Chapter 1: Introduction

Chapter 1
Introduction

Introduction

1.1 This Environmental Impact Assessment Report (EIA Report) has been prepared by LUC on behalf of EDF Energy Renewables Ltd (the Applicant) (which uses the brand name "EDF Renewables") to accompany an application under S36 of the Electricity Act 1989 for consent to construct and operate Dunside Wind Farm (the 'Proposed Development'). The Proposed Development comprises of the following:

- Up to 15 wind turbines, each with a maximum blade tip height of 220 m, and a total generation capacity in excess of 50 megawatts (MW);
- Crane Hardstandings adjacent to each turbine position;
- Four new watercourse crossings and associated infrastructure;
- Approximately 15 kilometres (km) of proposed wind farm tracks and approximately 1.1 km of proposed light vehicle track;
- Approximately 17.5 km of existing access tracks (including areas of widening/upgrading);
- Onsite underground electrical cables and cable trenches;
- Control building and extension to Fallago Rig existing substation; and
- A 20 MW battery storage area.

1.2 In addition to the above components associated with the operation of the Proposed Development, construction of the Proposed Development will also require the following components:

- Four temporary construction compounds (two existing compounds which will remain in situ following completion of the Proposed Development, and two proposed which will be restored following construction), including laydown area(s) and car parking; and
- Up to three borrow pits which will be closed and reinstated following completion of construction.

1.3 The Proposed Development will be connected to the national electricity network (the 'grid') at the existing Fallago Rig substation. Further details regarding the proposals for the grid connection are provided in **Chapter 3: Development Description**.

1.4 The proposed site (the Site) is located approximately 6 km north of Westruther and 7 km west of Longformacus in the Scottish Borders, Scotland. The Site is located within the Lammermuir Hills and covers an area of approximately 2006 hectares (ha). The Site location is shown on **Figure 1.1**.

1.5 The expected operational life of the Proposed Development is 35 years from the date of commissioning. Approximately 19 months are anticipated to be required for construction of the Proposed Development. An indicative construction programme can be found in **Chapter 3**. It is anticipated that construction of the Proposed Development will commence in 2026. Following the 35-year operational period, the Proposed Development will be fully decommissioned, or an application may be made to extend its operational life or to replace the turbines.

1.6 This chapter is supported by the following figure and appendices which are referenced throughout the text:

- EIA Report Volume 3a: Figures
  - **Figure 1.1: Site Location.**

- EIA Report Volume 4: Appendices
  - **Appendix 1.1: Consultation Summary Table; and**
  - **Appendix 1.2: Statement of Competence.**

Purpose of the EIA Report

1.7 As the Proposed Development consists of an onshore generating station with a capacity of over 50 MW, an application is being made to Scottish Ministers through the Energy Consents Unit (ECU) under Section 36 of the Electricity Act 1989. In addition, a request is being made that planning permission is deemed to be granted under Section 57(2) of the Town and Country Planning (Scotland) Act 1997, as amended. In determining the application Scottish Ministers are required to consider the *"desirability of preserving natural beauty, of conserving flora, fauna and geological or physiographical features of special interest and of protecting sites, buildings and objects of architectural, historic or archaeological interest."* This EIA Report demonstrates how the Applicant has taken these consenting requirements into account throughout the siting and design of the Proposed Development and has included reasonable mitigation measures.

1.8 This EIA Report has been prepared to accompany the application, in accordance with the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 ('the EIA Regulations'). An EIA Report is required where a development is an EIA development, that is a development which is *"likely to have significant effects on the environment by virtue of factors such as its nature, size or location.''*

1.9 The Applicant has considered the Proposed Development in the context of the EIA Regulations and concluded that, due to the nature and scale of the proposals and the potential for significant environmental effects, it is an EIA development. A Scoping Report was submitted to the ECU in March 2022 alongside a request for a Scoping Opinion in line with the EIA Regulations. The Scoping Opinion was received in May 2022 and has informed the content of the EIA Report. Further details can be found in the 'Scoping' section below.

1.10 Each of the technical chapters of the EIA Report provides specific criteria, including sources and justifications, for quantifying the different levels of predicted environmental effects of the Proposed Development. Where possible, this has been based upon quantitative and accepted criteria together with the use of value judgements and expert interpretations to establish to what extent an effect is considered to be significant in the context of the EIA Regulations. The threshold at which effects are likely to be ''**significant**'' is defined in each of the technical chapters.

The Applicant

1.11 This application is being made by EDF Energy Renewables Ltd (EDF-ER) (the Applicant), part of one of the world's largest electricity companies. The Applicant has an operating portfolio of 37 wind farms as well as battery storage units providing new affordable, low carbon electricity to the UK. EDF-ER is operated within the United Kingdom under the brand EDF Renewables.

Climate Change and Renewable Energy Policy

1.12 The issues of climate change, renewable energy generation and carbon dioxide (CO_2) emissions have become increasingly important in the UK, as well as in international policy and legislation in recent years. One of the primary aims of the UK government is to move the UK towards a zero carbon economy. This relates to all sectors of business and industry and all policy frameworks that affect the public.

1.13 UK legislation and policy is, in turn, driven by international co-operation to cut the emission of greenhouse gases, through the United Nations Framework Convention on Climate Change (UNFCC). This includes the 'Kyoto Protocol'[1], which became a legally binding treaty on 16 February 2005, and the 'Paris Agreement'[2]. Ratified in the UK in November 2016, the Paris Agreement sets out the ambition of holding the increase of global average temperature to "well below 2°C" and pursuing efforts to limit temperature increase to 1.5°C. The commitments set out in the Agreement were reaffirmed in the Glasgow Climate Pact

[1] United Nations (1998) Kyoto Protocol to the United Nations Framework Convention on Climate Change
[2] United Nations (2015) The Paris Agreement

(November 2021)[3]. The Pact emphasises the role of phasing down the use of all fossil fuels across the energy sector and scaling up clean power.

1.14 In response to the declaration of a national climate emergency in May 2019, a net-zero carbon emissions target by 2050 became law with the updating of the UK Climate Change Act, compared to an 80% reduction by 2050, as set by the Climate Change Act 2008[4]. Like the UK Government, the Scottish Government also responded to the climate emergency and in 2019, former First Minister Nicola Sturgeon called on the Scottish Government to set a net-zero emissions target for 2045, five years ahead of the UK Government's target. The Climate Change (Emissions Reduction Targets) (Scotland) Act 2019[5] received Royal Assent on 31 October 2019 and the net-zero target is now enacted in law.

1.15 Although energy policy is partly reserved to the UK Government, the devolved Scottish Government has also published a suite of policy in relation to renewable energy and climate change which continues to drive Scotland's low carbon ambitions. The following publications are particularly relevant:

- The Scottish Climate Change Plan Update (2020)[6];
- The Scottish Energy Strategy (2017)[7];
- The Draft Energy Strategy and Just Transition Plan (January 2023); and
- The Onshore Wind Policy Statement (2022)[8].

1.16 The Scottish Government also committed to updating its Climate Change Plan to account for the new targets. In 2020, the Climate Change Plan 2018 was updated to represent the latest set of targets over the period to 2032 as based on the Climate Change (Emissions Reduction Targets) (Scotland) Act 2019. Targets also include the world-leading interim goal of a 75% reduction in emissions by 2030 (relative to the 1990 baseline).

1.17 The Scottish Energy Strategy, which calls for a 50% 'all energy' from renewables target by 2030, emphasises that onshore wind is now one of the cheapest forms of electricity generation and will therefore continue to play an important role in realising the Scottish Government's Climate Change ambitions. Scottish energy and climate change goals mean that onshore wind is vital to Scotland's future, and will help to decarbonise our electricity, heat and transport systems, boosting our economy, and meeting local and national demand.

1.18 The Onshore Wind Policy Statement 2022 sets out the up-to-date national policy position in relation to onshore wind. The Ministerial Foreword sets out that:

> *Scotland has been a frontrunner in onshore wind and, while other renewable technologies are starting to reach commercial maturity, continued deployment of onshore wind will be key to ensuring our 2030 targets are met."*
>
> *It adds that:*
>
> *"This statement, which is the culmination of an extensive consultative process with industry, our statutory consultees and the public, sets an overall ambition of 20GW of installed onshore wind capacity in Scotland by 2030".*
>
> *The last paragraph states:*
>
> *"By acting now, we can set Scotland on a pathway to meeting our ambitious climate change targets in a way that is aligned to the needs of our citizens, supports a just transition and delivers opportunities for all."*

1.19 More detail on statutory and policy framework is provided in the Planning and Energy Policy Statement which accompanies the S36 application.

[3] United Nations (2021) The Glasgow Pact
[4] UK Government (2008) The Climate Change Act
[5] Scottish Government (2019) Climate Change (Emissions Reduction Targets) (Scotland) Act
[6] Scottish Government (2018) The Scottish Government's Climate Change Plan, Third Report on Proposals and Policies 2018-2032 (RPP3)
[7] Scottish Government (2017) The Scottish Energy Strategy: The Future of Energy in Scotland
[8] Scottish Government (2022) Onshore Wind Policy Statement.

Benefits of the Proposed Development

Environmental Benefits

Carbon Emissions Offset

1.20 The principal atmospheric pollutants produced by burning fossil fuels are CO_2, sulphur dioxide (SO_2), and oxides of nitrogen (NO_x). In contrast, the harnessing of wind energy is non-consumptive and produces no gases or other by-products. The key environmental benefit of the Proposed Development will be the generation of electricity from a renewable energy source that will reduce or avoid the use of fossil fuels through the displacement of electricity generated from other sources and add to renewable electrical capacity which can contribute to decarbonisation in other sectors such as transport and heat.

1.21 Consequently, the electricity that will be produced by the Proposed Development results in a saving in emissions of CO_2 with associated environmental benefit compared with alternative fossil fuel-based sources of electricity generation. The 'payback time' of the wind farm is defined as the length of time (in months) required for the Proposed Development to be considered a net avoider of emissions rather than a net emitter. The calculation of payback time includes a consideration of emissions resulting from the construction phase, from emissions avoided during the operational phase, and from the quantification of the carbon storage loss associated with land use change, in particular as a result of loss of peat caused by the Proposed Development (expressed as CO_2 emissions).

1.22 Use of the Scottish Government's latest carbon calculator with best estimate values, based on available information and assuming that fossil fuel electricity generation will be replaced, indicates that the Proposed Development will pay back the carbon emissions associated with its construction and operation in roughly 1.8 years or 22 months and overall will save approximately 1.7million tCO_2e over its operational lifetime by displacing fossil fuel use. Further details are provided in **Chapter 12: Other Issues** and **Appendix 12.1: Carbon Balance Assessment**.

Habitat Management

1.23 As part of the Proposed Development, an Outline Restoration Enhancement Plan (OREP) (**Appendix 6.6**) has been prepared to set out a framework for enhancement of habitats within the Site. Proposals include:

- Non – Peat Habitat Enhancement:
  - Riparian shrub/ woodland planting of key river corridors;
  - Species Rich Grassland introduction to improve diversity; and
  - Native Shrub Regeneration.
- Peat Related Habitat Enhancement:
  - Re-wetted areas to enhance bog and heath habitat; and
  - Heathland habitat improvement,
- Protected Species Enhancement in relation to Curlew.
- Protection and Grazing Management.

Community Benefits

1.24 It is estimated that the number of households that could be potentially powered by the Proposed Development is over 62,000[9] homes per year, based on a generation capacity of around 108 MW.

1.25 As well as contributions to the generation of low carbon electricity and the resulting offsetting of carbon emissions, the Proposed Development also provides the opportunity for local communities to benefit financially from its operation through

[9] Load factors based on the five year rolling averages on unchanged configuration basis using Table 6.5 of 'Digest of UK Energy Statistics' - latest figures as per July 2022 release. Digest of UK Energy Statistics (DUKES): renewable sources of energy - GOV.UK (www.gov.uk)

regular annual payments of £36,000 per turbine, per year, for a Community Benefit Fund (based on a 7.2 MW turbine and £5,000 per MW as recommended by the Scottish Government).

1.26 The Applicant recognises the opportunities and benefits that arise from community ownership in energy projects and is committed to working with local communities to provide opportunities for community investment in the wind farm if there is local interest in taking this forward.

1.27 Further details on the predicted economic benefits of the Proposed Development are provided in a standalone Economic Impact Assessment report which will accompany the application for S36 consent[10].

Energy Security Benefits

1.28 There is a drive to reduce the UK's reliance on fossil fuels and boost the sources of homegrown energy for better energy security in the long-term as set out within the British Energy Security Strategy (2022). This states that "Onshore wind is one of the cheapest forms of renewable power." The Proposed Development will make a notable contribution to the home-grown electricity generation capacity within Scotland, with the potential to power approximately 62,000 homes as noted above and supporting the UK's objectives for energy independence and security.

Approach to the EIA

1.29 The key stages in the EIA process adopted for the Proposed Development are summarised in the following sub-sections.

Scoping

1.30 In line with the requirements of Regulation 12 of the EIA Regulations, LUC prepared a Scoping Report and an accompanying request for a Scoping Opinion, on behalf of the Applicant, and these were submitted to the Scottish Government ECU on 22 February 2022.

1.31 The Scoping Report provided a brief description of the Site and the nature and purpose of the Proposed Development, the proposed approach to the EIA, the potential for likely significant environmental effects on a topic-by-topic basis and proposed a methodology to assess the environmental effects. The Scoping Report was issued to a list of statutory and non-statutory consultees as agreed with the ECU.

1.32 A Scoping Opinion was adopted by the Scottish Ministers on 17 May 2022. The contents of the Scoping Opinion and other consultation responses received during the EIA process are summarised in **Appendix 1.1: Consultation Summary Table**.

1.33 The EIA Regulations require that the EIA Report describes the Proposed Development's likely significant environmental effects. Determining the likely significance of effects is crucial to the EIA process and provides a framework for the focus of the reporting of the EIA. Effects which are assessed as being significant taking account of committed embedded and additional mitigation measures (as presented in this EIA Report) are known as residual significant effects and support consideration by decision makers of the material issues for the application for consent.

1.34 In line with the above, where effects have been identified (whether at Scoping or during detailed assessment) as being not significant they have not been subject to further detailed assessment. Such effects have been 'scoped out' of the EIA process and their reporting is given commensurately brief evaluation in the relevant topic chapters of the EIA Report. The effects of decommissioning are not scoped into this report; however, they are likely to be similar in nature to construction effects and will be discussed in each chapter with regards to it being scoped out. The predicted effects scoped out of the EIA are detailed further in the topic-specific **Chapters 4-12**. Whole assessment topics which have been scoped out are detailed below.

Telecommunications

1.35 Consultation was undertaken with relevant operators during the Scoping process. The Joint Radio Company (JRC) have advised that there is no radio link infrastructure within the Site, and therefore have no concerns regarding the Proposed Development. British Telecom (BT) also advised that following studies, the Proposed Development should cause no

[10] This report does not form part of the EIA Report

interference with BT's current and planned radio network. It is therefore, considered that there are no telecommunication links within, or in the vicinity of, the Site which could experience interference from the Proposed Development.

1.36 Analogue television broadcast has now been phased out and replaced by digital television, which is less likely to be affected by atmospheric conditions that rendered analogue television unwatchable and does not suffer reflection effects or ghosted image generation. It is anticipated that an appropriate condition will be attached to the deemed planning permission consent and will require the Applicant to investigate complaints which are raised related to perceived effects on television reception as a consequence of the operation of the Proposed Development and provide mitigation where appropriate.

1.37 The Proposed Development is not predicted to have a significant effect on telecommunication in the area, therefore this topic has been scoped out of detailed assessment.

Socio-economics

1.38 Socio-economic effects of wind farm developments include direct and indirect economic effects, provision of employment and associated income, use of hospitality services by workers during construction, changes to recreational activity and the potential for community or shared ownership. The outcome of these assessments is routinely that any such effects are identified as positive, however in the absence of an assessment methodology in the context of the EIA Regulations as proposed in the Scoping Report, socio-economic effects are not included as part of the EIA.

1.39 The application is however supported by a standalone Economic Impact Assessment Report which does not form part of the EIA. The document will quantify and elaborate on the socio-economic benefits of the Proposed Development including those related to community benefits.

1.40 With respect to recreation, a number of popular recreational locations are within/in close proximity to the Site. The Southern Upland Way and Herring Road are both crossed by wind farm tracks associated with the existing Fallago Rig wind farm. Access will be maintained for both paths throughout the construction of the Proposed Development, with the temporary reinstatement of a footpath running alongside the shared section of access track that was created during the construction of Fallago Rig Wind Farm. This footpath will keep recreational users segregated from construction vehicles during periods of high traffic volume and abnormal load deliveries.

1.41 Further impacts on tourism and recreation receptors are addressed in detail through the technical assessments, including **Chapter 4: Landscape and Visual impact Assessment** and **Noise and Vibration** (**Chapter 9**) and the supporting **Socio-Economic and Tourism Assessment.**

Major Accidents and Disasters

1.42 The Proposed Development is not located in an area with a history of natural disasters such as extreme weather events, and its construction and operation will be managed within the requirements of a number of health and safety related Regulations, including the Construction (Design and Management) Regulations 2015 and the Health and safety Work etc. Act 1974.

1.43 In accordance with the latest Institute of Environmental Management and Assessment (IEMA) guidance[11], it has been important to adopt a proportionate approach for this assessment, given that many events which could be classified as 'major accidents and disasters', and which could cause significant effects on the environment, are not relevant to the Proposed Development or its location.

1.44 In addition, all other effects assessed in the EIA which could be deemed to cause a major accident or disaster have already been assessed elsewhere, and these are deemed to be low likelihood but potentially high consequence events. These relate primarily to potential peat slide risk events and road traffic accidents occurring during the construction of the Proposed Development, which have both been assessed in **Chapter 8: Hydrology, Hydrogeology, Geology and Peat** (see also **Appendix 8.4: Peat Landslide Hazard and Risk Assessment**) and **Chapter 10: Access, Traffic and Transport** respectively. It should also be noted that while the Site is not known to have been affected by large, air dropped bombs, it is likely to have been used for military training therefore, exploded ordnance contamination from this source has not been ruled out. A study was commissioned early in the design process to establish the risk of presence of Unexploded Ordnance (UXO) in the Proposed

[11] IEMA (2020). Major Accidents and Disasters in EIA: A Primer. Available [online]: https://www.iema.net/document-download/48915

Development Area. Commentary on how this threat has been assessed is provided in **Chapter 3** and the Explosive Ordnance Threat Assessment (EOTA) has been provided in **Appendix 3.4.**

1.45 Whilst there is the possibility of a road traffic accident occurring during construction, all traffic will be carefully managed through the Construction Traffic Management Plan (CTMP) and Abnormal Load Transport Management Plan, such that there is unlikely to be a major road traffic accident which causes major injury or fatality.

1.46 The guidance is clear that major accidents and disasters can also be scoped out whereby proposed design measures or compliance with legislation and best practice will minimise the likelihood of a major accident or disaster occurring. Specific to the Proposed Development, this relates to a failure of the structural integrity of a turbine(s) or a mechanical fault. Modern turbines are fitted with sensors which detect if wind speeds are too high to operate safely, resulting in their shut down. This prevents excessive wear and damage to the gearbox and reduces the risk of turbines catching fire, the occurrence of blade failure or even a failure of the structural integrity of the turbine itself.

1.47 Turbines and associated equipment will be procured and constructed to comply with both strict UK and internationally recognised health and safety standards, the high design standards specified by the manufacturer and will be maintained on a regular basis in accordance with the high bar for operational maintenance set by Original Equipment Manufacturers specification and SafetyOn's UK Wind Turbine Safety Rules[12].

1.48 The occurrence of wind turbines catching fire from suspected lightning strikes is also very rare, and there is no evidence that human life has been at risk from such events occurring in the past. Turbines will also be constructed to very high design standards specified by the manufacturer and will be maintained on a regular basis to ensure that they are structurally sound.

1.49 As advised in the guidance, it is also appropriate to scope out highly likely but low consequence events as they will not result in a significant environmental effect, such as heavy rainfall as good practice infrastructure design will ensure that onsite flooding will be minimised, and low likelihood and low consequence events such as minor spills as these events are not considered to result in significant environmental effects and do not fall into the category of major accidents and disasters.

Consultation

1.50 In addition to seeking a Scoping Opinion, two rounds of in-person pre-application public exhibition events have been carried out. The pre-application events provided the opportunity for members of the public to view the draft proposals (including visualisations) as the design developed, and learn about the EIA process, community benefits and next steps for the project. Opportunities were also provided for members of the public to provide questionnaire or online feedback and to speak to members of the project team face-to-face at the in person drop-in events. The exhibition materials have been made available to download from the project website (https://dunsidewindfarm.co.uk) following both rounds of exhibitions. These public consultation events were held on the dates and at the locations detailed below:

- Exhibition one
  - Longformacus Village Hall – March 16, 2022;
  - Westruther Village hall – March 17, 2022; and
  - Gifford Village Hall – March 24, 2022
- Exhibition two
  - Longformacus Village Hall – October 25, 2022;
  - Gifford Village Hall – October 26, 2022; and
  - Westruther Village Hall – October 27, 2022.
- A third round of exhibitions will be carried out shortly after the application is submitted (commencing 19th June 2023) where visualisations of the final design and copies of the EIA Report will be available to view and discuss with the project development team.

[12] SafetyOn (in Partnership with Energy Institute) (2021) Wind Turbine Safety Rules 4th Edition. Published by Energy Institute, London and available at: https://www.energyinst.org/industry/wind-turbine-safety-rules.

1.51 In addition, surrounding Community Councils have been kept informed of project updates and forthcoming public exhibition events by e-mail during the development process and EDF offered to attend Community Council meetings. Further details are provided in **Table 1.1** below.

Table 1.1: List of Community Councils and Date of Consultation

Name	Date	Format
Greenlaw & Hume Community Council	May 2022 (ongoing)	In – person attendance at CC meeting in May 2022 Monthly updates until submission.
Gifford Community Council	March 2022 (ongoing)	Zoom CC meeting attendance in March 2022 Monthly updates until submission.
Lammermuir Community Council	January 2023 (ongoing)	Monthly updates until submission.
Gordon and Westruther Community Council	January 2023 (ongoing)	Monthly updates until submission.
Lauderdale Community Council	January 2023 (ongoing)	Monthly updates until submission.
Gavington, Fogo and Polwarth Community Council	January 2023 (ongoing)	In-person attendance at CC meeting March 2023 Monthly updates until submission.
Kelso	January 2023 (ongoing)	Monthly updates until submission.
Garvald and Morham	January 2023 (ongoing)	Monthly updates until submission.

1.52 The topic specific EIA specialists engaged with statutory and non-statutory consultees for data, other information to inform the progress of the EIA, and to confirm approaches to assessment and mitigation. Findings from the consultation process and how these have been addressed by the EIA are detailed in **Chapters 4 – 12**.

1.53 A gate check report[13] was submitted to the ECU on 10 February 2023 for further consultation with the ECU and other statutory organisations. The gate check report outlined how the EIA Report will address issues raised in the Scoping Opinion. Details of the latest design, and how this evolved from EIA Scoping were also provided for comment and discussion. The ECU subsequently issued the information to statutory consultees on 17 February 2023 seeking feedback. Responses were received from East Lothian Council, NatureScot, HES and SEPA and are summarised in **Table 2.2 of Appendix 1.1**.

1.54 Further detail on the key design issues identified through the Scoping and consultation process are described in **Chapter 2: Site Selection and Design Strategy** and the Pre-Application Consultation Report (PAC Report) that accompanies the Application.

Baseline Characterisation

1.55 The EIA Regulations require that aspects of the environment which are likely to be significantly affected by the Proposed Development are clearly defined within the EIA Report. To achieve this, it is necessary to gather environmental information on the current and existing status of each topic proposed for consideration as part of the EIA, i.e., 'baseline conditions'.

1.56 Baseline conditions are not static, and it is often necessary to update them with further baseline surveys to ensure that the data upon which the EIA is based is up to date and accurately reflects the current characteristics of the receiving environment. Details on the desk based existing conditions of the Site, and the surveys undertaken for each topic are detailed in the EIA Report **Chapters 4 – 12**.

[13] Scottish Government (2022). Electricity Act 1989 – sections 36 and 37: applications guidance has a two – stage gate check process prior to the submission of an Application. Stage 1 sets out how the comments raised by the Scottish Ministers' and other consultees will be addressed in the EIA Report.

1.57 Climate change is also considered in the context of understanding how baseline conditions for each topic area could change during the lifetime of the Proposed Development.

Mitigation by Design and Consideration of Alternatives

1.58 Following the baseline characterisations, the environmental information is used to inform the consideration of alternatives as required by the EIA Regulations. Alternatives considered, included initially site selection (i.e., alternative sites) and subsequently alternative designs and specifications for the turbines and associated infrastructure. This consideration of design alternatives is an iterative process, whereby the Applicant considers alternative turbine layouts and heights and the design and location of associated wind farm infrastructure with respect to sensitive areas including environmental constraints and areas of population. The aim of the design process as part of the EIA is to develop a design which seeks to maximise potential renewable energy generation, within technical, community and environmental constraints whilst avoiding/minimising likely significant environmental effects. The avoidance/minimising of likely significant effects through the design process also forms 'embedded mitigation'. Further details on the design process adopted for the Proposed Development are set out within **Chapter 2**.

Impact Assessment

1.59 The next stage in the EIA process is to complete an impact assessment to assess the likely significant effects following the implementation of mitigation by design (embedded mitigation). An assessment chapter has been provided for each environmental topic where it is considered that there is potential for likely significant effects associated with the construction and operational phases of the Proposed Development. Each assessment chapter considers direct, indirect and cumulative effects and defines the assessment methodology used and the criteria by which a significant effect is defined. The effects of decommissioning are not scoped into this report; however, they are likely to be similar in nature to construction effects and will be discussed in each chapter with regards to it being scoped out. A method statement will be prepared and agreed with the relevant statutory consultees prior to decommissioning of the Proposed Development. **Chapter 3** provides further commentary regarding decommissioning.

Additional Mitigation

1.60 Part 7 of Schedule 4 of the EIA Regulations requires that the EIA Report includes details of proposed mitigation measures to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects on the environment and, where appropriate, set out monitoring measures which will be put in place.

1.61 The impact assessment is used to identify where additional mitigation is required to address likely significant effects, where it has not been possible to avoid the effect through design of the turbine or infrastructure layout (embedded mitigation). Mitigation has been considered following a hierarchy of first seeking to avoid effects, followed by seeking a reduction in effects to a level not considered significant, and finally where necessary and possible, offsetting or compensatory measures are considered.

Other Documents Supporting the Application

1.62 The Application is supported by the following documents. These documents do not form part of the EIA Report and are provided separately:

- Planning and Energy Policy Statement;
- Socio-Economic and Tourism Assessment;
- Design and Access Statement;
- Pre-Application Consultation Report; and
- Cover Letter, confirming deposit locations for the EIA Report.

Structure of the EIA Report

1.63 This EIA Report presents the findings of the EIA for the Proposed Development during construction and operation. As stated above, whilst an assessment of effects during the decommissioning phase has not been undertaken a method statement will be prepared and agreed with the relevant statutory consultees prior to decommissioning of the Proposed Development.

1.64 The EIA Report comprises five volumes:

- Volume 1: Non-Technical Summary (NTS);
- Volume 2: Main Report;
- Volume 3a: Figures;
- Volume 3b: Visualisations;
- Volume 4: Appendices; and
- Volume 5: Confidential Documents[14].

1.65 Chapters 1-3 of Volume 2 of the EIA Report are considered to be introductory chapters and comprise the following:

- **Chapter 1: Introduction** (this chapter) which provides a brief introduction to the Proposed Development, the Applicant, benefits of the Proposed Development, approach to the EIA and structure of the EIA Report. This chapter also provides details on scoped out topics/ topics not assessed in full detail.
- **Chapter 2: Site Selection and Design Strategy** which summarises the approach and reasons for site selection and provides details of the approach to design strategy and alternatives considered.
- **Chapter 3: Development Description** which provides a detailed description of the Proposed Development, explains the context of the Site and provided details on likely construction activities.
- **Chapters 4 – 12** of Volume 2 present the findings of the assessment of the likely significant effects of the Proposed Development in relation to the following topic areas:
  - **Chapter 4: Landscape and Visual Impact Assessment;**
  - **Chapter 5: Cultural Heritage;**
  - **Chapter 6: Ecology;**
  - **Chapter 7: Ornithology;**
  - **Chapter 8: Hydrology, Hydrogeology and Peat;**
  - **Chapter 9: Noise and Vibration;**
  - **Chapter 10: Access, Traffic and Transport;**
  - **Chapter 11: Aviation;** and
  - **Chapter 12: Other issues.**
- **Chapter 13: Summary of Significant Effects** provides a consolidated summary of all likely significant effects of the Proposed Development identified through the EIA process.

The Project Team

1.66 This EIA Report has been compiled by LUC on behalf of the Applicant. Whilst LUC had overall responsibility for the EIA Report, a team of technical specialists prepared the topic-based assessment chapters and provided advice/input to the design of the Proposed Development and the EIA. The members of the project team and their respective roles are presented in **Table 1.2.**

[14] This volume includes information relating to protected species.

Table 1.2: Project Team and Responsibilities

Team Member	Role and Responsibility
EDF Energy Renewables Ltd	Project Developer
LUC	EIA Project Management, Landscape and Visual Impact Assessment, Cultural Heritage, Ecology, Telecommunication, Shadow Flicker, Climate change, Population and Human Health and Major Accidents and Disasters.
Pell Frischmann	Site Design, Access, Traffic and Transport
Hoare Lea	Noise and Vibration
Kaya Consulting	Hydrology, Hydrogeology & Geology (including peat)
East Point Geo	Peat
WPAC	Aviation
MacArthur Green	Ornithology

1.67 An Economic Impact Assessment Report and Planning and Energy Policy Statement have also been prepared to accompany the application however, these do not form a part of the EIA.

Statement of Competence

1.68 Regulation 5 (5) (a-b) of the EIA Regulations states,

> *"In order to ensure the completeness and quality of the EIA report—*
>
> *(a) the developer must ensure that the EIA report is prepared by competent experts; and*
>
> *(b) the EIA report must be accompanied by a statement from the developer outlining the relevant expertise or qualifications of such experts"*

1.69 The Applicant has ensured that the EIA Report has been prepared by 'competent experts' as noted in **Table 1.2**. The competent experts hold the appropriate professional qualifications for their area of expertise as detailed in **Appendix 1.2**. The EIA Report has been compiled and approved by professional EIA practitioners at LUC, holding relevant undergraduate and post-graduate degrees, membership of the IEMA and Chartered Environmentalist status with the Society for the Environment. LUC is a Registrant of IEMA's EIA Quality Mark Scheme. This scheme allows organisations that lead the co-ordination of statutory EIAs in the UK to make a commitment to excellence in EIA activities, and to have this commitment independently reviewed on a regular basis.

Availability of this EIA Report

1.70 An electronic version of the reports supporting the application, including the EIA Report, will be available to download from the project website at: dunsidewindfarm.co.uk/.

1.71 A hard copy of the EIA Report is available on request for £500. All documents are available to download from the project website (dunsidewindfarm.co.uk) or can be posted upon request in electronic format on USB free of charge.

1.72 Public viewing locations are outlined in the **Table 1.4** below.

Table 1.3: Public Viewing Locations

Location	Opening Hours	Address
Haddington Library	Monday: 9am – 7pm Tuesday: Fri: 9am – 5pm	15 Lodge St, Haddington EH41 3DX

Location	Opening Hours	Address
	Wednesday: 10am– 5pm Saturday: 10am – 4pm	
Scottish Borders Council Office	Monday – Thursday: 9am – 5pm	Council Headquarters, Newtown St. Boswells, Melrose, TD6 0SA
Westruther Village Hall	Monday – Friday: 8am – 4pm	6 Edgar Road, Westruther, Gordon, TD3 6ND

Representation

1.73 When the application for the Proposed Development is lodged with the ECU, the Applicant will advertise the application in accordance with legislation in the Edinburgh Gazette, the Border Telegraph, East Lothian Courier, the Herald and on the Applicant's website at: dunsidewindfarm.co.uk.

1.74 The advert will describe the application, and state where copies of the EIA Report are available for viewing, state a date by which any persons can make representations to the Scottish Ministers in relation to the application, and the address to where representations are to be sent.

1.75 Any representations in relation to the application should be made to the ECU mailbox, at representations@gov.scot, via the Energy Consents website at www.energyconsents.scot or by post to The Scottish Government, Energy Consents Unit, 4th Floor, 5 Atlantic Quay, 150 Broomielaw, Glasgow, G2 8LU, identifying the proposal and specifying the grounds for representation. Written or emailed representations should be dated, clearly stating the name (in block capitals), full return email and postal address of those making representations.