Energiekontor UK Ltd

Herd Hill Wind Farm

Environmental Impact Assessment Scoping Report

May 2025

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1 INTRODUCTION

Introduction

1.1 Energiekontor UK Ltd is evaluating the potential of land for development approximately 6km south of Dalmellington, in South Ayrshire and East Ayrshire ("the Site"), see **Figure 1.1**. The development would be for a wind farm of up to 12 wind turbines (see **Figure 1.2**), including associated development such as crane pads, access tracks, substation, temporary construction compound and battery storage facility ("the Proposed Development").

Purpose and Structure of the Scoping Report

1.2 The purpose of this Scoping Report is to formally request a Scoping Opinion in accordance with Regulation 12 of the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (the "EIA Regulations"). Scoping is used to help identify where there is potential for interactions between a project and the environment. It allows an applicant to be clear which of these a consenting authority considers could be potentially significant effects and on which an Environmental Impact Assessment (EIA) should focus.

1.3 This Scoping Report provides an outline of relevant environmental receptors that may be significantly affected by the Proposed Development and describes the information that it is envisaged will be submitted as part of a future EIA. This approach enables consultees with a particular interest to identify whether any potentially significant impacts have been omitted, suggest additional mitigation measures or to comment on the suitability of the intended method of assessment if necessary.

1.4 Comments on the scope of the proposed EIA are invited. Consultees in a position to identify or provide additional relevant information concerning the existing environment or any specific local issues are invited to do so.

Energiekontor UK Ltd

1.5 Energiekontor UK Ltd is a wind energy development company with offices in Leeds, Glasgow and Edinburgh. The company was formed in 1999 and develops onshore wind farms throughout the United Kingdom. The company has built eleven wind farms in the UK, including three subsidy-free wind farms in Scotland, with many more in the development process.

1.6 Energiekontor UK Ltd is part of the Energiekontor Group. The parent company, Energiekontor AG, was established in 1990 in Bremerhaven in Northern Germany. It has since grown to become one of the leading wind energy companies in Europe and is active in Germany, France, The Netherlands, Portugal, the USA and the UK. The company has built more than 140 wind farms and 14 solar farms across Europe with a total capacity of 1.3GW.

2 EIA FRAMEWORK AND METHODOLOGY

What is EIA

2.1 EIA is a statutory process that is governed by UK and European law. In this case, the relevant government regulations are the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 ('the EIA Regulations'). EIA aims to improve the environmental design of a development proposal and provides decision-makers with sufficient information about the environmental impacts of a proposal.

2.2 An Environmental Impact Assessment Report (EIAR), prepared during the EIA process, provides environmental information about a scheme, including a description of the proposal, its predicted environmental effects and the measures proposed to ameliorate any adverse effects.

The EIA Process

2.3 An EIA is prepared through an iterative process that usually follows the below stages:

- Screening is the first stage of the EIA process where the relevant authorities decide whether EIA is required.
- Once it has been agreed that EIA is required, scoping is undertaken to define what should be assessed as part of the EIA and reported in the EIAR. This is usually done in partnership between the applicant, consultees and the local authority.
- With the scope set, relevant information on the environmental baseline conditions is collected. This information is initially used to understand the dynamics of the likely environmental effects and to inform the design of the project to minimise the potential for significant adverse effects.
- The formal assessment process is then undertaken on the design parameters to define the significant effects of the project.
- Any significant adverse effects that are identified during the formal assessment process are then reviewed against the design to consider whether alterations could be made to minimise the effect. Should this occur, the formal assessment process is reiterated.
- Where significant adverse effects cannot be minimised through alterations to the design itself, mitigation measures are considered. Monitoring may also be considered to measure the actual significance of the effect during and post-construction to allow management of mitigation where appropriate.

2.4 Once the EIA is completed, the EIAR is submitted for consideration with the planning application.

Screening – Is EIA Required

2.5 The first stage of the EIA process is to screen with the consenting authority, in this case the Energy Consents Unit (ECU) whether a development would constitute EIA development.

2.6 Development projects that are described within Schedule 1 of the EIA Regulations will always require EIA and are referred to as 'Schedule 1 Developments'. Development projects listed in Schedule 2 that are located in a 'sensitive area' or exceed one of the relevant criteria or thresholds given in Schedule 2 are referred to as 'Schedule 2 Developments'. Not all Schedule 2 Developments will require EIA as only a development project that is likely to have significant environmental effects by virtue of size, location or nature will require such assessment. A development project that requires EIA is referred to as 'EIA development'.

2.7 In this case, the Proposed Development (as described in Section 4) is of a type described within Schedule 2 as an installation for the harnessing of wind power for energy production. It is not located within a 'sensitive area' as defined by the EIA Regulations, however, the project would exceed both of the applicable thresholds as it involves more than two wind turbines with hub heights of more than fifteen metres. The requirement for EIA is therefore determined on the basis of whether the project would be likely to give rise to significant effects on the environment by virtue of its size, nature or location.

2.8 The scale, nature and location of the Proposed Development are such that, in order to allow the environmental impacts of the project to be appropriately considered, Energiekontor UK Ltd has taken the decision to proceed with an EIA in this case. Therefore, no Screening Opinion will be sought from the Council.

Scoping – What to Consider

2.9 Once it has been determined that an EIA is required, as in the case of the Proposed Development, the next stage of the process is scoping. Scoping is an exercise conducted at an early stage in the EIA process and is designed to ensure that the environmental studies provide all the relevant information on:

- The impacts of the project, in particular focusing on the significant effects;
- The alternatives; and
- Other matters considered to be relevant.

2.10 The findings of this exercise define the 'scope' of the environmental information to be provided and the terms of reference for the environmental studies to be undertaken. The scope of the work however remains flexible and can be amended should new issues or information arise while undertaking the project.

EIA Assessment Methodology

2.11 When a Scoping Opinion is received and the parameters of the assessment are set, the EIAR will be produced. The objective is to avoid or minimise potential environment effects and identify the likelihood of significant effects.

2.12 Significant effects are predicted where important resources, or numerous sensitive receptors, could be subject to impacts of considerable magnitude. Effects are unlikely to be significant where low value or non-sensitive resources, or a small number of receptors, are subject to minor impacts.

2.13 The methods for predicting the nature and magnitude of any potential impacts vary according to the subject area. Quantitative methods of assessment can predict values that can be compared against published thresholds and indicative criteria in Government guidance and standards. However, it is not always possible to ascribe values to environmental assessments and thus qualitative assessments are used. Such assessments rely on previous experience and professional judgement. The methodologies used for assessing each topic area will be described within the individual chapters of the EIAR.

2.14 The EIA Regulations require consideration of all likely significant environmental effects on: direct / indirect; secondary; cumulative; positive / negative; short / medium / long-term; or permanent / temporary. In terms of how likely these potential significant environmental effects arise, the following will need to be considered:

- Direct effects are readily identified because of the physical connection between some element of the Proposed Development and an affected receptor;
- Indirect effects require some additional pathway for the effect to arise, for example, a listed building may not be directly affected by any elements of a development, but, if a proposed development changed the setting of the listed building there would be an indirect effect;
- Secondary effects would typically require pathway connections, for example, an effect on receptor population A could have a secondary effect on receptor population B, if B was itself dependant on A in some way, as, for example, a food source; and
- Cumulative effects arise when the receptors affected by a proposed development are also affected by other developments resulting in the aggregation of environmental effects or the interaction of effects.

2.15 Likely significant environmental effects will be considered in terms of their character – either beneficial (representing environmental gain) or adverse. There may also be cases where it is appropriate to identify the occurrence of change, but to note that the potential change is either neutral – and neither specifically beneficial nor adverse – or, is a matter of personal opinion. The likelihood of the effect occurring will also be considered, being unlikely, uncertain or likely to occur.

2.16 Likely significant environmental effects will also be considered in terms of their duration. Effects can typically be:

- Temporary – these effects are likely to last for a period of a few days to a few months, they will be related to a particular activity and will cease immediately or soon after the activity ceases;

- Short-term – this would normally be considered to be between a period of a few months to a few years depending on the effect being discussed and the environment's ability to recover from an effect;
- Long-term – this would typically be a period of between a few years and the life of the Proposed Development; and
- Permanent – this would typically mean an effect resulting in an irreversible change in the environment

2.17 **Table 2.1** below illustrates the criteria that will be used to assign a level of significance to potential impacts:

Table 2.1: Significance matrix

		Magnitude of change			
		Substantial	**Moderate**	**Slight**	**Negligible**
Sensitivity	**High**	Major	Major/ Moderate	Moderate	Moderate/ Minor
	Medium	Major/ Moderate	Moderate	Moderate/ Minor	Minor
	Low	Moderate	Moderate/ Minor	Minor	Minor/ Negligible

2.18 In many cases, the divisions between categories of receptor sensitivity and magnitude of change may not be as clearly delineated as shown in **Table 2.1** and professional judgement is therefore applied. In certain cases a different matrix may be considered appropriate by the discipline. This will be detailed within the chapter where relevant. Where no topic-specific guidance/regulations exist, the descriptors of significance set out in **Table 2.2** below will generally be used.

Table 2.2: Descriptors of significance

Significance Category	Typical Descriptors of Effect
Major	These adverse effects represent key factors in the decision-making process. These effects are generally, but not exclusively, associated with sites or features of international, national or regional importance that are likely to be most impacted with potential changes to resource integrity. However, a serious change in a site or feature of district importance may also enter this category.
Major / Moderate	These beneficial or adverse effects are considered to be very important considerations and are likely to be material in the decision-making process.
Moderate	These beneficial or adverse effects may be important, but are not likely to be key decision-making factors. The cumulative effects of such issues may become a decision-making issue if leading to an increase in the overall adverse effect on a particular resource or receptor.

Significance Category	Typical Descriptors of Effect
Minor	These beneficial or adverse effects may be raised as local issues. They are unlikely to be critical in the decision-making process, but are important in enhancing the subsequent design of the project.
Minor / No Effect	No effects or those that are beneath levels of perception, within normal bounds of variation or within the margin of forecasting error.

2.19 The temporal scope of the EIA will cover the period from commencement of the first phase of development (construction), through to operational phase (operation), up to the completion of operations and restoration of the Site (decommissioning). For ease of reporting the temporal scope will generally be considered in relation to the following key stages of the development:

- Construction – effects may arise from the construction activities themselves or from the temporary occupation of land. The effects are often temporary and of limited duration, although, there is the potential for construction activities to create permanent change;
- Operation – effects are typically long-term (subject to any future decommissioning), though may also be related to operational emissions or effects that will stop if the operation stops; and
- Decommissioning – effects may arise from the decommission activities themselves or from the temporary occupation of land. The effects would often be temporary and of limited duration and additional permanent change (unless associated with restoration) would normally be unlikely.

Mitigation Measures

2.20 Part 2 of Schedule 4 of the EIA Regulations provides that an EIAR must contain a description of the measures envisaged in order to avoid, reduce and if possible remedy significant adverse effects. The development of mitigation measures to avoid, reduce or compensate for significant adverse environmental effects of a project is an intrinsic part of the EIA process. These measures can relate to site construction or the completed development i.e. measures to be undertaken during the operation of the development through appropriate site management or through the introduction of specific design elements.

2.21 In many cases mitigation measures are inherent within the Proposed Development (either through design or operation), whereby likely significant adverse effects are avoided. Although, not all effects can be avoided and there are mitigation measures to reduce these. In such instances, these are proposed within the relevant technical chapter.

2.22 As outlined in the Institute of Environmental Management and Assessment (IEMA) EIA guidelines, there is a widely accepted strategy for mitigation which will be followed when considering the environmental effects of the Proposed Development. This comprises (in order of preference) avoidance, reduction, compensation and remediation. In addition, consideration will be given to providing the opportunity for enhancement.

EIAR Structure

2.23 The EIAR structure is likely to be as set out below, subject to any changes to the scope identified through the consultation process:

- A description of the project;
- An outline of the main alternatives studies and an indication of the main reasons for choosing the preferred option;
- An outline of the planning and renewable energy policy context that is relevant to the Proposed Development;
- Individual environmental assessment topic chapters, including:
  - Landscape and Visual Impact Assessment
  - Cultural Heritage
  - Ornithology
  - Ecology
  - Noise
  - Traffic and transport
  - Hydrology, Hydrogeology and Geology
  - Infrastructure
  - Socio-economics
- A description of the mitigation measures required to prevent, reduce and, where possible, offset any significant adverse effects on the environment. Enhancement measures where possible will also be included.
- An indication of any difficulties or uncertainties encountered in compiling the EIAR.

2.24 Each chapter of the EIAR, where practicable, will adopt a consistent format. This will ensure compliance with the EIA Regulations regarding completeness and accuracy. The sub-heading structure set out below will be used where possible to ensure that the final document is transparent, consistent and accessible:

- Introduction and overview;
- Legislation (where relevant), Policy and Guidance;
- Stakeholder Consultation (where relevant);
- Assessment Methodology and Significance Criteria;
- Baseline Conditions;
- Identification and Evaluation of Key Effects;
- Cumulative Effects and Interaction of Effects;
- Mitigation Measures;
- Residual Effects; and
- Summary.

2.25 The EIAR will also include a Non-Technical Summary and supporting documentation including technical appendices, tables, figures and reports.

3 THE SITE AND ITS CONTEXT

The Site

3.1 The Site is centred at approximately OS Grid Reference 245925, 599350. The closest settlements to the proposed turbines are Bellsbank, located approximately 5km north-east of the site, and Dalmellington which is located approximately 6km north-east of the Site at its nearest point. The nearest main highway is the A713 which runs approximately 5km to the east of the Site. The Proposed Development is located immediately north of Loch Finlas and approximately 1.5km west of Loch Doon.

3.2 The topography of the site is undulating, with the lowest points at approximately 240m AOD and the highest point being the summit of Big Hill of Glenmount at 382m AOD. The application site comprising of upland moorland, with a small number of areas of woodland. The Site is principally used for grazing.

3.3 The Site and the proposed turbine locations are shown on **Figure 1.1** and **Figure 1.2** respectively.

Context

3.4 There are a number of wind farms, either operational, approved or within the planning system, within the surrounding area. Most notable of these are the operational Dersalloch Wind Farm, with 23 turbines up to 125m to tip located approximately 4.5km north-west of the Site and the operational South Kyle Wind Farm which is located approximately 8km north-east of the Site and comprises 50 turbines at 150m m to tip. Benbrack Wind Farm, currently under construction, is located approximately 7km east of the Site and comprises 15 turbines up to 150m to tip.

3.5 Carrick Wind Farm and Knockcronal Wind Farm, both currently in planning, are located approximately 5km west of the Site and include 13 turbines up to 200m to tip and 9 turbines at 180m/200m to tip respectively.

4 DESCRIPTION OF THE PROPOSED DEVELOPMENT

Introduction

4.1 This section describes the various elements proposed as part of the project and provides details of what processes will take place at the various stages of the project's lifecycle (e.g. construction, operation, decommissioning).

The Proposed Development

4.2 Energiekontor UK Ltd is investigating the potential for a wind farm development on the Site, consisting of the erection, 35 year operation and subsequent decommissioning of up to 12 wind turbines up to 200m in height to blade tip. The wind farm would provide up to 79.2MW of generating capacity. The principal elements of the Proposed Development are described in further detail below.

Wind Turbines

4.3 It is proposed to erect up to 12 wind turbines on the Site. The turbines would be of a typical modern design comprising a three bladed rotor hub mounted on a rotatable nacelle (containing a gearbox and a generator), tower and foundation.

4.4 Final turbine selection would be made following the grant of planning permission following a tendering and procurement exercise. The EIA will therefore be undertaken based on a candidate turbine consisting of:

- Maximum height to vertical blade tip of 200m;
- Turbines would generate power for all wind speeds between 4m/s and 25m/s; and
- At wind speeds greater than 25m/s (gale force) the turbines would shut down for self-protection.

Table 4.1: Indicative Turbine Coordinates

Turbine	Easting	Northing	Tip Height (m)
1	244872	600259	200
2	245237	599959	200
3	245698	599830	200
4	246040	599528	200
5	246399	599246	200
6	246464	598752	200
7	244336	600018	200
8	244659	599687	200
9	245013	599376	200
10	245458	599170	200
11	245835	598898	200

Turbine	Easting	Northing	Tip Height (m)
12	245958	598413	200

Associated Development

4.5 The principal items of associated development include:

- **Turbine foundations** – The foundations of the turbines could be either reinforced concrete gravity structures or piled foundations. This would be dependent on the ground and hydrological conditions at the turbine location which would also determine the overall size of the support structure.

- **Crane hardstandings** – To provide a level and firm base for the cranes at the location of each turbine. Each would be approximately 55m x 30m and surfaced with coarse aggregate.

- **Site access** – A new main site access will be provided onto the public road network. Suitable locations for this new access will be investigated.

- **Site tracks** – To provide access for construction and maintenance vehicles from the site access to the substation and wind turbines. These would be installed at the commencement of the construction phase and would remain until the end of the decommissioning phase. They would have a 5m running width with local widening on corners and would be surfaced with coarse aggregate. Depending on localised ground conditions they would either be cut into, or floated above, the ground.

- **Temporary construction compound / storage area** – To provide a secure area for site office facilities and storage of materials and components. To be constructed adjacent to the site track, with a 50m x 30m hardcore base, surrounded by a security fence and locked gates.

- **Energy storage facility** – A battery storage facility would be installed on part of the temporary construction compound area. The MW capacity of this would be determined post-consent following wind turbine selection.

- **High voltage and control cables** – To form power and control circuits linking each turbine to the on-site substation, cables would be placed in trenches (dimensions to be determined by ground conditions but typically 0.5m wide x 1m deep) routed alongside the tracks.

- **Substation / switchgear housing building** – A 132kV substation would be included to export the generated power via the off-site grid connection. The substation would be provided within a compound measuring approximately 72m x 50m. Two control rooms would be included within the compound, one for the wind farm operator and one for the network operator, and various items of electrical infrastructure would also be located outdoors within the compound area.

- **Off-site highway works** – To facilitate turbine component delivery, various temporary off-site highway works would be required along the proposed abnormal delivery route.

Grid Connection

4.6 A grid connection would be required to feed the electricity generated by the wind farm into the distribution network for the operational period of the project. The final details of the grid connection, including the precise route and an assessment of any impacts on the environment would be determined by the network operator at a later date. The new grid connection may be subject to a separate design and consent process under Section 37 of the Electricity Act 1989.

Construction Phase

4.7 It is estimated that it would take approximately 12-18 months to construct the Proposed Development. Construction works would include:

- Temporary and permanent highway modifications to enable vehicles to access the Site from the local and strategic highway network;
- Construction of permanent new site tracks required to access the wind turbine positions. These would be used by civil engineering plant and construction equipment;
- Construction of a secure site compound / storage area for site office facilities and storage of materials and components;
- Installation of hardstandings and auxiliary pads for the support of the cranes that would be used for the erection of the turbines;
- Construction of foundations for the support of the turbine structures;
- Wind turbine delivery and erection;
- Installation of transformers in separate housings alongside each wind turbine (if required);
- Installation of on-site High Voltage cabling, communication cabling and earthing;
- Installation of Supervisory Control and Data Acquisition system;
- Construction of site substation;
- Commissioning of site mechanical and electrical equipment; and
- Reinstatement and landscaping, removal of temporary site offices, reseeding verges and areas around turbine bases.

4.8 The construction works would mainly follow the order detailed above but many activities may be carried out concurrently to reduce the overall length of the construction programme. There would be construction phasing, with civil engineering works progressing in some areas of the Site while turbines were being erected elsewhere. In order to minimise disruption to land use, site restoration would be undertaken as early as possible in development areas.

4.9 A detailed programme of works would be produced by the construction contractors prior to the commencement of works on Site.

4.10 Should planning permission be granted it is likely that construction hours would be restricted by means of a planning condition to be agreed with the Council.

4.11 Construction material would typically be transported by road from source or seaport. Large loads such as wind turbine components (rotor blades, tower sections and nacelles) would be transported to the Site by low loader using a designated route.

Decommissioning Phase

4.12 At the end of the operational period the wind farm would be decommissioned. This would involve the complete removal of the wind turbines, transformers, substation, switchgear and other equipment over a period of up to 12 months. The removal of the wind farm components would essentially be the reverse of the construction process.

4.13 Energiekontor UK Ltd would provide a decommissioning bank guarantee or insurance bond to ensure that sufficient funds are available at any time during the lifetime of the wind farm to enable all decommissioning works to take place.

4.14 The removal of the wind turbines at the end of the operational life of the wind farm would be the reverse of the erection process, involving similar cranes and procedures. The components would be removed off-site to be re-used elsewhere, dismantled and recycled or disposed of as appropriate.

4.15 The decommissioning of the turbine foundations would involve removing the upper part of the reinforced concrete foundation. This could be achieved by conventional construction equipment (e.g. excavator mounted pneumatic hammers etc.).

4.16 In order to achieve the removal of the upper section which is approximately 1m deep, a 600mm wide trench would need to be excavated around the approximately 4m diameter upstand to facilitate access for removal of the concrete. All other parts of the foundation would remain in place and no other disturbance of the ground around the turbine would be required.

4.17 Once the upstand has been removed, the disturbed area would be reinstated by backfilling with site-derived materials to an agreed method statement, leaving the remaining portion of the foundation approximately 1m below ground level.

5 PLANNING POLICY CONTEXT

Introduction

5.1 This section of the Scoping Report sets out the planning policy context that is relevant to the Site and the Proposed Development. It includes:

- The National Planning Framework 4 (NPF4);
- South Ayrshire Local Development Plan 2;
- East Ayrshire Local Development Plan 2; and
- Other material considerations.

5.2 Relevant policies are considered in turn below.

The National Planning Framework 4 (NPF4)

5.3 NPF4 was published on 13 February 2023 and combines the spatial framework for Scotland with Scottish Planning Policy for the first time, forming part of the Development Plan.

5.4 Part 1 of NPF4 sets out details of the National Spatial Strategy for Scotland. From the outset, it is clear that tackling climate change and achieving net zero emissions is at the forefront of the National Spatial Strategy:

> *"we have set a target of net zero emissions by 2045, and must make significant progress towards this by 2030. This will require new development and infrastructure across Scotland."*

5.5 In relation to a key principle of achieving 'sustainable places' NPF4 states that:

> *"our future net zero, nature-positive places will be more resilient to the impacts of climate change and support the recovery and restoration of our natural environment. This will help Scotland's places to thrive within the planet's sustainable limits and will maximise the new economic and wellbeing opportunities from just transition to a net zero, nature-positive economy… Our strategy is to transform the way we use our land and buildings so that every decision we make contributes to making Scotland a more sustainable place. In particular, we want to encourage… diversity and expand renewable energy generation..."*

5.6 NPF4 continues the planning policy approach of identifying 'national developments', which are defined as developments that strongly support the delivery of the spatial strategy, i.e. are 'needed'. Eighteen national developments are proposed in NPF4 to deliver the spatial strategy, each of which is accompanied by a statement of need and an assessment of lifecycle greenhouse gas emissions. The national development designation does not remove the need for consenting or associated impact assessment

to be undertaken for individual projects, rather it means that the principle of the development does not need to be agreed in later consenting processes, providing more certainty for communities, business and investors.

5.7 Onshore wind farms exceeding 50 megawatts capacity are identified as a national development. NPF4 states:

> *"national development [Wind farms over 50MW capacity] supports renewable electricity generation, repowering, and expansion of the electricity grid.*
>
> *A large increase in electricity generation from renewable sources will be essential for Scotland to meet its net zero emissions targets. Certain types of renewable electricity generation will also be required, alongside* developments *and increases in storage technology and capacity, to provide the vital services, including flexible response, that a zero-carbon network will require. Generation is for consumption domestically as well as for export to the UK and beyond, with new capacity helping to decarbonise heat, transport and industrial energy demand. This has the potential to support jobs and business investment, with wider economic benefits."*

5.8 Even for wind farm developments that do not meet these national designation thresholds, the importance placed on rapid electricity generation indicates the government's keen stance on renewable energy infrastructure. This is further outlined by the statement of need and the fundamental part that renewable energy has in meeting net zero targets.

5.9 Part 2 of NPF4 introduces a number of national planning policies which apply to all development proposals in Scotland. It sets out that:

> *"to achieve a net zero, nature positive Scotland, we must rebalance our planning systems so that climate change and nature recovery are the primary guiding principles for all our plans and all our decisions. That includes emissions reduction and the adaptations we need to make in order to be resilient to the risks created by a warmer climate."*

5.10 Policy 2 'Climate Emergency' states that "*when considering all development proposals significant weight should be given to the global climate emergency*". Part C of the policy sets out that:

> *"development proposals for national, major or EIA development should be accompanied by a whole life assessment of greenhouse gas emissions from the development. In decision making the scale of the contribution of development proposals to emissions in relation to emissions reduction targets should be taken into account."*

5.11 Policy 3 'Biodiversity' sets out the policies that seek to protect biodiversity, reverse biodiversity loss, deliver positive effects from developments and strengthen nature networks.

5.12 Part A of the policy states:

> *"Development proposals will contribute to the enhancement of biodiversity, including where relevant, restoring degraded habitats and building and strengthening nature networks and the connections between them. Proposals should also integrate nature-based solutions, where possible."*

5.13 Policy 3(b) sets out that support for national or major development requiring an Environmental Impact Assessment will only be supported where the proposal will conserve, restore and enhance biodiversity. In order to achieve this, best practice measures should be used, and will be assessed against the following criteria:

i) the proposal is based on an understanding of the existing characteristics of the site and its local, regional and national ecological context prior to development, including the presence of any irreplaceable habitats;

ii) wherever feasible, nature-based solutions have been integrated and made best use of;

iii) an assessment of potential negative effects which should be fully mitigated in line with the mitigation hierarchy prior to identifying enhancements;

iv) significant biodiversity enhancements are provided, in addition to any proposed mitigation. This should include nature networks, linking to and strengthening habitat connectivity within and beyond the development, secured within a reasonable timescale and with reasonable certainty. Management arrangements for their long-term retention and monitoring should be included, wherever appropriate; and

v) local community benefits of the biodiversity and/or nature networks have been considered.

5.14 Part D of Policy 3 requires any adverse effects, including cumulative impacts, resulting from the Proposed Development on biodiversity, nature networks and natural environment to be mitigated and minimised through careful planning and design.

5.15 Policy 4 'Natural Places' seeks to protect, restore and enhance natural assets making best use of nature-based solutions.

5.16 Policy 4(a) considers development proposals that will have an unacceptable impact on the natural environment by virtue of type, location and scale, will not be supported.

5.17 Policy 4(d) considers the effects proposals will have on designated landscapes such as a local nature conservation site or landscape area in the LDP. The following considerations are made:

i) Development will not have significant adverse effects on the integrity of the area or

the qualities for which it has been identified; or

ii) Any significant adverse effects on the integrity of the area are clearly outweighed by social, environmental or economic benefits of at least local importance.

5.18 Policy 4(f) allows for proposals to be supported if they meet the relevant statutory tests where it has been identified that there is likely to be an adverse effect on species protected by legislation:

> *"If there is reasonable evidence to suggest that a protected species is present on a site or may be affected by a proposed development, steps must be taken to establish its presence. The level of protection required by legislation must be factored into the planning and design of development, and potential impacts must be fully considered prior to the determination of any application."*

5.19 Policy 4(g) removes the need for consideration of effects of development on wild land if the development is meeting renewable energy targets and states buffer zones around wild land will not be applied in this case.

5.20 Policy 5(a) allows for proposals to be supported if they are designed and constructed according to the mitigation hierarchy by firstly avoiding and then minimising the amount of disturbance to soils on undeveloped land, and in a manner that protects soil from damage and minimises soil sealing.

5.21 Policy 5(c) allows for the use of peatland, priority peatland and carbon rich soils for a limited number of uses, including renewable energy generation and states planning applications of this nature should be supported.

5.22 Policy 5(d) allows for development on peatland, carbon-rich soils and priority peatland habitat subject to a detailed assessment which identifies the baseline depth, habitat condition, quality and stability of carbon-rich soils, the likely effects of the development on peatland, and the likely effect of the development on climate emissions.

5.23 Policy 7 'Historic assets and places' seeks to protect and enhance historic environment assets and places.

5.24 Part A of Policy 7 sets out that development proposals with the potential to significantly impact historic assets and places must be accompanied by an assessment which is based on an understanding of the cultural significance of the historic asset and/or place. Assessments should identify likely physical or visual impacts of any proposals, including cumulative effects.

5.25 Policy 7(h) allows for development proposals that will affect scheduled monuments to be supported where direct impacts on scheduled monuments are avoided, significant adverse impacts on the integrity of the setting of the scheduled monument are avoided, and exceptional circumstances have been demonstrated to justify the impact on a scheduled monument and its setting and that any such impacts are minimised.

5.26 Policy 11 seeks to encourage, promote and facilitate all forms of renewable energy development onshore and offshore and states that "LDPs should seek to realise their area's full potential for electricity and heat from renewable, low carbon and zero emission sources by identifying a range of opportunities for energy development". The policy outlines a number of considerations for renewable energy development:

c) *Development proposals will only be supported where they maximise net economic impact, including local and community socio-economic benefits such as employment, associated business and supply chain opportunities.*

d) *Development proposals that impact on international or national designations will be assessed in relation to Policy 4.*

e) *In addition, project design and mitigation will demonstrate how the following impacts are addressed:*

i. Impacts on communities and individual dwellings, including, residential amenity, visual impact, noise and shadow flicker;

ii. Significant landscape and visual impacts, recognising that such impacts are to be expected for some forms of renewable energy. Where impacts are localised and/or appropriate design mitigation has been applied, they will generally be considered to be acceptable;

iii. Public access, including impact on long distance walking and cycling routes and scenic routes;

iv. Impacts on aviation and defence interests including seismological recording;

v. Impacts on telecommunications and broadcasting installations, particularly ensuring that transmission links are not compromised;

vi. Impacts on road traffic and on adjacent trunk roads, including during construction;

vii. Impacts on historic environment;

viii. Effects on hydrology, the water environment and flood risk;

ix. Biodiversity including impacts on birds;

x. Impacts on trees, woods and forests;

xi. Proposals for the decommissioning of developments, including ancillary infrastructure, and site restoration;

xii. The quality of site restoration plans including the measures in place to safeguard or guarantee availability of finances to effectively implement those plans; and

xiii. Cumulative impacts

5.27 Policy 22 'Flood risk and water management' seeks to strengthen the resilience to flood risk by promoting avoidance as the first principle and reducing the vulnerability of existing and future development to flooding.

5.28 Part C of Policy 22 requires development proposals to not be at risk of surface water flooding, increase the risk of surface water flooding to others, manage all rain and surface water through integrated Sustainable Urban Drainage Systems (SUDS), and seek to minimise the area of impermeable surface.

5.29 Policy 22(e) supports development proposals that implement measures to create, expand or enhance opportunities for natural flood risk management.

South Ayrshire Local Development Plan 2

5.30 South Ayrshire Council formally adopted Local Development Plan 2 in August 2022.

5.31 **LDP Policy: Sustainable Development** is a strategic policy. It states that SAC will support the principles of sustainable development by making sure that development meets a range of "standards". The standards include:

a) Respect, protects and where possible, enhances natural, built and cultural heritage resources
b) Protects and safeguards the integrity of designated sites.
c) Protects peat resources and carbon rich soils.
d) Does not have a negative effect on air or water quality
e) Incorporates sustainable urban drainage and avoids increasing (and where possible reduces) risks of, or from all forms of flooding.
f) Respects the character of the landscape and the setting of settlements.
g) Helps mitigate and adapt to the effects of climate change.

5.32 The Policy also states that when considering development proposals, due weight will be given to the consideration of net economic benefit.

5.33 **LDP Policy: Wind Energy** is the lead LDP policy for wind farm proposals. The policy expresses support for wind energy development. It provides that proposals for wind farms on sites that are not within Group 1 or Group 2 areas, as described in Scottish Planning Policy Table 1, are likely to be acceptable subject to detailed consideration against a range of criteria the subject-matter of which can be broadly related to the criteria within NPF4, Policy 11 e). The Wind Energy criteria are:

a) They consider and respect the main landscape features and character through careful site selection, layout and overall design. Potential impacts will be mitigated appropriately to ensure that significant effects on the landscape and the wider area are minimised;
b) They do not have a significant detrimental visual impact, taking into account views experienced from surrounding residential properties and settlements, public roads and paths, significant public viewpoints, and important recreational assets and tourist attractions;
c) The extent to which they would have a positive net economic impact, including local and community socio-economic benefits such as employment, business and supply chain opportunities;
d) The *extent to which they would contribute to renewable energy generation targets and to the Scottish Government's net-zero target;*
e) They would have no other unacceptable detrimental effect upon the amenity of nearby residents, including from noise and shadow flicker;
f) Taking into account the criteria in LDP policy natural heritage, they would not have an unacceptably detrimental effect upon natural heritage, including wild land, birds and carbon rich soils;

g) Taking into account the criteria in LDP policy: historic environment and LDP policy archaeology, they would not have an unacceptably detrimental effect upon the historic environment;
h) They would not adversely affect aviation safety or defence interests, as well as telecommunications and broadcasting installations, ensuring in particular that transmission links are not compromised;
i) Their cumulative impact in combinations with other existing and approved wind energy developments, and those for which applications for approval have already been submitted, is acceptable.

5.34 The policy states that in applying criteria a) to i) above, the South Ayrshire Landscape Wind Capacity Study 2018 (or any subsequent update thereof) and the South Ayrshire Local Landscape Area Review 2018 will be treated as important material considerations.

5.35 LDP Policy: Wind Energy states that in applying its policy criteria, the South Ayrshire Landscape Wind Capacity Study 2018 (SALWCS) is to be treated as an important material consideration. The SALWCS is not part of the Development Plan.

5.36 As set out in the Statement of Agreed Matters, the SAWLCS is a strategic appraisal of the relative sensitivity of landscapes to generic development typologies. The parties further agree that landscape sensitivity assessments can help to steer development towards better locations and inform a Landscape and Visual Impact Assessment prepared for a specific development proposal. However, they should never be used in isolation to determine the acceptability of a development type in landscape terms and they do not replace the need for LVIA.

5.37 The SAWLCS predates the current guidance set out in NatureScot's Landscape Sensitivity Assessment Guidance (2022). The NatureScot Guidance highlights that landscape sensitivity assessments should primarily be used as a strategic evidence base. Conversely, "sensitivity assessments can help to steer development towards better locations and inform a proposal's LVIA. They should never be used in isolation to determine the acceptability of a development type in landscape terms. They do not replace the need for individual LVIAs and/or Environmental Assessments for individual proposals."

5.38 In ascribing weight to the SALWCS it is also necessary to remember that it assesses the relative sensitivity of host landscapes to different types of wind farm development. Capacity is ultimately a planning matter for policy makers and decision-makers. As such, it must be considered in the context of the ambitious statutory targets and the associated policies set out in the OWPS and NPF4.

5.39 LDP Policy: Wind Energy states that in applying its policy criteria, the South Ayrshire Local Landscape Designation Review (SALLDR) is to be treated as important material consideration. The SALDR is not part of the Development Plan.

5.40 This SALLDR relates the boundaries of each LLA and provides a Statement of Importance which sets out reasons for designation and describes the special qualities and (briefly) sensitivity to change.

5.41 **LDP Policy: Landscape Quality** relates to the maintenance and improvement of the landscape and its distinctive local characteristics. Proposals must conserve features that contribute to local distinctiveness. Guidance contained in the 'statements of importance' and management recommendations of the South Ayrshire Local Landscape Designations Review (2018) will be considered for proposals within or affecting Local Landscape Areas.

5.42 **LDP Policy: Dark Skies** states support for the Galloway Forest Dark Sky Park and includes a presumption against proposals within the boundaries of the park that would produce levels of lighting that would adversely affect its 'dark sky' status. Development within the Galloway Forest Dark Sky Park, and its surrounding Transition Zone, is to be in line with the respective provisions of supplementary guidance 'Dark Sky Lighting'.

5.43 The proposed development does not lie within the Dark Sky Park; either the Core Area or Buffer Zone. The proposed development is located within the Transition Zone, which encompasses large areas of South Ayrshire, east Ayrshire and Dumfries and Galloway.

5.44 The LDP policy directs decision-makers to consider SAC's Dark Sky Lighting Supplementary Guidance. The Guidance does not prescribe lighting requirements or restrictions within the Transition Zone. Rather it provides advice and encouragement. This is further qualified by the statement that lighting should be dark sky friendly "where possible", with a preference for the maximum number of infrared lights to be used. In the present case, the installation of visible red lighting is required to adhere to aviation safety regulations.

5.45 As with other LDP policies, the Dark Skies policy does not contain any balancing mechanism requiring the decision-maker to consider the benefits of the proposal.

5.46 **LDP Policy: Galloway and Southern Ayrshire Biosphere** states support for development that promotes the goals of the biosphere and shows an innovative approach to sustainable living and the economy, and supports improving, understanding and enjoying the area as a world-class environment. Development must be appropriate to the role of the different zones within the Biosphere.

5.47 The Biosphere covers over 5,200 square kilometres of south-west Scotland and is divided into Core, Buffer and Transition Areas. The proposed development is located within the Transition Area, which extends to approximately 4,300 square kilometres.

5.48 As with other LDP policies, the Biosphere policy does not contain any balancing mechanism requiring the decision-maker to consider the benefits of the proposal.

5.49 **LDP Policy: Air, Noise And Light Pollution** states that SAC will not allow development which would expose people to unacceptable levels of air, noise or light pollution.

5.50 **LDP Policy: Water Environment** support the objectives of the Water Framework Directive (2000/60/EC) and states that development will only be allowed if meeting these objectives and showing that:

a) It will protect, and where possible, improve the water environment;
b) It will not pose an unacceptable risk to the quality of controlled waters (including groundwater and surface water); and

5.51 It will not harm the biodiversity of the water environment.

c) It seeks to avoid (or remove) instances of construction works and structures in and around the water environment;
d) It provides an appropriately sized buffer strip between the development and a water course.

East Ayrshire Local Development Plan 2

5.52 East Ayrshire Council formally adopted Local Development Plan 2 in April 2024.

5.53 **Policy SS1: Climate Change** is a Spatial Strategy policy. It states that the Council will give significant weight to the Global Climate Emergency when considering all development proposals.

5.54 The policy states that, where possible, all development should support these aspirations by:

i. Minimising carbon emissions;
ii. Maximising carbon storage and sequestration;
iii. Mitigating the impacts of climate change, including through the delivery of net zero and low carbon infrastructure;
iv. Being designed to be adaptable to the future impacts of climate change.

5.55 It states that the Council may request further information from developers on what measures they propose to put in place to address the climate emergency.

5.56 **Policy RE1: Renewable Energy** is the lead LDP Policy for wind farm proposals. It expresses support for proposals for the generation, storage and utilisation of renewable energy in both standalone location and as part of existing developments, as long as they are acceptable when assessed against relevant criteria set out in the Renewable Energy Assessment Criteria.

5.57 Areas identified for wind farm development are expected to be suitable for use in perpetuity, and proposals to re-power or extend existing developments will be supported where they are acceptable when assessed against the Renewable Energy Assessment Criteria.

5.58 All applications for renewable energy developments should be accompanied by detailed supporting information so as to allow for a detailed assessment to be made against the criteria.

5.59 The Renewable Energy Assessment Criteria sets out the various impacts which must be taken into account when assessing proposals for renewable energy development. These are outlined below:

a) Climate change impacts:

- Scale of contribution to renewable energy targets
- Effects on greenhouse gas and carbon emissions

b) Environmental impacts:

- Significant landscape and visual impacts, recognising that such impacts are to be expected for some forms of renewable energy. Where impacts are localised and/or appropriate design mitigation has been applied, they will generally be considered to be acceptable;
- Impacts on biodiversity, including impacts on birds;
- Impacts on the historic environment;
- Impacts on hydrology, the water environment, flood risk and groundwater dependent terrestrial ecosystems; and
- Impacts on trees, forests and woodlands.

c) Community and Economic impacts:

- Impacts on public access, including long distance walking and cycling routes and scenic routes;
- Impacts on communities and individual dwellings, including visual impact, residential amenity, noise and shadow flicker.

d) Infrastructure impacts:

- Impacts on aviation and defence interests and seismological recording;
- Impacts on trunk roads and road traffic, during construction, operation and decommissioning;
- Impacts on telecommunications and broadcasting installations, particularly ensuring that transmission links are not compromised.

e) Other impacts:

- Cumulative impacts
- Grid capacity should not constrain renewable energy development

5.60 **Policy SS6: Galloway and Southern Ayrshire Biosphere** states that the Council will encourage proposals that support the aims of the Biosphere and which support and improve the understanding and enjoyment of the area as a world-class environment.

5.61 **Policy NE1: Protecting and Enhancing Landscape and Features** states that the protection and enhancement of East Ayrshire's landscape character (as identified in the Ayrshire Landscape Character Assessment) will be a key consideration when assessing development proposals. Development proposals should aim to avoid any negative visual impacts and where visual impacts are unavoidable, development proposals should include adequate mitigation measures to minimise the adverse impacts on the landscape.

5.62 The Council will not support developments that would create unacceptable visual intrusion or irreparable damage to landscape character, nor will they support proposals where there will be an unacceptable cumulative landscape and/or visual impact.

5.63 **Policy NE3: Local Landscape Area** states that when considering development proposals which are located within Local Landscape Areas, the Council will give priority to the protection and enhancement of the landscape. Development proposals should seek to

avoid adverse impacts on the landscape qualities in LLAs, and where this is not possible, should seek to reduce or mitigate said impacts. The Council will not support proposals which have unacceptable impacts on the character and/or visual amenity of the LLAs and the qualities that make them special.

5.64 **Policy NE4: Nature Crisis** is concerned with protecting and enhancing biodiversity. It states that the Council will support development proposals which contribute to the enhancement of biodiversity.

5.65 **Policy NE6: Vulnerable, Threatened and Protected Species** states that development proposals which would have significant adverse impacts on priority species or habitats set out in the Ayrshire Local Biodiversity Action Plan will not be supported unless the impacts are clearly outweighed by social, environmental or economic benefits of local importance. Developments which have unacceptable on the following protected species will also not be supported:

i. European Protected Species (See Schedules 2 & 4 of the Habitats Regulations 1994 (As Amended) for definition);
ii. Birds, Animals and Plants listed on Schedules 1, 5 and 8 (respectively) of the Wildlife and Countryside Act 1981 (As Amended);
iii. Badgers as per section 10 of the Protection of Badgers Act 1992; and
iv. Species detailed within the Scottish Biodiversity List (SBL) which includes, protected and threatened species, as well as species where conservation action is needed, where negative impacts should be avoided and watching brief only.

5.66 **Policy NE12: Water, air, light and noise pollution** states that all developments will be required to take measures to ensure that significant adverse impacts on air, light and noise pollution are avoided.

5.67 **HE1: Listed Buildings** states that development proposals that affect a listed building or its setting will only be supported where it can be demonstrated that the proposal is sensitive to the character, appearance or historic interest of the building and its setting.

5.68 **Policy HE3: Scheduled Monuments, Historic Battlefields and other Archaeology and Historic Environment assets** states that development that would have an adverse effect on Scheduled Monuments or a significant adverse effect on the integrity of their settings shall not be supported except in the case that there are exceptional overriding circumstances. When this is the case, impacts should be minimised and mitigated.

5.69 **Policy HE4: Gardens and Designed Landscapes** highlights the importance of Gardens and Designed Landscapes (GDLs) to East Ayrshire's historic environment. It states that development will not be supported where it will have significant adverse impacts on GDLs.

Other Material Considerations

5.70 Other material considerations in this case include:

- International Renewable Energy Policy Framework;

- UK Carbon and Renewable Energy Policy;
- Scottish Government Renewable Energy Policy Documents; and
- Scottish Government Web Based Renewable Guidance.

5.71 These are considered in turn below.

International Renewable Energy Policy Framework

5.72 In terms of the relevant policy framework at the International and European level, the following key documents are of relevance:

- International Agreements and Obligations – The COP21 UN Paris Agreement and COP26 Paris Rulebook and Glasgow Climate Pact; and
- EU Climate Action Progress Report 2024;

UK Carbon and Renewable Energy Policy

5.73 In terms of the relevant policy framework at the International and European level, the following key documents are of relevance:

- UK Energy White Papers
- The UK's Sixth Carbon Budget (June 2021) (the Seventh Carbon Budget is due to be set in 2025);
- Net Zero: Build Back Greener (2021)
- British Energy Security Strategy (2022)

Scottish Government Renewable Energy Policy Documents

5.74 The following Scottish government renewable energy policy documents are also of relevance.

- The Scottish Energy Strategy: The Future of Energy in Scotland (Scottish Government, 2017);
- The Scottish Government Climate Emergency Statement (2019);
- Committee on Climate Change (CCC) advice to the Scottish Government on recovery from the Covid-19 crisis (May 2020);
- Recommendations from the Scottish Government's Advisory Group on Economic Recovery (June 2020);
- 'Eight Policy Packages for Scotland's Green Recovery' (Climate Emergency Response Group, July 2020);
- Scottish Government Update to the Climate Change Plan 2018-2032 (December 2020);
- Scottish Government Energy Strategy Position Statement (March 2021);
- Scottish Government 'Bute House Agreement' (August 2021);
- Onshore Wind Policy Statement (Scottish Government, 2022);
- Draft Energy Strategy and Just Transition Plan (Scottish Government, 2023)

- Onshore Wind Sector Deal (2023)
- Scottish Government Programme for Government 2024-25 (September 2024); and
- Scottish National Adaptation Plan 2024-2029 (Scottish Government, September 2024)

5.75 Of particular relevance from the list above is the updated Onshore Wind Policy Statement (OWPS) on 21 December 2022, which replaces the earlier version published by Scottish Government in November 2017. The Ministerial Foreword makes it clear that seeking greater security of supply and lower cost of electricity generation are now key drivers alongside the need to deal with the climate emergency. It is stated:

> *"we must accelerate our transition towards a net zero society. Scotland already has some of the most ambitious targets in the world to meet net zero but we must go further and faster to protect future generations from the spectre of irreversible climate damage."*

> *"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."*

5.76 The Foreword highlights that onshore wind has the ability to be deployed quickly, is good value for consumers and is also widely supported by the public and 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 20 GW of installed onshore wind capacity in Scotland by 2030."*

5.77 The OWPS is structured on the basis of eight chapters which contain a mix of broad policy guidance and technical information. The points of most relevance to the Proposed Development are set out below.

5.78 Section 1.3 refers to the new 20 GW ambition and states:

> *"It is vital to send a strong signal and set a clear expectation on what we believe onshore wind capacity will contribute in the coming years.*
>
> *In line with this commitment, and reflecting the natural life cycles of existing wind farms, this statement sets out a new ambition for the deployment of onshore wind in Scotland:*
>
> *A minimum installed capacity of 20 GW of onshore wind in Scotland by 2030.*
>
> *This ambition will help support the rapid decarbonisation of our energy system, and the sectors which depend upon it, as well as aligning with a just transition to net zero whilst other technologies reach maturity."*

5.79 This statement is followed by reference to the 'Legislative Context', in particular the Climate Change (Emissions Reduction Targets) (Scotland) Act 2019 and the related Net Zero greenhouse gas emissions targets. The OWPS states that "*meeting these targets will require decisive and meaningful action across all sectors*" and that "*onshore wind will play a crucial role in delivering our legally binding climate change targets.*"

5.80 Section 2.3 refers to a 'Vision for Onshore Wind in Scotland' and states that Scottish Renewables, on behalf of the sector in Scotland, has produced a 'Vision Statement' which the Government considers to "lay the basis of a more detailed sector deal" that will be developed by a newly formed Onshore Wind Strategic Leadership Group (SLG).

5.81 The Vision Statement includes the following:

> *"Onshore wind remains vital to meeting this increasing demand, providing fast deployment whilst minimising cost to the consumer. This will be achieved by deploying the most productive modern turbines that are taller than older models, by re-powering existing sites where possible and by maximising the use of our exceptional natural wind resources where environmental effects are acceptable."*

5.82 Chapter 3 of the OWPS refers to matters relating to the following environmental topics:

- Shared land use;
- Peat and carbon-rich soils;
- Forestry;
- Biodiversity;
- Landscape and visual amenity; and
- Noise.

5.83 Of particular relevance is landscape and visual amenity. In this respect the OWPS states at paragraph 3.6.1:

> *"Meeting our climate targets will require a rapid transformation across all sectors of our economy and society. This means ensuring the right development happens in the right place. Meeting the ambition of a minimum installed capacity of 20 GW of onshore wind in Scotland by 2030 will require taller and more efficient turbines. This will change the landscape."*

5.84 In addition, paragraph 3.6.2 of the OWPS cross refers to NPF4 and provides that outside of National Parks and National Scenic Areas:

> *"the criteria for assessing proposals have been updated, including stronger weight being afforded to the contribution of the development to the climate emergency, as well as community benefits."*

5.85 It is clear that NPF4 and the OWPS represent a recalibration of how the planning balance should operate when making decisions on wind farm applications.

Scottish Government Web Based Renewable Guidance

5.86 The Scottish Government has produced web-based renewables guidance. The planning advice comprises a number of individual guidance notes including 'Onshore Wind Turbines'. The Scottish Government published the most recent update of this on 28 May 2014.

5.87 The relevant aspects of the guidance are provided under the following headings and have been taken into account during design development:

- Landscape impact
- Impacts on wildlife and habitat, ecosystems and biodiversity
- Assessing impact on wildlife and habitats
- Buffer zones
- Impact on communities
- Separation distances
- Aviation matters
- Road traffic impacts
- Cumulative impacts
- Decommissioning

6 SCOPE OF THE EIA

Introduction

6.1 Schedule 3 of the EIA Regulations outlines the selection criteria for determining whether 'Schedule 2 Development' is 'EIA Development'. These criteria are expanded upon in Schedule 4, which sets out in Part II certain information that must be included in an EIAR and in Part I information that may reasonably be required to assess the effect of the proposed development. Furthermore, the 1997 Directive on EIA identified in Article 3 that:

> *"The environmental impact assessment shall identify, describe and assess in an appropriate manner…the direct and indirect effects of a project on the following factors:*
>
> - *Human beings, fauna and flora;*
> - *Soil, water, air, climate and the landscape;*
> - *Material assets and the cultural heritage;*
> - *The interaction between the factors mentioned in the first, second and third indents."*

6.2 Based on this guidance, experience of similar projects elsewhere and consultation with specialist advisors and consultees, we consider below the Schedule 3 selection criteria in the context of Schedule 4 to define the broad scope of the EIA.

Human Beings

i) Society and Economy

6.3 Socio-economic impacts associated with wind farm developments primarily relate to job creation, use of local services and income spent in the locality of a project. The EIAR will include a chapter that considers the likely impacts of the proposal on the socio-economic profile of the area, including short-term job opportunities.

Proposed Scope of Assessment

6.4 The EIA will consider the effects of the Proposed Development on employment and the economy. This will include the employment opportunities for local suppliers with relevant construction and maintenance experience during the construction and operational phases of the development. The EIAR will focus on short- and long-term employment opportunities and input from the Proposed Development into the local economy (expenditure in shops / local services etc).

6.5 It is unlikely that the Proposed Development would give rise to any significant effects on land management practices.

6.6 It is considered that the potential effects upon tourism would be minor and therefore will be scoped out of the EIA.

Methodology

6.7 A baseline study will be undertaken to identify the socio-economic characteristics of the local area along with any recreational receptors.

6.8 Effects on use of recreational assets and other leisure and tourism attractions in the surrounding area due to visual impact, traffic, noise and shadow flicker will be dealt with in the technical assessments discussed in the relevant sections below.

ii) Transportation

6.9 This section of the EIAR will identify the preferred route(s) for access to the Site and will consider the potential effects of traffic generated during the construction, operation and decommissioning of the wind farm, including identification of possible measures to minimise any disruption to the highway network.

Baseline

6.10 The study area for the traffic and transport assessment will effectively be the public highway network in the vicinity of the Site which would be used during the construction and operation of the wind farm. If available, traffic count data will be sourced from the local highways authority.

Potential Effects

6.11 The potential effects associated with traffic and transport during construction are anticipated to be:

- The effects of construction traffic on existing traffic flows on public highways; and
- The effects of construction traffic on the public highways and adjacent infrastructure ('wear and tear').

Proposed Scope of Assessment

6.12 The scope of the assessment would be agreed in advance with the local highways authority. It is currently proposed that the assessment would include the following key elements:

- Route Access Description – to confirm the preferred route(s) to site for the transportation of wind turbine components (abnormal loads) and other construction vehicles (heavy goods vehicles and light vehicles), together with a description of any physical works that would be required to facilitate access; and
- Impact assessment – using traffic count data for the strategic and local road networks to assess the predicted increase in vehicle numbers resulting from the Proposed Development and determine whether this increase would be significant.

6.13 It is considered that the following can be scoped out of the EIA:

- The effects of operational traffic on existing traffic flows;

- The environmental effects of any physical works required to facilitate turbine component delivery; and
- The environmental effects of traffic generated by the Proposed Development during decommissioning. The volume of decommissioning-related traffic is anticipated to be less than the level experienced during the construction phase and could more accurately be estimated at a later date.

Methodology

6.14 The traffic and transport section of the EIAR will consider baseline conditions, the transport and traffic impacts and proposed mitigation measures as appropriate. The work will be undertaken in accordance with relevant transportation guidelines and standards, including:

- Institute of Environmental Assessment (now IEMA) (1993) Guidelines for the Environmental Assessment of Road Traffic; and
- Institute of Highways and Transportation (1994) Guidelines for Traffic Impact Assessment.

6.15 The IEMA guidelines are intended for the assessment of the environmental impact of road traffic associated with major new developments. These guidelines are considered suitable to assess the short-term construction phase of the development.

6.16 It is not anticipated that a formal Transport Assessment (TA) will be required as TAs are not generally considered necessary for temporary construction works. The scale of traffic movements associated with the operation of the Proposed Development would also not warrant a TA.

Design and Mitigation

6.17 Where significant effects are identified, measures to prevent, reduce and, where possible, offset those adverse effects will be proposed. Measures likely to be utilised include:

- Instructing abnormal loads and HGVs, including site personnel as appropriate, to use only the approved access route(s) to the Site.
- No parking of construction plant, equipment and vehicles off-site on public highways.
- Establishing a construction traffic management plan for the development which could be secured via a suitably worded planning condition.

iii) Noise and Vibration

Baseline

6.18 The Site is near to several operational wind farms. The nearest operational wind farm to the Proposed Development is Dersalloch Wind Farm with the nearest turbine located approximately 4.8km north-west of the Site boundary. Other noise in the area is likely to be from traffic noise, animals and birds and from wind around foliage, depending on wind speed.

Potential Effects

6.19 Noise will occur during the construction, operation and decommissioning of the Proposed Development in conjunction with that from other operational, consented and proposed wind farms in the area. The extent to which this is significant depends on the noise sources, the distance of each of the noise sources to potential receptors and the relative contribution of noise from existing sources.

6.20 Potential receptors considered in this case are residential properties. During the construction and decommissioning phases, the effects can be divided into noise from onsite activities and from construction traffic accessing the Site. During operation, noise is generated by the turbines as they rotate, with noise output depending on wind speed.

6.21 For onsite construction noise and operational noise at different wind speeds, the levels received at residential properties will depend on wind direction.

6.22 Vibration effects from construction activities and during operation will not be perceptible at residential properties and will be scoped out of the EIA.

Proposed Scope of Assessment

6.23 Noise emitted during the construction and decommissioning phases would be temporary and short term in nature and can be minimised through careful construction practices. Whilst it is possible that some noise may be audible at the nearest properties during the construction and decommissioning phases, the effective control of these impacts can be achieved by way of a suitable planning condition.

6.24 No assessment of operational traffic noise is anticipated given the low number of journeys to and on the Site for routine maintenance.

6.25 For operational noise, the EIAR will assess the maximum sound power level specified for a particular turbine type to assess a worst-case scenario. If the modelling exercise shows that sound power levels will need to be reduced to achieve acceptable noise levels at sensitive locations, then the EIAR will examine possible mitigation measures which may include the use of quieter turbines, increasing standoff distances, installing measures to monitor and, if necessary, using noise reduced modes in certain wind conditions.

6.26 Like all wind-related noise, operational noise from turbines increases with wind speed. The EIAR will therefore compare the existing background noise levels with the calculated predicted noise levels over the range of wind speeds expected at the Site using the methodology set down in ETSU-R-97. The wind farm will be designed to fully comply with the requirements of ETSU-R-97 and, whilst noise associated with the operation of the proposed wind turbines may be audible at some locations under certain conditions, the noise generated would be within the ETSU-R-97 noise limits and would be deemed acceptable.

Methodology

6.27 ETSU-R-97 details a methodology for establishing noise limits for proposed wind farm developments and these limits should not be exceeded. It requires that noise limits should be set relative to existing background noise levels at the nearest receptors and that these limits should reflect variation in both turbine source noise and background noise with wind speed. Separate noise limits apply for quiet daytime and for night time. Quiet daytime limits are chosen to protect a property's external amenity, and night time limits are chosen to prevent sleep disturbance indoors, with windows open.

6.28 The assessment will include predictions of likely wind turbine noise levels, based on a candidate turbine, across a range of speeds to demonstrate compliance with the noise limits.

6.29 Once the potential noise effects of the Proposed Development operating on its own have been determined it will be necessary to evaluate the cumulative effect when considered alongside the existing operational, consented and proposed sites. Critical to this cumulative assessment is the amount of noise which the Proposed Development would add to that from such sites. It is proposed that only locations where the Proposed Development makes a significant contribution (>1dB) need to be assessed in terms of cumulative noise impact. Once this proposed screening factor is taken into account, cumulative impact will be evaluated by comparing the overall cumulative wind farm noise level with limits agreed with the Council.

6.30 Assessment methodology for noise from construction work is described in BS 5228. Principal noise sources during construction include track laying, excavation works and turbine foundation works.

Design and Mitigation

6.31 For operational noise, the proposed turbine layout will be designed to comply with the noise limits established in accordance with ETSU-R-97.

6.32 There are a range of turbine makes and models that may be appropriate for the Proposed Development. The final selection of turbine is likely to follow a competitive tendering exercise once consent for the Proposed Development has been granted. The final turbine model may therefore differ from that on which the assessment is based. However, the final choice of turbine will be required to comply with the noise limits established in the ETSU-R-97 assessment.

6.33 For construction noise, it is unlikely that mitigation will be required unless any major site access track works are required in the very close vicinity of residential properties which would normally be avoided. Normal, generic mitigation measures would be incorporated into site design by avoiding track proximity to residential properties, following good practice in construction techniques including avoiding work out of normal day-time construction hours wherever possible.

iv) Radio-communication and Television

6.34 The EIAR will assess the potential effects of the Proposed Development upon established telecommunications transmissions. This will include the identification of potential interference with television and radio reception and fixed microwave communication links for mobile phones and other data transfer.

Baseline

6.35 The Office of Communications (Ofcom) is responsible for the licensing of two-way radio transmitters. It holds a register of most microwave links and will therefore be consulted in order to establish baseline conditions. However, as not all microwave links are published, system operators will also be individually consulted on the Proposed Development's potential to cause electromagnetic interference. The outcome of this consultation process, including any mitigation actions taken, will be detailed in the EIAR.

Potential Effects

6.36 Wind turbines can cause electromagnetic interference in two ways:

- Physical interference – where the blades of the turbine cut across an electromagnetic signal causing a 'ghosting' effect. This may affect television signals or radar; and
- Electrical interference – caused by the operation of the generator within the nacelle of the turbine. This may affect communication equipment in close proximity to the turbine.

Proposed Scope of Assessment

6.37 The assessment of potential impacts on telecommunications links will comprise a thorough consultation exercise to establish any potential impacts of the Proposed Development. Consultation has begun and will be ongoing throughout the EIA process.

6.38 With regards to the potential for interference with local television reception, it is possible for mitigation to be provided via a commitment from the developer to undertake remedial action (usually the installation of new television equipment or the repositioning of aerials) where effects have occurred. This commitment is usually secured via a planning condition.

Design and Mitigation

6.39 Microwave links are less susceptible to electromagnetic interference due to their directional nature and siting wind turbines away from any line of sight transmission paths will minimise potential interference. Where possible, any potential effects on radio-communication links will be mitigated through the turbine layout design stage by the use of exclusion zones around any link paths.

v) Aviation

6.40 This section of the EIAR will consider the effects of the Proposed Development upon civilian and military radar.

Baseline

6.41 There are a number of aviation interests in the area which could potentially be affected by the Proposed Development. In particular, Glasgow Prestwick Airport (GPA) located approximately 26km north, and NATS En Route Ltd (NERL), who operate a network of long range Air Traffic Control (ATC) radars throughout the United Kingdom. Both will be consulted by the Applicant early in the EIA process.

Potential Effects

6.42 ATC radar can be susceptible to interference from wind turbines. The height and blade movement can cause intermittent detection by radars within their operating radius. This is particularly relevant where there is a line of sight between the radar and the wind turbine development. Due to their height, wind turbines can also impact upon airports and airfields if they protrude into the safeguarding distance above and around them.

Proposed Scope of Assessment

6.43 The EIAR will include a description of military and civilian aeronautical and radar issues relating to the Proposed Development. Consultation will be undertaken during the development process once the locations of the turbines have been finalised with appropriate interested parties.

6.44 The EIAR will present the findings of these consultations and all responses received, as well as any predicted impacts on aviation and mitigation required.

vi) Shadow Flicker

Potential Effects

6.45 Shadow flicker is a phenomenon where, under certain combinations of geographical position and time of day, the sun may pass behind the rotors of a wind turbine and cast a shadow over neighbouring properties. When the blades rotate, the shadow flicks on and off. Flicker only occurs inside buildings where the flicker appears through a narrow window opening.

Proposed Scope of Assessment

6.46 A shadow flicker assessment will be undertaken to determine the extent to which any residential or other sensitive property would be affected by shadow flicker. Any potential shadow flicker effects will be quantified using a computer model. Flicker effects are generally only expected to occur within a distance of ten rotor diameters of the wind turbines, therefore, the assessment will only consider residential properties within this distance.

Design and Mitigation

6.47 If necessary, potential mitigation measures could include screening or the use of shadow flicker modules in the wind turbines which automatically cause them to stop operating under the conditions that would give rise to shadow flicker at a sensitive receptor. This could be secured via a suitably worded planning condition.

Flora and Fauna

6.48 This section of the EIAR will consider the likely ecological and ornithological impacts associated with the Proposed Development. Effects on a range of ecological receptors, including key habitats and species, will be included. Avoidance, mitigation, enhancement and habitat creation will be proposed.

Baseline

6.49 The Site principally consists of open moorland, which is generally of low ecological value, and supports an ornithological and ecological assemblage typical to this area.

6.50 No statutory sites of international or national importance for ecological interests are present within the Site. Loch Doon SSSI is the nearest statutory site located approximately 500m to the east of the Site boundary, protected for its population of Arctic charr.

6.51 The Site is situated within the River Doon and the Water of Girvan catchment area. The Merrick Kells Special Area of Conservation (SAC) is located approximately 5.2km south of the Site at its closest point.

6.52 Statutorily protected sites for ornithological interests within 20km of the Site are detailed in **Table 6.1** below.

Table 6.1: Summary of statutorily protected sites designated for ornithological features within 20km of the Site

Site name and Designation	Designation Interest	Approximate Distance to Site
Merrick Kells SSSI	Notified natural features include: - Breeding bird assemblage	5km south of Site
Bogton Loch SSSI	Notified natural features include: - Breeding bird assemblage	3km north of Site

Potential Effects

6.53 The Proposed Development has the potential to affect the ecology of the area at the construction, operational and decommissioning stages. Potential effects during construction may arise from:

- Presence of people;

- Noise;
- Vegetation, top soil and sub-soil removal, resulting in habitat loss and habitat fragmentation;
- Ground and excavation works;
- Construction of turbine foundations and access routes;
- Vehicular traffic;
- Creation of temporary construction compounds and storage areas;
- Routing of services and utilities (e.g. underground electrical lines and drainage); and
- Development of watercourse crossings.

6.54 During the operational phase, effects may arise from:

- Presence of people;
- Noise;
- Vehicular traffic;
- Drainage; and
- Wind turbine activity.

6.55 Effects during de-commissioning are expected to be similar to those experienced during construction.

Proposed Scope of Assessment

6.56 The ecological assessment will consider the potential effects of the Proposed Development on designated and non-designated ecological sites in the wider area, as well as flora and fauna interests on the Site and within the surrounding area.

6.57 The ornithological assessment will determine the potential for sensitive, notable or rare species to be affected by the Proposed Development. Where potential adverse, negative effects are identified, suitable mitigation or compensation will be identified to reduce effects to an acceptable (non-significant) level.

Methodology

6.58 The EIAR will be based on the following two years of ornithological surveys:

- Vantage Point surveys;
- Breeding raptor, owl and diver surveys;
- Focal loch watches for black-throated diver;
- Black grouse lek surveys; and
- Moorland breeding bird surveys.

6.59 The EIAR will be based on the following ecological surveys:

- Habitat walkover;
- Extended Phase 1 habitat survey;

- NVC and GWDTEs;
- Protected species surveys;
- Fish habitat survey; and
- Bat full spectrum static detector surveys.

Design and Mitigation

6.60 A habitat management plan will be carried out, in addition to a biodiversity enhancement plan compliant with the regulations of NPF4.

6.61 With appropriate site design, habitat loss can be restricted to areas of lower ecological value identified following surveys, and by limiting the loss of trees and wetland removal.

6.62 Wherever possible, turbines will be located away from major wildfowl flight lines and areas of high raptor activity.

6.63 In order to address the requirements of NPF4 with respect to biodiversity net gain, consideration will be given to habitat enhancement/creation works. Such works should be away from the turbines to avoid increasing the risk of bird strike.

Soil, Geology and Water

6.64 This section of the EIAR will assess the ground conditions and hydrogeology of the Site and its surrounds.

Baseline

6.65 The western portion of the Site is located within the Water of Girvan catchment area while the eastern portion is located within the River Doon catchment area. There are several small tributaries which flow through the Site, flowing east into Loch Doon, south into Loch Finlas and west into the Water of Girvan.

6.66 The British Geological Survey (BGS) Geoindex shows the bedrock underlying the Site to be predominantly composed of the 'Kirkholm Formation - Wacke' unit, with a large section to the north being composed of 'Marchburn Formation – Wacke'. There are small units of other bedrock across the Site, such as 'Blackcraig Formation – Wacke' in the south west corner and 'Southern Midland Valley Fellsite Sills – Andesitic Rock' in the north west of the Site.

6.67 Areas of potential peat are mapped to locations predominantly in the centre of the Site.

Potential Effects

6.68 Wind farm construction, operation and decommissioning involve activities that may affect soil, geological or water environments. The EIA will identify these activities, assess the significance of their potential impacts, and outline appropriate mitigation measures. Impacts will be assessed relative to a detailed baseline description and conceptual understanding of the existing hydrological and hydrogeological environment.

Proposed Scope of Assessment

6.69 The principal areas of consideration in the EIA will be:

- Water quality and pollution prevention;
- Site drainage (tracks, turbine foundations and hardstanding areas);
- Groundwater (in particular in relation to turbine foundation construction);
- Peat management and slide risk;
- Watercourse crossings and the impact of other engineering activities near water;
- Potential for land contamination;
- Private water supplies; and
- Mineral stability

Methodology

6.70 To establish the existing hydrology, hydrogeology and geology conditions at the Site, an initial desktop information gathering exercise will be carried out followed by site surveys.

6.71 A flood risk assessment is not considered likely to be required for this Proposed Development and so will not be included in the EIA.

Design and Mitigation

6.72 The EIAR will consider, where appropriate, sustainable drainage principles with a view to minimising the potential risk of flooding at the Site and preventing the Proposed Development from causing flooding, groundwater or watercourse pollution. Any areas of deep peat will be avoided where possible.

Air and Climate

Potential Effects

6.73 The principal effect on air and climate is the displacement of fossil fuels. This is quantifiable as the gains over the life of the Proposed Development against the release of carbon dioxide during construction, including any associated loss of peat and construction of road/tracks turbine bases and other infrastructure.

6.74 No adverse air quality impacts are anticipated from the operation of the Proposed Development.

Proposed Scope of Assessment

6.75 The EIA will consider the current electricity generation mix and assess the level of savings that could be made.

6.76 The latest guidance from the Scottish Government on calculating carbon savings from wind farms on peat will be used to determine the "pay back" time of the Proposed

Development, taking into account the loss of carbon from the disturbance of any peat on Site.

6.77 Potential impacts on air quality from dust etc. during the construction and decommissioning phases will be addressed through standard mitigation techniques to be agreed as part of a construction environmental management plan. No further specific assessment is proposed.

Landscape and Visual Amenity

Introduction

6.78 It is acknowledged from the outset that, in common with almost all commercial wind energy developments that some landscape and visual effects would occur as a result of the Proposed Development.

6.79 A key principle of the European Landscape Convention is that all landscapes matter and should be managed appropriately. It is also acknowledged that landscapes provide the surroundings for people's daily lives and often contribute positively to the quality of life and economic performance of an area.

6.80 It is therefore proposed that a Landscape and Visual Impact Assessment (LVIA) is undertaken as part of the EIA and an LVIA Chapter be included in the EIA Report. The LVIA will be undertaken by Chartered Landscape Architects, who are experienced in the assessment of large scale, onshore wind energy projects and are fully familiar with the landscape in the vicinity of the site.

6.81 It is proposed that the LVIA will consider the potential effects of the Proposed Development upon:

- Individual landscape features and elements;
- Landscape character; and
- Visual amenity and the people who view the landscape.

The Site

6.82 The Site is centred at approximately OS Grid Reference 245925, 599350. The closest settlements to the proposed turbines are Bellsbank, located approximately 5km north-east of the site, and Dalmellington which is located approximately 6km north-east of the Site at its nearest point. The nearest main highway is the A713 which runs approximately 5km to the east of the Site. The Proposed Development is located immediately north of Loch Finlas and approximately 1.5km west of Loch Doon.

6.83 The topography of the site is undulating, with the lowest points at approximately 240m AOD and the highest point being the summit of Big Hill of Glenmount at 382m AOD. The application site comprising of upland moorland, with a small number of areas of woodland. The Site is principally used for grazing.

6.84 The site and the proposed turbine locations are shown on Figures 1.1 and 1.2.

Guidance and Legislation

6.85 The LVIA will be prepared in accordance with the principles of best practice, as outlined in published guidance documents, notably the third edition of the Guidelines for Landscape and Visual Assessment (GLVIA3)[1].

6.86 The methodology and assessment criteria proposed for the LVIA will be developed in accordance with the principles established in this best practice document. It should be acknowledged that GLVIA3 establishes guidelines, not a specific methodology. The preface to GLVIA3 states:

> *"This edition concentrates on principles and processes. It does not provide a detailed or formulaic 'recipe' that can be followed in every situation – it remains the responsibility of the professional to ensure that the approach and methodology adopted are appropriate to the task in hand."*

6.87 The approach has therefore been developed specifically for this assessment to ensure that the methodology is fit for purpose. Consideration has also been given to the following documents:

- NatureScot (2022) Landscape Sensitivity Assessment Guidance (Methodology);
- NatureScot (2021) Guidance - Assessing the cumulative landscape and visual impact of onshore wind energy developments;
- SNH (2017) Siting and Design of Wind farms in the Landscape, Version 3;
- SNH (2017) Visual Representation of Wind farms Version 2.2;
- NatureScot (August 2023) Assessing impacts on Wild Land Areas – technical guidance;
- Landscape Institute (2021) Assessing landscape value outside national designations, Technical Guidance Note 02/21;
- Landscape Institute (2019) Technical Guidance Note 06/19, Visual Representation of Development Proposals;
- Landscape Institute (2019) Technical Guidance Note 02/19, Residential Visual Amenity Assessment
- Guidance on Aviation Lighting Impact Assessment (NatureScot 2024)

6.88 Full details of the methodology will be provided within the LVIA chapter of the EIA Report.

Proposed Scope of Assessment

6.89 It is proposed that the main objectives of the LVIA will be as follows:

[1] Landscape Institute and the Institute of Environmental Management and Assessment (2013) Guidelines for Landscape and Visual Impact Assessment, 3rd Edition.

- To identify, evaluate and describe the current landscape character of the Site, its surroundings and any notable individual or groups of landscape features within the Site;
- To determine the sensitivity of the landscape to the type of development proposed;
- To identify potential visual receptors (i.e. people that would be able to see the Proposed Development) and evaluate their sensitivity to the type of changes proposed;
- To identify and describe any impacts of the Proposed Development in so far as they affect the landscape and/or views of it and evaluate the magnitude of change due to these impacts;
- To identify and describe any mitigation measures (including mitigation which is inherent in the design and layout of the Development) that have been adopted to avoid, reduce and compensate for landscape and visual effects;
- To identify and assess any cumulative landscape and visual effects;
- To evaluate the level of residual landscape and visual effects; and
- To make a professional judgement about which effects, if any, are significant.

Distinction between Landscape and Visual Effects

6.90 In accordance with the published guidance, landscape and visual effects will be assessed separately, although the procedure for assessing each of these is closely linked. A clear distinction has been drawn between landscape and visual effects as described below:

- Landscape effects relate to the effects of the Proposed Development on the physical and perceptual characteristics of the landscape and its resulting character and quality.
- Visual effects relate to the effects on specific views experienced by visual receptors and on visual amenity more generally.

Study Area

6.91 In order to assist with defining the study area, a digital Zone of Theoretical Visibility (ZTV) model has been produced as a starting point to illustrate the geographical area within which views of development on the Site are theoretically possible. This was based on a 'bare-earth' scenario, whereby the screening effect of areas of existing vegetation or built features in the landscape are not taken into account. The ZTV was modelled to both blade tip height using the currently proposed turbine height of 200m and hub height based on the currently proposed 122.5m and these are presented at Figures 6.1 and 6.2.

6.92 With reference to Visual Representation of Wind Farms, Version 2.2[2] based on the preliminary turbine height of up to 200m blade tip height, an initial study area of up to 45 km should be considered for the purposes of establishing a preliminary evaluation of the likely receptors. However, the preliminary ZTV which accompanies this Scoping Report (Figure 6.3) illustrates that visibility would be limited at distances greater than 20 km with large areas of no ZTV coverage to the north, east, south and west. Therefore, it is proposed

[2] Scottish Natural Heritage (February 2017) Visual Representation of Wind Farms Guidance. Version 2.2.

that the LVIA will consider an initial 35 km radius LVIA study area. Detailed assessment will then be provided for a 20 km section of this study area, which it is considered represents a proportionate extent of the study area and the limit within which any potential significant effects might occur.

6.93 The cumulative effect of the Proposed Development in association with other wind energy developments will also be considered. Consideration was initially given to a 60 km radius from the site, accounting for NatureScot[3] guidance. Following this review, it is proposed that a 20 km detailed study area be adopted to consider cumulative effects, which is considered represents a proportionate extent of the study area and the limit within which any potential significant cumulative effects might occur.

Baseline Description

6.94 Initial studies have been undertaken to identify the potential landscape and visual receptors to be considered within the LVIA and the viewpoint locations to inform the assessment (15 proposed viewpoints are set out in **Table 6.1**). This is based on the initial ZTVs (**Figures 6.1-6.3**) and knowledge of the area surrounding the Site.

6.95 The key receptors are outlined in turn below. For the final LVIA detailed baseline information on the landscape and visual resource will be gathered through a combination of desk-studies, consultation and field surveys.

Landscape Character

6.96 NatureScot[4] published an updated national set of Landscape Character Types (LCTs) in early 2019. This 2019 national LCT map and associated LCT Descriptions now supersede the earlier 1990s SNH landscape character descriptions and mapping.

6.97 The site lies within LCT 76 - Foothills - Ayrshire. The key characteristics of LCT 76 are defined by NatureScot as follows:

- *Dissected landform of incised valleys cut between rounded ridges, frequently having a slightly conical form with long shoulder slopes, and plateaux occasionally rising to undramatic summits.*
- *Underlain by red sandstones in the west and coal measures in the east.*
- *Variety of landcover types: lower slopes typically have a pastoral character; with increasing altitude the proportion of rougher grazing rises; and summits are dominated by moorland vegetation.*
- *Swathes of dark green coniferous forest cover many of the rounded peaks and descend on to the lower slopes.*

[3] NatureScot (2021) Assessing the cumulative landscape and visual impact of onshore wind energy developments

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

- *The eastern part of this area, comprising the south eastern part of the Ayrshire Coalfield, has a concentration of large open-cast coal mines.*
- *Scatter of villages and farms in the northern parts of the Landscape Character Type, and very little settlement in more upland areas to the south and east.*
- *Remnants of historic settlement patterns still evident in areas that are unsettled and uncultivated.*
- *Enclosed nature of forested areas, with their foreshortened views, can create a remote, isolated feel.*
- *Simple, largely undeveloped landscape, with foothills often providing scenic backdrops to the settled valleys which surround them.*

6.98 In introducing the updated National Landscape Character Assessment, NatureScot set out that where there are 'topic specific landscape capacity or sensitivity studies, they would take precedence for informing that development type'.

6.99 Part of the Site lies within East Ayrshire and part lies within South Ayrshire, both of which have a topic specific study of the kind referred to by NatureScot, namely the East Ayrshire Landscape Wind Capacity Study (EALWCS) and the South Ayrshire Landscape Wind Capacity Study (SALWCS).

6.100 Both the EALWCS and the SALWCS consider the landscape and visual sensitivity of the identified landscape character types in East Ayrshire and South Ayrshire to wind energy development. Therefore, it is proposed to focus the assessment of effects on landscape character on the basis of the character types identified in these studies and not the national level assessment.

6.101 The proposed turbines lie within LCT 21 Rugged Uplands, Lochs and Forest, as identified within both the EALWCS and the SALWCS.

6.102 The LVIA will include an assessment of the sensitivity of the character of the LCTs within the Study Area, before going on to provide an assessment of the potential for the proposed development to result in significant effects on the character of each.

Landscape Designations

6.103 The Proposed Development is not located within a nationally designated landscape. It does however, lie within Local Landscape Areas designated by both East Ayrshire (Doon Valley LLA) and South Ayrshire (High Carrick Hills LLA). The Galloway Hills Regional Scenic Area in Dumfries and Galloway also lies within approximately 3km to the south-east.

6.104 The nearest Garden and Designed Landscape (GDL) to the Site is Craigengillan which lies around 3km to the north.

6.105 Potential effects on relevant designated landscapes will be considered within the LVIA.

Wild Land

6.106 Wild Land Areas (WLAs) are mapped and described by NatureScot[5]. The nearest WLA to the Proposed Development is Merrick, WLA 01, located approximately 6 km south-west of the site.

6.107 Given the distance between the Proposed Development and the WLA, it is considered that the Proposed Development would have some potential to result in effects on the key attributes and qualities of the WLA. Potential effects on WLA 01will therefore be considered within the LVIA

6.108 However, it is noted that the matter of wind energy and Wild Land is addressed in Policy 4 of the National Planning Framework 4 which states that 'Buffer zones around wild land will not be applied, and effects of development outwith wild land areas will not be a significant consideration'.

Visual Receptors

6.109 A detailed consideration of the potential for effects to the visual amenity of receptors in the landscape surrounding the site will be set out in the LVIA. This visual assessment will be informed by a selection of representative assessment viewpoints, which are listed in **Table 6.1**.

6.110 The LVIA will focus on the potential effects of the Proposed Development on different visual receptors including settlements, footpath users, recognised tourist routes, long distance walking routes, cycle routes and centres for tourism.

Residential Visual Amenity

6.111 Consideration of the visual amenity of the nearest residential properties to the site will be given within in the LVIA. Any residential properties located within 2 km of the Proposed Development will also be addressed within a separate standalone Residential Visual Amenity Assessment (RVAA) to be undertaken as part of the LVIA.

Proposed Viewpoints

6.112 It is proposed that the 15 locations set out in **Table 6.1** and shown on **Figures 6.1-6.3** are included as assessment viewpoints in the LVIA. The viewpoints represent visual receptors, LCTs and landscape designations at a range of distances and directions from the site.

6.113 Each of the representative viewpoints will be visited to evaluate the sensitivity of views. In addition, the study area will also be extensively visited to consider visibility of the Proposed Development as receptors move through the landscape.

[5] Available at: https://www.nature.scot/wild-land-area-descriptions

6.114 The viewpoints will be used as the basis for determining the effects on visual receptors within the study area. The sensitivity of different receptor groups will be set out in the LVIA methodology.

6.115 The level of effect experienced by different visual receptors will be determined by considering the sensitivity of the receptors with the magnitude of change resulting from the introduction of the Proposed Development.

Table 6.1 Proposed Viewpoint Locations

Viewpoint Number	Location	Approximate OS Grid Reference
VP1	Minor road along western shore of Loch doon, near Beoch	247651, 599884
VP2	Craiglee	247074, 596250
VP3	Shiel Hill	241721, 594404
VP4	Cycle route south of Loch Bradan	241834, 596019
VP5	Minor Road, Carrick Forest	238407, 593822
VP6	Minor Road, east of Tairlaw	242364, 600885
VP7	Junction of A713 and B741, Dalmellington	247258, 606227
VP8	Riecawr Avenue, Bellsbank	248047, 604975
VP9	Minor Road south of Bellsbank Plantation	248449,602875
VP10	A713, south of Loch Doon -	251715, 599905
VP11	Cairnsmore of Carsphairn	259449, 597996
VP12	Benquhat Hill	246659, 610123
VP13	Merrick	242756, 585547
VP14	Shalloch on Minnoch	240752, 590561
VP15	Glenalla Fell	235505, 600929

Visualisations

6.164 Each viewpoint will be illustrated with day time visualisations prepared in line with NatureScot best practice guidance[6].

Night-time Lighting Assessment

6.165 Air Navigation Order Article 222 requires turbines exceeding a tip height of 150 m to display visible aviation lighting to indicate their presence. Dispensations for reduced lighting schemes can be agreed with the Civil Aviation Authority (CAA), according to the guidance provided in CAP-764 and it is anticipated that a reduced lighting scheme would be agreed with the CAA in due course.

6.166 It is also possible to operate the medium intensity, red visible aviation lights in a reduced intensity mode when visibility from the Proposed Development exceeds 5 km. Furthermore,

[6] SNH (2017) Visual Representation of Wind farms Version 2.2

it is also possible to attenuate the amount of light experienced by receptors at elevations above and below the lights in order to reduce the level of effects experienced.

6.167 the LVIA will assess the effects of the aviation lighting in accordance with the NatureScot guidance[7] and separate judgements about the effects of the lighting during the hours of darkness will be reported.

6.168 This consideration will be informed by ZTVs of the lit turbines, illustrating where the lit turbines will be visible from in theory and also by ZTVs illustrating the intensity of the lighting above and below the lights. Additionally, the assessment will also be informed by night-time visualisations from a selection of viewpoints, illustrating the proposed lighting effects.

6.169 In line with NatureScot Visualisation Guidance, the viewpoints selected represent locations from where people are most likely to experience the wind farm at night.

6.170 It is proposed that the following night-time visualisations will be produced:

- *VP 1- Minor road along western shore of Loch doon, near Beoch; and*
- *VP 6 - Minor Road, east of Tairlaw; and*

6.171 The viewpoints will be used to inform consideration of the potential effects on key receptors within the surrounding landscape.

Cumulative Assessment

6.172 The LVIA will also consider the potential for any cumulative effects to arise. The requirement for consideration of cumulative effects under the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 is set out in Schedule 4, part 5, as follows:

> "*A description of the likely significant effects of the development on the environment resulting from, inter alia: (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.*"

6.173 This represents a change to the wording of the previous Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2010 which stated: "*A description of the likely significant effects of the development on the environment, which should cover the direct effects and any indirect, secondary, cumulative, short, medium and long-term, permanent and temporary, positive and negative effects of the development*".

6.174 There is therefore no longer any requirement under the current EIA Regulations to consider the potential for cumulative impacts in relation to other developments which are yet to be awarded consent.

[7] Guidance on Aviation Lighting Impact Assessment (NatureScot 2024)

6.175 However, it is acknowledged that current best practice guidance for cumulative impact assessment still refers to a consideration of proposals which are 'awaiting determination within the planning process with design information in the public domain' and states that "*The decision as to which proposals in the planning / consenting system should be included in an assessment is the responsibility of the determining authority*."

6.176 As such, it is proposed in this LVIA to consider cumulative effects caused by the development of the site in conjunction with other sites which are either operational, under construction consented or the subject of a full planning application. The NatureScot[8] best practice guidelines identify two principal types of cumulative visual impact:

- *Combined visibility – where the observer is able to see two or more developments from one viewpoint; and*
- *Sequential visibility – where two or more sites are not visible at one location but would be seen as the observer moves along a linear route, for example, a road or public right of way.*

6.177 The guidelines state that 'combined visibility' may either be 'in combination' (where two or more sites are visible from a fixed viewpoint in the same arc of view) or 'in succession' (where two or more sites are visible from a fixed viewpoint, but the observer is required to turn to see the different sites). Each of the above types of cumulative effect will be considered in the LVIA.

6.178 The assessment will also consider the potential cumulative effects of wind turbine aviation lighting, with reference to other wind farms that are either operational, under construction, consented or the subject of a full planning application which also have visible aviation warning lighting.

6.179 In order that the cumulative assessment remains focussed on other developments that have the greatest potential to give rise to significant cumulative effects it is necessary at the outset to decide which developments need to be considered in detail, as to consider all developments within 35 km of the Proposed Development would detract attention from the key issues relating to the application. In this landscape and visual context wind farms over 20 km away are highly unlikely to give rise to significant cumulative effects. It is also considered appropriate and proportionate to scope out all turbines under 50m, and any turbines between 50m and 80m which are located over 10km distance from the site. The cumulative impact assessment will therefore focus primarily on developments within approximately 20 km of the Proposed Development.

Potential Mitigation

6.180 Mitigation measures may include:

- *avoidance of effects;*
- *reduction in magnitude of effects; and*

[8] NatureScot 2021 Assessing the Cumulative Impact of Onshore Wind Energy

- *compensation for effects (which may include enhancements to offset any adverse effects).*

6.181 The primary mitigation adopted in relation to landscape and visual matters is likely to be embedded within the design of the Proposed Development and will comprise the consideration given to avoiding and minimising landscape and visual effects during the evolution of the Proposed Development layout. This is sometimes referred to as 'mitigation by design'.

Potential Landscape and Visual Effects

6.182 The LVIA will consider the potential effects of the Proposed Development upon:

- *individual landscape features and elements;*
- *landscape character;*
- *visual amenity and the people who view the landscape; and*
- *landscape designations as appropriate.*

6.183 The LVIA will consider the effects at three different stages in the lifetime of the Proposed Development:

- *during construction of the Proposed Development;*
- *during the operational lifetime of the Proposed Development; and*
- *during decommissioning of the Proposed Development.*

6.184 Effects during the first and third of these phases are considered to be temporary and would have a short duration. Effects associated with the operational phase of the Proposed Development are considered to be long term effects.

6.185 Following the judgement of the sensitivity of the landscape or visual receptor, the LVIA will provide a judgement as to the magnitude of change and the level of the effect experienced by each receptor, along with a statement to clarify whether the effect resulting from the Proposed Development is significant or not.

Scoping Questions to Consultees

6.186 The following are considered to be the key issues which require consideration by the consultees:

- *Are there any comments on the proposed study areas?*
- *Are there any comments on the proposed list of viewpoint locations?*
- *Do you agree with the proposed 2km study area for the Residential Visual Amenity Assessment (RVAA)?*
- *Do you agree that the proposed scope of the LVIA is appropriate?*

Cultural Heritage

6.187 This section of the EIAR will assess the likely direct and indirect impacts on both designated and non-designated heritage assets within the Site boundary and within the surrounding area. The chapter will assess the significance and setting of these assets and assess the significance of any known or unknown archaeological deposits within the Site boundary.

Baseline

6.188 There is one Scheduled Monument, Knockdon Enclosure, situated within the Site boundary. The monument comprises a well-preserved later prehistoric enclosed settlement.

6.189 Furthermore, there are seven Scheduled Monuments within 5km of the Site. These are:

- SM5200 Munteoch, Settlement and Field Systems (approximately 1.5km north of the Site boundary);
- SM4390 Dalnean Hill, Farmstead and Field System (approximately 3.5km north of the Site boundary);
- SM13693 Bogton Loch Airfield, 175m Sse Of Buchan'S Bridge, Dalmellington (approximately 4.5km north of the Site boundary);
- SM3009 Dalmellington, Motte (approximately 4.5km north of the Site Boundary);
- SM8616 Donald's Isle, Loch Doon, Settlement 750m Ssw Of Lamdoughty Farm (approximately 2.4km south east of the Site boundary);
- SM8619 Loch Doon Castle, Original Site & Remains Of, 570m Ne Of Craigmalloch (approximately 3.5km south east of the Site boundary); and
- SM90203 Loch Doon Castle (approximately 3.5km south east of the Site boundary).

6.190 There are several listed buildings in the vicinity of the Site, including Craigengillan (LB18793) and Craigengillan stables (LB18794), both of which are category A listed buildings. The Proposed Development could theoretically be visible from both of these buildings, which are located approximately 1.5km north of the Site boundary.

6.191 There are several Gardens and Designed Landscapes within the vicinity of the Proposed Development, the closest being Craigengillan (GDL00111), a rare example of a complete and unfragmented estate landscape dating back to the 18th century and incorporating the listed buildings mentioned above. At its closest point, it lies 650m north east of the Site boundary. Furthermore, Blairquhan GDL (GDL00063) is located approximately 6.5km north west of the Proposed Development.

Potential Effects

6.192 Direct impacts would involve physical alteration or destruction of heritage assets as a result of the construction, operation or decommissioning of the wind farm. Such direct impacts could result from the construction of turbine and crane bases, new or upgraded access tracks, substations, transformers or cables.

6.193 Indirect effects on the setting of heritage assets are likely due to the size of the proposed turbines and their potential to detract from key views towards an asset or an experience at the asset when standing within its setting.

Proposed Scope of Assessment

6.194 The proposed scope of the assessment is twofold, to understand:

- Direct effects – The physical effect on all heritage assets, including buried archaeological remains and other historic structures, within the footprint of the Proposed Development including associated services, construction compound, electrical cable connections and on/off site access routes;
- Indirect effects – The effect on the setting of the designated heritage assets within the ZTV to a distance of 10km from the proposed turbines.

6.195 The EIA will assess the potential direct impacts on identified archaeological sites, as well as the potential indirect impacts on the settings of designated and non-designated heritage assets in association with the Landscape and Visual Impact Assessment.

Methodology

6.196 An extended desk-based assessment of available information will be conducted to establish the baseline conditions to enable assessment of both direct and indirect effects within the Site and a study area around it. The principal sources of information will be the National Record of the Historic Environment, supplemented by relevant published documentary and cartographic material as appropriate. The proposed study area will be as follows:

- For buried archaeological sites that are recorded on the National Record of the Historic Environment but are not otherwise designated, the study area is a 1km buffer zone around the proposed wind turbine locations.
- For designated historic environment resources that fall within the ZTV, the study area is a 10km buffer zone around the proposed wind turbine locations.

Design and Mitigation

6.197 The design of the wind farm will take into account the potential effects of the wind farm on the settings and significance of designated heritage assets. Where effects on non-designated heritage assets cannot be avoided, mitigation measures such as archaeological excavation and recording/watching brief will be proposed.

7 SUMMARY

Context

7.1 Energiekontor UK Ltd is evaluating the potential of land for development approximately 6km south of Dalmellington, in South Ayrshire and East Ayrshire ("the Site"), see **Figure 1.1**. The development would be for a wind farm of up to 12 wind turbines (see **Figure 1.2**), including associated development such as crane pads, access tracks, substation, temporary construction compound and battery storage facility ("the Proposed Development").

7.1 This Scoping Report provides an outline of relevant environmental receptors that may be significantly affected by the Proposed Development and describes the information that it is envisaged will be submitted as part of a future EIA. This approach enables consultees with a particular interest to identify whether any potentially significant impacts have been omitted, suggest additional mitigation measures or to comment on the suitability of the intended method of assessment if necessary.

7.2 Comments on the scope of the proposed EIA are invited. Should consultees be in a position to identify or provide additional relevant information concerning the existing environment or any specific local issues, this would be welcomed.

Comments

7.3 Consultees are invited to comment on the proposed scope of the EIA set out in this report. The key questions to consider when reviewing the environmental issues are as follows:

- *Are there any potential significant impacts that have not been included?*
- *Is the intended method of assessment appropriate?*
- *Are there additional mitigation measures that should be considered?*
- *Are there any other landscape or visual receptors and viewpoint assessment locations that should be considered in the assessment?*
- *Are there any other wind energy developments which should be included or excluded from the cumulative assessment?*