevent or mitigate the significant adverse effects of such events on the environment and details of the preparedness for and proposed response to such emergencies.	An assessment of major accidents and/or disasters has been scoped out as detailed in Appendix 4.5.
	9. A non-technical summary of the information provided under points 1 to 8.	A Non-Technical Summary is presented as a stand-alone document.
	10. A reference list detailing the sources used for the descriptions and assessments included in the EIA report.	References are provided at the end of each chapter of the EIA Report.

- 4.6.2 The EIA Report is split into five volumes, with the NTS forming a separate document. Volume 1 of this EIA Report contains the introductory, concluding and technical chapters. Volume 2 contains the figures that inform the EIA Report. Volume 3 contains the landscape and visual figures and visualisations. Volume 4 contains supporting information and appendices for each of these technical chapters, and additional studies that have been prepared to inform the relevant assessments as reported in the EIA Report. Volume 5 contains confidential technical appendices.

4.7 Consultation

- 4.7.1 Consultation is a key component of the EIA process. Consultation with statutory and non-statutory consultees has been undertaken by the Applicant since the feasibility stages of the Proposed Development.
- 4.7.2 The Applicant has continually engaged through both formal consultation (such as the request for an EIA Scoping Opinion) and informally through meetings, calls and emails. Details of the additional consultation undertaken outwith EIA Scoping with consultees can be found in Appendix 4.4 and within each technical chapter.
- 4.7.3 The Applicant has also consulted with the general public throughout the development of the Proposed Development. The Applicant submitted a Proposal of Application Notice (PAN) in February 2020 (refer to Appendix 4.6). The consultation strategy was then amended in consultation with OIC and in line with The Town and Country Planning (Miscellaneous Temporary Modifications) (Coronavirus) (Scotland) Regulations 2020 (Scottish Government, 2020a) and Coronavirus (COVID-19): planning guidance on pre-application consultations for public events (Scottish Government, 2020b). Community Councils were also invited to provide input on the consultation strategy.
- 4.7.4 A stand-alone Pre-Application Consultation (PAC) Report has been prepared which provides details of the pre-application consultation which has taken place with the communities closest to the Proposed Development site. The Report also summarises the technical consultation undertaken as part of the EIA.
- The Applicant is grateful to residents and local representatives for their input into the pre-application community engagement process.
- 4.7.5 The scope of the EIA and the design of the Proposed Development has been influenced by all consultation, as described in the PAC Report.

4.8 Consideration of Alternatives

- 4.8.1 EIA legislation requires the consideration of alternatives and an indication of the reasons for selecting the site advanced, except, as noted in Planning Advice Note (PAN) 58, where limited by constraints of commercial confidentiality.
- 4.8.2 The Proposed Development site has been demonstrated to be a viable and a productive site for wind energy generation. The Proposed Development is one of three sites under development by the Applicant under Orkney's Community Wind Farm Project. The Proposed Development is essential in meeting the conditions set down by Ofgem to justify and trigger a transmission connection from Orkney to the Scottish mainland.
- 4.8.3 The Applicant considered a number of alternative layouts and different scales of turbine for the Proposed Development, to arrive at the design for which consent is sought. A full description of the site identification and design iteration process is given in Chapter 2.

4.9 Assumptions, Limitations and Uncertainty

- 4.9.1 The EIA process is designed to enable informed decision-making based on the best available information about the environmental implications of a proposed development. However, there will always be some uncertainty inherent in the scale and nature of the predicted environmental effects as a result of the level of detailed information available at the time of assessment, the potential for

minor alterations to the Proposed Development following completion of the EIA Report and/or the limitations of the prediction processes.

- 4.9.2 A number of assumptions were made during the EIA process and are described below:
- The principal land uses adjacent to the site remain unchanged during the course of the Proposed Development's lifetime (with the exception of proposed and consented wind energy projects which are discussed as part of cumulative impact assessments described in each technical chapter).
 - Information provided by third parties, including publicly available information and databases are correct at the time of submission.
- 4.9.3 Specific assumptions may also be made with regards to the individual technical disciplines, which are detailed within each chapter.
- 4.9.4 The main limitation to the assessment has been that while the baseline conditions have been assumed to be accurate at the time of surveying, due to the dynamic nature of the environment, these conditions may change during site preparation, construction and operation.
- 4.9.5 There is also the potential for a degree of uncertainty as certain aspects of the Proposed Development may be subject to change until a detailed design has been finalised. This uncertainty can come in the forms of:
- turbine selection;
 - foundation and infrastructure design; and
 - micro-siting of the turbines and infrastructure which may change due to investigation findings or implementation of mitigation measures.
- 4.9.6 Any limitations to the EIA are summarised in each technical chapter, where relevant, together with the means proposed to mitigate these.
- 4.9.7 Figures for land take and habitat loss should be considered as approximate and could vary slightly once the detailed design is developed.
- 4.9.8 Information on the Proposed Development construction has been developed by the project team based on professional judgement and outline design works, on the most likely methods of construction, plant, access routes and working areas etc. for the purposes of the EIA. The final choice on construction methods will rest with the contractors and may differ from those used in this assessment, and any such uncertainty is stated in Section 3.4 of the EIA Report.

4.10 Summary

- 4.10.1 This chapter has detailed the methodology used to conduct the EIA and produce the EIA Report for the Proposed Development. An overview of the relevant legislation and guidance documents has been provided with the main legislative document being The Town and Country (Environmental Impact Assessment) (Scotland) Regulations 2017 (as amended). Following this, the EIA process and the scope of the assessment are detailed. General assumptions, limitations and uncertainties are also stated.

4.11 References

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Scottish Executive (1997). The Town and Country Planning Act (Scotland) 1997. Available at: <https://www.legislation.gov.uk/ukpga/1997/8/contents>

Scottish Government (2014). Scottish Planning Policy. Available at: <https://www.gov.scot/publications/scottish-planning-policy/>

Scottish Government (2017a). The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017. Available at:

<http://www.legislation.gov.uk/ssi/2017/102/contents/made>

Scottish Government (2017b). The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017 (as amended), Planning Circular 1/2017. Available at:

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SNH (2018). A Handbook on Environmental Impact Assessment Version 5. Available at:

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Construction Version 4. Available at: <https://www.nature.scot/guidance-good-practice-during-wind-farm-construction>