4 Approach to EIA

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4 Approach to EIA

4.1 Introduction

4.1.1 This chapter of the EIA Report sets out the broad approach taken to produce the Environmental Impact Assessment (EIA) for the Proposed Development.

4.1.2 The EIA process assists the Scottish Ministers in their 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.

4.1.3 The structure of the EIA Report follows the requirements of Schedule 4 of the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (Scottish Government, 2017) and other relevant good practice guidance. The EIA Report comprises three main components – a Non-Technical Summary (NTS), the main EIA Report text and figures (including a summary table of the predicted Environmental Effects and a Schedule of Mitigation), and the EIA Report Appendices.

4.1.4 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.

4.1.5 This chapter is linked to the following appendices:

- Appendix 4.1: EIA Consultation Responses.

4.2 Legislation, Policy and Guidelines

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

4.2.2 The Proposed Development meets the Schedule 2, Category (a) criteria of the EIA Regulations, by nature of it being classed as a generating station which requires consent under section 36 of the Electricity Act. 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.

4.2.3 The Government regulations and best practice guidance which have been followed are referred to below:

- The Electricity Act 1989;
- Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017;
- 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 on the Environmental Impacts of Windfarms and Small Scale Hydroelectric Schemes (Scottish Natural Heritage, 2002);
- Guidelines for Environmental Impact Assessment, Institute of Environmental Management and Assessment (IEMA, 2006);
- A Handbook on Environmental Impact Assessment (SNH, Version 5 2018); and
- Assessing the Cumulative Impact of Onshore Wind Energy Developments, (Scottish Natural Heritage, 2012).

4.2.4 Also relevant to the EIA process for the Proposed Development is the SNH Consultation Draft document Assessing the Impact of Repowered Wind Farms on Nature (SNH, 2018).

4.2.5 Table 4.1 below sets out how the information required under Schedule 4 'Information for inclusion in Environmental Impact Assessment Reports' of the EIA Regulations has been provided in this EIA Report.

Table 4.1 - Information Required in the EIA Report

Required Information (EIA Regulations)	Relevant Reference within this EIA Report
1. A description of the development, including in particular: (a) a description of the location of the development; (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; (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; (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.	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. The land use requirements during construction and operational phases are also described in Chapter 3. Expected residues and emissions are addressed, where relevant, in the appropriate technical chapters of this EIA Report.
2. A description of the reasonable alternatives (for example in terms of project 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.

Required Information (EIA Regulations)	Relevant Reference within this EIA Report
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.	A description of the existing environment is provided within each technical chapter.
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.	The receptors potentially affected by the Proposed Development are detailed within each of the technical chapters. Effects on population and human health are assessed in relation to visual impacts, socio-economics, recreation, tourism, traffic, noise and shadow flicker. Biodiversity is covered in the ecology and ornithology chapters. Impacts on the water environment are covered in the hydrology, hydrogeology and geology chapter. Material assets are addressed through the assessment of cultural heritage effects and other chapters as appropriate.
5. A description of the likely significant effects of the development on the environment resulting from, inter alia: (a) the construction and existence of the development, including, where relevant, demolition works; (b) the use of natural resources, in particular land, soil, water and biodiversity, considering as far as possible the sustainable availability of these resources; (c) the emission of pollutants, noise, vibration, light, heat and radiation, the creation of nuisances, and the disposal and recovery of waste; (d) the risks to human health, cultural heritage or the environment (for example due to accidents or	The predicted significant effects of the Proposed Development are reported after relevant 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 both the construction and operational phases of the Proposed Development, including the nature of these effects and their duration. The overall approach and methods used in the assessment of environmental impacts are discussed in Section 4.7 of this EIA Report. Prediction methods are discussed in detail within each relevant technical chapter of the EIA Report.

Required Information (EIA Regulations)	Relevant Reference within this EIA Report
disasters); (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; (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; (g) the technologies and the substances used. 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.	
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 information and the main uncertainties involved.	An overview of the methodology of the assessment is provided within Chapter 4 while the individual technical chapters provide details of each technical assessment.
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	The overall approach to mitigation is discussed in Section 4.8 of this EIA Report. Specific mitigation measures are reported in each relevant technical section of the EIA Report and in the schedule of committed mitigation measures presented in Chapter 18.
8. A description of the expected significant adverse effects of the development on the environment	The predicted significant effects of the Proposed Development are reported

Required Information (EIA Regulations)	Relevant Reference within this EIA Report
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.	after relevant mitigation measures have been applied to an identified impact, in each of the technical chapters of the EIA Report
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.

4.3 Legal Framework for the EIA

Overall EIA Process

4.3.1 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.

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

4.3.3 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 17). This EIA Report contains the information required as per Schedule 4 of the EIA Regulations.

Screening

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

4.3.5 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, culmination 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).

4.3.6 A formal screening opinion was not sought from the Scottish Ministers, as it was considered prudent by the Applicant to undertake an EIA in support of the development. This was based on experience gained on similar wind energy developments within the local area.

Scoping

4.3.7 The EIA scoping process is undertaken to identify the potentially significant environmental issues which should be considered when assessing the potential effects of the Proposed Development. Whilst not mandatory, an EIA Scoping Opinion may be obtained from the Scottish Ministers, which would set out the matters that should be considered through undertaking an EIA.

4.3.8 In the case of the Proposed Development, it was agreed at a pre-application consultation meeting with the Energy Consents Unit (ECU) on the 7th August 2018 that the scope of the EIA was well understood by the Applicant, particularly given the experience of the Applicant's consultant team in assessing the impact of wind energy developments in this general location and given the extent of EIA studies completed for adjacent wind farms. It was therefore agreed that a formal EIA Scoping Opinion would not be requested from the Scottish Ministers in this case. Instead, direct consultation has been undertaken with the ECU and statutory consultees, to confirm and agree the approach and scope of technical surveys and assessments on a topic by topic basis. Details of relevant consultations are included in each technical chapter as relevant, and copies of consultee correspondence are provided in Appendix 4.1.

4.4 The EIA Process

4.4.1 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.

4.4.2 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.

4.4.3 The exception to this is the Landscape and Visual Impact Assessment which classifies the level of physical change to the receiving environment as the "magnitude of change" in line with the recommendations of the Guidelines for the Landscape and Visual Impact Assessment. However, this terminology should be considered interchangeable with "magnitude of impact".

4.4.4 The first step in the EIA process for this repowering project has been establishing the baseline. The SNH (2018) Re-powering Guidance (Consultation Draft) advises the following: "*In order to assess the full impacts of a repowering proposal, the baseline for EIA is the expected restored state of the site, excluding the turbines*". SNH also notes that "*the current use of the site as a wind farm will be a material consideration. It is therefore likely to be helpful to also present information which compares the full effects of the new proposal with those of the existing scheme*."

4.4.5 Schedule 4, Part 3 of the EIA Regulations requires that the EIA Report includes, "*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 its natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of relevant information and scientific knowledge."*

4.4.6 The assessment presented in this EIA Report seeks to align with the draft SNH guidance while remaining compliant with the EIA Regulations, by presenting an assessment of the potential effects of the Proposed Development at the site if it had been decommissioned and restored, while also acknowledging the presence of the existing wind farm and considering the difference in environmental effects between the Existing Development and the Proposed Development. In the case of this repowering proposal it is also recognised that even if the Existing Development was decommissioned and the site restored, the Hagshaw Hill Extension turbines would continue to operate for many years to come on either side of the Existing Development site i.e. decommissioning and restoration of the Existing Development site would not result a vacant hillside scenario.

4.4.7 Where applicable, the EIA Report refers to known or assumed decommissioning and restoration plans, to be undertaken and regulated separately by the original planning permission (ref. P/LK/01940252-P), in order to describe the likely evolution of the site without implementation of the Proposed Development. However, as acknowledged in the draft SNH guidance, it is relevant to acknowledge the existing wind farm and consider the difference in environmental effects between the Existing Development and the Proposed Development.

4.4.8 In each of the EIA Report technical chapters, the baseline from which the assessment of effects has been undertaken is the decommissioned and restored Hagshaw Hill Wind Farm (not including the Hagshaw Hill Extension); however additional commentary is provided to describe the difference in effects between the Existing Development and the Proposed Development.

4.4.9 The subsequent 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 outline 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 off-set 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 and the assessment process.
- Reporting of the results of the EIA in this EIA Report.

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

4.5 Scope of the EIA

Technical Scope

4.5.1 The technical scope of the assessment will cover all the impacts aforementioned in Table 4.1, with the following exceptions relating to technical topics which were scoped out of the EIA.

4.5.2 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 3.4 and 3.5 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.

4.5.3 Any underground services, including water, electrical and gas infrastructure, will be identified through a standard pre-construction utilities survey so as to avoid disruption. Further assessment of effects on utilities has therefore been scoped out of the EIA.

4.5.4 The Proposed Development is not considered likely to cause any significant effects on air quality during operation, therefore assessment of effects on operational air quality has been scoped out of the EIA.

4.5.5 Similarly, due to the distance from residential receptors and the use of industry standard measures to control potential effects on air quality during construction (e.g. dust mobilisation and construction vehicle emissions) through implementation of a Construction and Decommissioning Environmental Management Plan (CDEMP), these effects are not considered likely to be significant. Assessment of effects on air quality during construction has therefore been scoped out of the EIA.

4.5.6 All other technical topic areas identified in Table 4.1 have been assessed as part of the EIA process and are reported in the relevant sections of this EIA Report.

4.5.7 Each issue has been considered to the appropriate level of detail in the EIA Report, using the information collated during consultations. For each impact the baseline condition has been described, with the receptor sensitivity identified. The potential effects have been predicted and assessed for their significance. Where possible and applicable, mitigation measures have been identified and any potential residual environmental effects assessed.

Spatial Scope

4.5.8 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

4.5.9 For the purposes of the EIA, construction is assumed to commence in late 2021, overlapping in part with the decommissioning of the Existing Development. Construction is anticipated to continue until late 2023, with the development being commissioned in two phases (Phase 1 in late 2022 and Phase 2 in late 2023). Please refer to Table 3.5 for more detail.

4.5.10 The proposed operational life for the Proposed Development is 30 years, after which time it will be decommissioned.

4.5.11 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.

4.6 Consultation

4.6.1 Consultation remains a key component of the EIA process. In order to inform the EIA, there has been ongoing consultation with statutory consultees, engagement through the Section 36 process and subsequent discussions, correspondence and meetings as required. Please refer to Appendix 4.1 for copies of key consultee correspondence. Consultation with the general public has also been undertaken, refer to Section 4.12 below.

4.6.2 The content and scope of the EIA has also been informed by feedback from continued consultation throughout the pre-application phase.

4.7 Assessment of Effects

4.7.1 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).

4.7.2 If the Proposed Development is not consented (the do-nothing scenario) the Existing Development would be decommissioned and the site will be restored, but the Hagshaw Hill Extension turbines would continue to operate on either side of the Proposed Development site.

4.7.3 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.

4.7.4 Effects that are considered to be significant, prior to mitigation, 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 4.2 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 4.2 - 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

4.7.5 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.

4.7.6 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, while those of minor significance and less to be non-significant. If there are deviations from this these will be clearly stated within this individual technical chapters.

4.7.7 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

4.7.8 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".*

4.7.9 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, covering all developments, including other wind farms (SNH, 2012).

4.7.10 As noted in Chapter 3, it has been discussed and agreed with SNH, SLC and the Scottish Government ECU that it is appropriate in this case to consider cumulative effects arising from the proposed Douglas West Extension Wind Farm and the proposed new design of the nearby Cumberhead Wind Farm (both projects in scoping at the time of writing). Further detailed discussion on the approach to cumulative assessment is presented in each technical assessment chapter as relevant.

4.8 Mitigation Measures

4.8.1 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.

4.8.2 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.

4.8.3 Mitigation measures 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 identified in this EIA Report relating to construction of the Proposed Development.

4.8.4 A schedule of all of the mitigation measures proposed in this EIA Report is presented in Chapter 17.

4.9 Enhancement

4.9.1 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.

4.10 Consideration of Alternatives

4.10.1 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.

4.10.2 The Proposed Development site comprises an existing wind farm which is nearing the end of its operational life. It has been demonstrated to be a viable and productive site for wind energy generation, and there is a clear opportunity for continuing to generate renewable energy through repowering the site, with significantly increased efficiency afforded by technological improvements.

4.10.3 In reviewing its landholding, the Applicant identified the Proposed Development site as suitable for wind energy development, on the basis of its existing use, existing infrastructure and excellent wind resource.

4.10.4 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 design iteration process is given in Chapter 2.

4.11 Assumptions, Limitations and Uncertainty

4.11.1 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.

4.11.2 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.

4.11.3 Specific assumptions may also be made with regards to the individual technical disciplines, which are detailed within each chapter.

4.11.4 The main limitation 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.

4.11.5 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.

4.11.6 Any limitations to the EIA are summarised in each technical chapter, where relevant, together with the means proposed to mitigate these.

4.11.7 Figures for land take and habitat loss should be considered as approximate and could vary slightly once the detailed design is developed.

4.11.8 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.

4.12 Public Consultation

Overview

4.12.1 Although not a statutory requirement for a Section 36 application, in line with good practice for the consenting stage of major development projects, a programme of pre-application community engagement has been undertaken by the Applicant. A standalone Pre-Application Consultation Report has been prepared which gives details of the various meetings, correspondence, public

exhibitions and other discussions which have taken place with the communities closest to the Proposed Development site. The Report also details the findings of that work and illustrates the ways in which community engagement has helped identify potential issues arising from the emerging development proposal and, where appropriate, shape the final proposal which is now the subject of this application.

4.12.2 The Applicant is grateful to residents and local representatives for their input into the pre-application community engagement process and for their participation in a number of the meetings, discussions and consultation events.

Public Exhibitions

4.12.3 Two Public Exhibitions were held by the Applicant on 12th September 2018 in the St. Bride's Centre, Douglas and on 13th September 2018 in the Coalburn Miners Welfare.

4.12.4 The public events were advertised in the Lanark Gazette on 29 August 2018. Supplementary publicity for both events comprised the placing of posters in local shops and public places in Douglas and Coalburn.

4.12.5 Both events depicted the proposal and key environmental issues on a series of exhibition boards. Project staff were available to assist with interpretation of the information on display and answer questions from visitors to the events from 3 pm until 8 pm both days.

4.12.6 Visitors to the public events, aside from asking a member of the project staff a question directly, were also able to fill in a comments sheet on the day of the event or take it away and forward it to the Applicant at a later date.

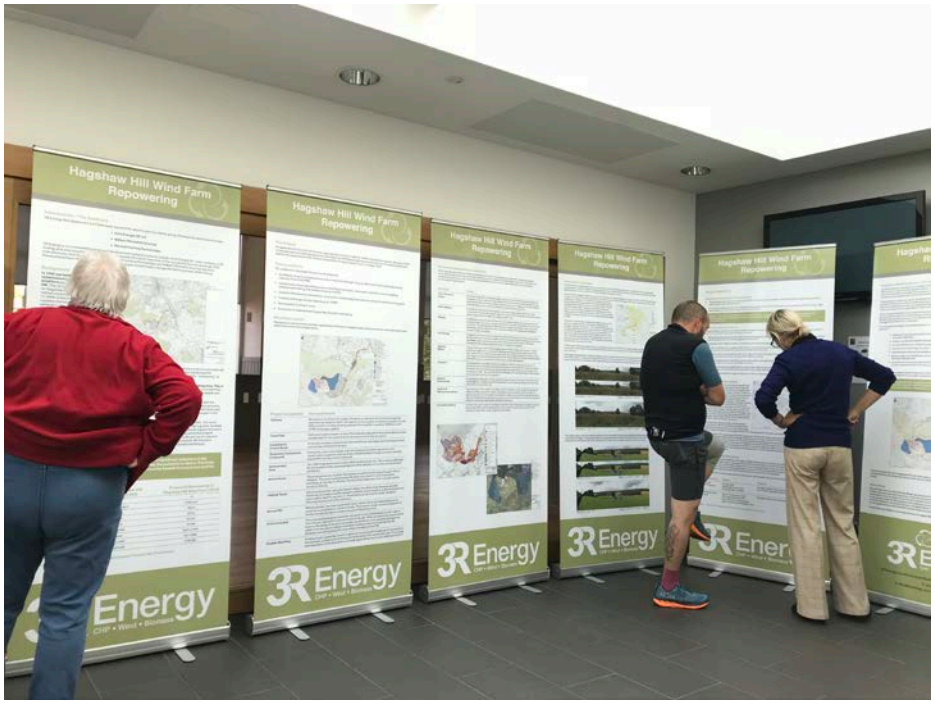
4.12.7 Copies of the Applicant's Forward Strategy document providing information on the Proposed Development in the context of wider business objectives in the local area was also available at the public events.

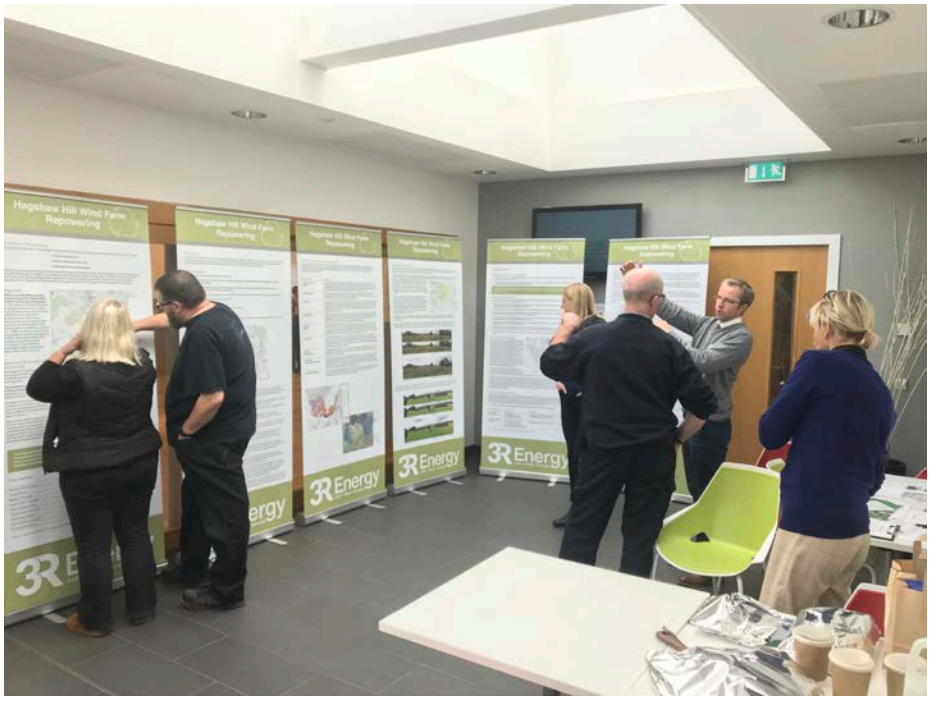
4.12.8 A total of 20 people were recorded as attending the public event in Douglas and 9 in Coalburn. Both events were attended by a diverse cross section of the local population. Photographs of the public event at Douglas are provided overleaf.

4.12.9 Separate meetings with representatives of Coalburn Community Council (13th August 2018), Douglas Community Council (24th August 2018), and local elected members (29th August 2018) have been held on site to introduce the Proposed Development, discuss community benefit and shared ownership opportunities, and to seek initial comments and views. A site meeting has also been held with the Douglasdale REAL Group on 7th September 2018 to discuss public access and community benefit related matters. The Applicant also attended a meeting with representatives of a new Douglas Community Development Company on the evening of 25th September 2018 in Douglas to discuss strategic opportunities to enhance the village going forward.

4.12.10 A number of other discussions have been held with local groups and neighbours closest to the site as set out within the accompanying Pre-Application Consultation Report.

Photographs: Public Event at St Bride's Centre, Douglas, 12th September 2018





Feedback from the Community

4.12.11 On the whole, feedback from the two closest communities to the Proposed Development, Douglas and Coalburn, has been positive. Table 4.3 summarises the main issues raised during the various pre-application consultation exercises and discussions, along with the Applicant's response as to how this feedback has been incorporated into the Proposed Development.

Table 4.3 – Feedback from the Community

Main Issues Raised	Applicant's Response
The local community (particularly in Douglas) are proud of hosting Scotland's first wind farm at Hagshaw Hill and now see it very much as part of the landscape. The principle of Hagshaw leading the way in Scottish wind power once more, by being one of the first repowering projects in a subsidy free environment, was generally supported.	We are also proud to be the landowners of Scotland's first wind farm and are excited by the prospect of repowering the original wind farm with the next generation of turbines. The repowering of Hagshaw Hill presents an exciting opportunity to be one of the first locations in Scotland where the new generation of wind turbines can be installed, brining significant benefits in terms of maximising renewable generation and community benefit income within acceptable environmental limits. The local area has enjoyed many benefits from the Existing Development over the last 23 years and has much to gain from the Proposed Development as explained in Chapter 13. We look forward to working with the local communities closest to the site to deliver strategic investment in the local area over the next 30 years.
Community Benefit contributions should be managed locally to maximise the benefit from the Proposed Development to the communities closest to the site.	The Applicant is committed to providing Community Benefit funding of £5,000/MW of installed capacity. The main aim of this funding will be to support the delivery of strategic projects in Glespin, Douglas, Coalburn and the immediate surrounding area over the next 30 years. The Applicant is exploring the potential to establish a Douglas Valley Development Trust which would receive Community Benefit funding from the Proposed Development (and potentially the Douglas West Extension project) which would yield the financial resources to deliver a Community-Led Investment Strategy for each village (Glespin, Douglas, Coalburn, Rigside and Douglas Water). The Strategy would seek to deliver on the aims of the Coalburn, Douglas and Glespin Community Action Plan (August 2016) and the Rigside and Douglas Water Community Action Plan (2018 – 2023) in the first instance.
Further discussions need to be had on the Community Benefit options and how they would be structured before any final decisions are made.	Agreed. Discussions are ongoing with the local community and South Lanarkshire Council about the best ways in which this funding can be used to maximise benefit to the local area.
Both communities were generally supportive of the change in scale between the Proposed Development and the Existing Development, in the context of the advances in turbine technology, the new financial climate for onshore wind in the UK and on seeing the visualisations prepared. On viewing the visualisations it was recognised that in almost all key local views (i.e. from Douglas, Coalburn, Rigside, M74) the turbines would lie beyond one or more of the existing (or consented) wind farms which would serve to give the impression that the	The 'pleasantly surprised' nature of the comments relating to the change in scale of the turbines proposed has been a theme that has run through the development of the project from its inception. There is an initial 'sensationalism' around the figure of 200 m to tip, but when people then see the proposed turbines at this height, set in the context of an undulating landscape which hosts a range of differing turbine heights in closer proximity to key receptors, this has invariably led to a sense of people being 'pleasantly surprised' by the way in which the Proposed Development fits into the local landscape context. In the opinion of the Applicant, there is not a material difference in landscape impact between 200 m to tip turbines on the site when compared with that of, say, 150 m to tip which has been recently consented on the adjacent Douglas West Wind Farm. However, there is a material difference in the generation output of the turbines at 200 m to tip when compared with that of 150 m to tip, or even 175 m to tip (the 200 m turbines generate over 57% more energy than the 150 m turbines, and almost 42% more than the 175 m turbines). This in turn, generates substantially

Main Issues Raised	Applicant's Response
Proposed Development is either at the same scale or in some cases smaller than the other schemes, notwithstanding its greater height. It was also acknowledged that the site is for the most part not visible from the closest settlement of Glespin due to intervening topography.	higher community benefits per annum for the local community (the 200 m turbines generate £154,000 a year more than the 150 m turbines and £119,000 a year more than the 175 m turbines). Collectively, these findings have led the Applicant to proceed with the Proposed Development as set out within this EIA Report. A summary of the different turbine height scenarios tested by the Applicant during the design phase of the project and explanation of a number of other layout and design iterations made to minimise environmental impacts are explained in Chapter 2 (Design Iteration).
Both communities commented positively on the Proposed Development being progressed by a local company with a view to maximising benefits for the local area.	Noted, the Applicant is committed to maximising the local benefits from the Proposed Development wherever possible.
Some concern was raised in respect of cumulative impact in relation to the number of wind turbines proposed in the wider area but it was acknowledged that the principle of having wind turbines on this site has already been accepted.	This point is noted, as is the recognition that the acceptability of wind turbines on this site has already been established by the Existing Development.
Two people attending the exhibitions did not like wind turbines and did not want to see the site repowered.	This opinion is understood. The Applicant explained the benefits to the local area which would accrue from the Proposed Development if it proceeds. These benefits were acknowledged but concern was raised about ensuring such benefits are received by the host communities and not delivered elsewhere in South Lanarkshire. As noted above, the Applicant is a local business and is committed to maximising the local benefits from the Proposed Development wherever possible.
The area has nothing to show for all these turbines. Community benefit from the Proposed Development should focus on delivery of strategic projects for the local area and not be dripped away in small grants that have no lasting effect. Money to reduce household electricity bills would be welcomed.	The Applicant agrees that community benefit funding from the Proposed Development should focus on delivery of strategic projects for the local area. In order to achieve this, the Applicant proposes that the Community Benefit Contribution from the Proposed Development would fund a full-time Local Development Officer who would be dedicated to the task of developing and delivering the Community-Led Investment Strategy for the area. This would include seeking out, developing and submitting grant applications on behalf of local groups for specific improvement projects in the above villages that would fulfil the objectives of each Community Action Plan. Each village would have a dedicated 'pot' of money ring fenced for their community by the new Douglas Valley Development Trust on an annual basis. It is proposed that this funding could be used as 100% finance for one-off projects, or as part of match-funding arrangements for larger schemes. Revenue funding could also be considered for the right projects/facilities. It is initially proposed that the Local Development Officer would be based locally in Douglas, Coalburn or Lanark and would work closely with the South Lanarkshire Council Economic Development & Regeneration Team, and all local groups and third sector agencies in the Douglas Valley Communities. Financial support for local household energy bills is something which the new Douglas Valley Development Trust could consider.

Main Issues Raised	Applicant's Response
Parts of Coalburn would really benefit from new pavements.	Projects like this are things that the community benefit funding from the Proposed Development could deliver, if that is a specific priority the community want to see.
Anything that can be done to enhance public access and recreation opportunities on the site, linked to financial support for the development of an Adventure Tourism offering in the local area would create real opportunities for the surrounding villages and local people to benefit longer-term.	The Applicant, and associated companies, are committed to developing the public access and recreational opportunities on its landholding. The following range of public access and outdoor recreation opportunities exist on the landholding that the Applicant is keen to deliver as part of the Proposed Development, including: ▪ Developing and enhancing the Public Access Strategy and Heritage Trail commitments that form part of the existing planning permission for the adjoining Douglas West Wind Farm. ▪ Creating a Visitor Welcome Area, car parking, and some (initially) basic visitor facilities on the landholding. ▪ Design and implement a range of bike trails across the landholding incorporating Hagshaw Hill and adjoining areas which can be accessed direct from a new Visitor Welcome Area. ▪ A range of waymarked walking routes that take in the new Heritage Trail around Douglas and Coalburn that can also can be accessed directly from a new Visitor Welcome Area. ▪ Signposting and visitor information about local cafes in Douglas and Coalburn that are achievable as part of a walking circuit from a Visitor Welcome Area. ▪ Plans for developing and promoting an Adventure Tourism offering around Douglas and Coalburn more widely throughout the local area, including within the refurbished Cairn Lodge Services, and beyond, to increase visitor potential.

4.13 Summary

4.13.1 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 Electricity Works (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.

4.14 References

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