Sclenteuch Wind Farm

Scoping Report

Author	Lesley Cartwright, Natural Power Consultants Ltd
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1 Introduction

1.1 Background and Context

1.1.1 RES ('the Applicant) are preparing an application for the Sclenteuch Wind Farm ('Proposed Development'), located South Ayrshire / East Ayrshire near Waterside east of the A713. The application will be made to Scottish Ministers via the Scottish Government Energy Consents Unit (ECU) under Section 36 of the Electricity Act 1989. The application will be supported by an Environmental Impact Assessment Report (EIA Report) as required by the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 as amended (the EIA Regulations).

1.1.2 The Proposed Development is located in both South Ayrshire and East Ayrshire near Waterside, east of the A713.

1.1.3 The total capacity of the Proposed Development is proposed to be over 50MW, comprising turbines with a blade tip height of up to 200m. A candidate turbine hasn't been chosen yet and wont be known until procurement processes are completed pre-construction. However, it is currently expected a rotor diameter of around 150m will be utilised. Each EIA topic will assess turbine dimensions considered to be the worst case for each topic but remaining within the overall 200 m to blade tip, this will ensure the EIA covers all worst case eventualities foreseeable at the present time. Whether a maximum hub height or maximum rotor diameter is considered the worst case scenario will be discussed in topic section below.

1.1.4 In addition to the wind turbines described above, the associated infrastructure will include: wind turbine foundations, crane hardstands, substation and control building, site entrance, access tracks, water crossings, underground cabling, borrow pits, temporary compounds, laydown areas, temporary concrete batching plant, signage and anemometer and/or communication masts.

1.1.5 This document forms the Scoping Report submitted to ECU in order to request a Scoping Opinion from the Scottish Ministers, on the EIA of the Proposed Development.

1.2 Need for Development

1.2.1 The Proposed Development comprises up to nine turbines of up to 200m to blade tip. It is located to the west of Waterside, Dalmellington that was subject to a previous application for wind energy development by RES in 2013, which will be referred to throughout this document as Keirs Hill Wind Farm application. The previous application was for 17 turbines each up to 149m to blade tip, and whilst it was unfortunately refused at Public Local Inquiry (PLI) the reporter concluded that "the site is a suitable one for a wind farm development".

1.2.2 The science behind climate change is well established and points strongly towards a need to reduce our reliance on fossil fuels in order to avoid negative economic, environmental and social effects. Since the Keirs Hill Wind Farm application was refused, international and European commitments to reducing CO_2 and tackling climate change have been made by all major economies. In response to these issues the UK has made significant, legally binding commitments to increase the use of renewable energy.

1.2.3 As recently as May 2019 the Scottish Government announced its intention to set a legally binding goal to achieve net-zero greenhouse gas emission by 2045. In response, both East Ayrshire and South Ayrshire councils have developed strategies to reduce greenhouse gas emissions and improving, protecting and enhancing the local environments[1,2]

1.2.4 The Proposed Development relates directly to both the need and those commitments, while addressing the key concerns raised in the reporters' report following the PLI of the Keirs Hill Wind Farm application, notably landscape and visual impact, residential amenity, historic sites (eg the Waterside Ironworks).

[1] South Ayrshire Council Sustainable Development and Climate Change Strategy, 2019
[2] East Ayrshire Council State of the Environment Report, 2019

1.3 The Applicant

1.3.1 RES is the world's largest independent renewable energy company active in onshore and offshore wind, solar, energy storage and transmission and distribution. At the forefront of the industry for 39 years, RES has delivered more than 18GW of renewable energy projects across the globe and supports an operational asset portfolio exceeding 6GW worldwide for a large client base. Understanding the unique needs of corporate clients, RES has secured 1.5GW of power purchase agreements (PPAs) enabling access to energy at the lowest cost. RES employs more than 3,000 people and is active in ten countries.

1.3.2 From its Glasgow office RES has been developing, constructing and operating wind farms in Scotland since 1993. RES has developed and/or built twenty-one wind farms in Scotland with a total generation capacity of 597 MW. RES is currently constructing Blary Hill Wind Farm in Argyll and Bute and has recently finished constructing Solwaybank Wind Farm in Dumfries and Galloway and Freasdail Wind Farm in Argyll and Bute.

2 Approach to Environmental Impact Assessment

2.1 Environmental Impact Assessment

2.1.1 The EIA Regulations require that before consent is granted for certain types of development, an EIA must be undertaken. The Regulations set out the types of development which must always be subject to an EIA (Schedule 1 development) and other developments which may require EIA if they are above certain thresholds and are likely to give rise to significant environmental impacts (Schedule 2 development).

2.1.2 The Proposed Development falls within Schedule 2 of the EIA Regulations and has the potential to have some significant environmental effects. Therefore, it is the opinion of the Applicant that the Proposed Development qualifies as "EIA Development" and therefore the Applicant will submit an EIA Report, in support of a Section 36 application to the Scottish Ministers.

2.1.3 EIA is an iterative process which identifies the potential environmental effects that in turn inform the eventual design of the Proposed Development. It seeks to avoid, reduce, offset and minimise any adverse environmental effects through mitigation. It takes into account the effects arising during the construction, operation and decommissioning phases. Consultation is an important part of the EIA process and assists in the identification of potential effects and mitigation measures.

2.2 Purpose of EIA Scoping

2.2.1 The EIA Regulations provides for potential applicants to ask Scottish Ministers to state in writing the information that should be provided within the EIA Report. The 'Scoping Opinion' is to be offered following discussion with the consultation bodies.

2.2.2 The Applicant recognises the value of the scoping approach and the purpose of this report is to ensure that relevant issues are identified and to confirm that the assessment process described will meet legislative requirements.

2.2.3 This Scoping Report:

- describes the existing site and its context;
- establishes the format of the EIA Report;
- provides baseline information; and

- describes key issues and the proposed assessment methodologies for various technical assessments to be covered in the EIA Report.

2.2.4 In addition, each technical section concludes by listing the key questions the Applicant would like the Scoping Opinion to answer.

2.2.5 This Scoping Report will be issued to the Scottish Ministers via the ECU, who will seek opinions from a range of statutory and non-statutory consultees. Where requested, the report can be made available to other interested parties.

2.3 The EIA Report

2.3.1 The structure of the EIA Report will follow the requirements of EIA (Scotland) Regulations 2017 and other relevant good practice guidance. Essentially, the EIA Report will comprise the following volumes:

- Volume 1: EIAR written text
- Volume 2: Figures
- Volume 3: Technical Appendices
- Volume 4: Non-Technical Summary

2.3.2 In addition, the following supporting documentation will be provided to accompany the Section 36 application.

- Planning Statement
- Design and Access Statement
- Pre-application Consultation Report

2.3.3 Volume 1 of the EIAR will comprise of the following chapters:

Table 2.1 : EIAR Chapters

Topic	Chapter	Title
Introductory	1	Introduction
	2	Proposed Development
	3	Design Evolution and Alternatives
	4	Approach to EIA
Physical Environment	5	Landscape and Visual Impact Assessment (LVIA)
	6	Cultural Heritage Assessment
Biological Environment	7	Ecology Assessment
	8	Ornithology Assessment
	9	Geology, Hydrology and Hydrogeological Assessment

	10	Forestry
Population and Human Health	11	Traffic and Transport Assessment
	12	Noise Assessment
	13	Safety and Other Issues
	14	Potential Grid Connection
	15	Socio-economic Assessment
Climate Change	16	Climate Change
	17	Schedule of Environmental Mitigation
Conclusion	18	Summary of Residual, Synergistic and Cumulative Effects

2.3.4 Each technical chapter (5-16) will include, as a minimum, the following sections:

- Introduction;
- Legislation, Policy and Guidance;
- Consultation;
- Methodology;
- Baseline;
- Assessment of Potential Effects;
- Mitigation;
- Assessment of Residual Effects;
- Assessment of Cumulative Effects; and
- Summary.

2.4 EIA Report Format

2.4.1 The EIA Report will be made available online, on USB flash drive and hard copy although in the interest of sustainability the Applicant would encourage take up of the online format.

3 The Proposed Development

3.1 Introduction

3.1.1 This section describes the Proposed Development and provides information on its location, physical characteristics, proposed components and design. The turbine and infrastructure layout will be subject to an iterative design process as part of the EIA.

3.1.2 The Proposed Development is located on land, in the area of both East Ayrshire and South Ayrshire councils, near Waterside.

3.1.3 As currently proposed, the wind farm development will comprise:

- up to nine three-bladed horizontal axis wind turbines of up to 200m tip height. The turbines would be nominally rated at 6MW;
- at each turbine, associated low to medium voltage transformers and related switchgear;
- turbine foundations;
- hardstand areas for erection cranes at each turbine location;
- a series of onsite tracks;
- a site access route from the main road network;
- borrow pits (dependent on availability of stone on site);
- a substation compound containing a control building and communications mast;
- a network of buried electrical cables; and
- temporary construction compounds.

3.2 Site Description

3.2.1 The site of the Proposed Development ('Site') is currently a mixture of sheep grazing and commercial forestry. It occupies forested hills and the River Doon valley passes to the east, with settlements at Dalmellington, Waterside and Patna. To the west is the Water of Girvan, which flows through the village of Straiton. The full extents of the Site are shown on Figure 3.1. The Site is centred on Ordnance Survey grid ref 240700E, 607500N and covers an area of approximately 1,000ha

3.3 Site Design

3.3.1 The Site was previously considered to have sufficient capacity for approximately 33 wind turbines; however the Proposed Development will consider a reduction to 9 wind turbines to mitigate some concerns raised on previous Keirs Hill Wind Farm application, for 17 wind turbines. This layout is shown in Figure 3.2. This is subject to change as a consequence of the EIA process informing the design. Based on 6MW wind turbines, the Proposed Development would produce sufficient electrical energy to satisfy the average annual requirements of approximately 6,796 homes[3].

3.4 Cumulative Development

3.4.1 Schedule 4, regulation 5 of the EIA Regulations details the information for inclusion in EIA Reports. Schedule 4, regulation 5 (e) states the following with respect to cumulative effects:

"the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources".

3.4.2 Cumulative sites within 25 km of the site as listed in Table 3.1. The rationale for these sites is explained in Section 5 Landscape and Visual, below.

Table 3.1 : Cumulative sites within 25km

Site name	Status
Dersalloch	Installed
Burnhead/Chalmaston Wind Farm	Refused
Linfairn Wind Farm	Withdrawn
North Kyle Wind Farm	Application
South Kyle Wind Farm	Construction

[3] Based on the annual average homes consumption figures from BEIS -National Energy Efficiency Data-Framework (NEED) 2021; figures may vary depending on final number of turbines and model chosen.

Over Hill Wind Farm	Consented
Benbrack Wind Farm	Consented
Knockower Wind Farm	Scoping
Hadyard Hill Wind Farm (Extension)	Application
Enoch Hill Wind Farm	Consented
Knowside	Application
Leffinwyne Farm Wind Farm	Refused
Kype Muir Wind Farm	Installed
Windy Standard III Wind Farm	Application
Windy Standard Wind Farm	Installed
Windy Standard Wind Farm (Extension)	Installed
Kirk Hill Wind Farm	Consented
Pencloe Wind Farm	Consented
Hadyard Hill Wind Farm	Installed
Afton Wind Farm	Installed
Quantans Hill	Scoping
Clauchrie Wind Farm	Application
Windy Rig	Construction
Lambdoughty	Scoping
Hare Hill	Installed
Shepherds' Rig Wind Farm	Application
Tralorg Wind Farm	Installed
Hare Hill (Extension)	Installed
Assel Valley Wind Farm	Installed
Magheuchan Rig Wind Farm	Consented
Blackhill to Magheuchan (Sanquhar) Wind Farm	Consented
Longburn Wind Farm	Refused
Euchanhead Wind Farm	Application
Lethans	Consented
Mark Hill Wind Farm	Installed
Mark Hill Wind Farm (Extension)	Scoping
Whiteside Hill	Approved

3.5 Electrical Layout and Grid Connection

3.5.1 Turbines will be electrically connected to each other via inter-array cable circuits. An onsite substation, which would house transformer(s) and associated switchgear, would convert the electricity generated by the turbines onto an appropriate voltage for onward transmission onto the National Grid. The grid connection will follow a

separate application process, but highlevel information of the indicative route and connection envisaged connection point will be provided within the EIAR.

3.6 Construction Phase

3.6.1 It is anticipated that the construction phase of the Proposed Development would be completed over a period of approximately 12-18 months.

3.6.2 Temporary compound(s) would be required during construction. The temporary compound(s) would include site cabins and welfare facilities for construction workers and could also be used as a laydown area for the delivery of some materials.

3.6.3 Stone required to construct any access tracks could potentially be obtained from borrow pits within the Site. The exact location of borrow pits would be dependent upon site surveys, availability of suitable material and proximity to where it is required. Should a suitable borrow pit search area not be identified within the Site, the Applicant will need to make provision for the import of aggregate from a suitable offsite source.

3.6.4 All statutory legislation and other best practice guidance would be fully complied with during construction.

3.6.5 Construction mitigation and environmental protection measures would be implemented via a Construction Environmental Management Plan (CEMP).

3.7 Operational Phase

3.7.1 The assessments undertaken to inform the EIA will consider the operational phase of the Proposed Development in perpetuity.

3.7.2 Routine operational and maintenance work would be carried out as necessary.

3.8 Decommissioning Phase

3.8.1 When decommissioning is required, it is considered that the impacts would be less than the impacts experienced during the construction phase.

4 Planning Policy Context

4.1 Introduction

4.1.1 The application will be submitted under Section 36 of the Electricity Act 1989 (Section 36 application) and accompanied by a Planning Statement in support of the Proposed Development. The Planning Statement will consider the Proposed Development against identified planning and other policy objectives, concluding with substantiated comments about the extent to which the Proposed Development complies with the aims and objectives of identified plans and policies.

4.1.2 For clarity, the Planning Statement will draw upon the residual effects, post mitigation, of the Proposed Development identified in the various technical chapters of the EIA Report, in discussing the extent to which it complies with the aims and objectives of identified planning, energy and other relevant policy objectives. The planning and energy related documents that will be considered by the Applicant are set out below.

4.2 National Planning Policy

National Planning Framework 3

4.2.1 The Third National Planning Framework[4] (NPF3) for Scotland sets the overall context for development planning across the country and provides a framework for the spatial development of Scotland as a whole. NPF3 was introduced in June 2014 and sets out Scottish Government policy on land use matters. NPF3 sets out the Scottish Government's development priorities over the next 20 to 30 years and identifies national developments which support the development strategy. NPF3 is a material consideration in the determination of Section 36 applications.

4.2.2 The Planning Statement will identify those elements of NPF3 considered relevant to determination of the Proposed Development application. While Section 3 of NPF3, Low Carbon Place, is likely to contain material of most relevance to the Proposed Development, other sections of NPF3, notably Section 2, Successful, Sustainable

[4] https://www.gov.scot/publications/national-planning-framework-3/

Place, and Section 4, Natural, Resilient Place, will also contain relevant commentary and the Planning Statement will identify and discuss these matters.

4.2.3 In December 2020 the Scottish Government published its Position Statement[5] in respect of National Planning Framework 4 (NPF4), following which a draft of NPF4 is expected sometime in late 2021. Delivering net zero greenhouse gas emissions has been identified as one of the four key outcomes for NPF4. The other three are Resilient Communities, A Wellbeing Economy and Better, Greener Places. NPF4 will be considered within the Planning Statement should a draft be available at the time of submission.

Scottish Planning Policy

4.2.4 Scottish Planning Policy[6] (SPP) was first introduced by the Scottish Government in June 2014 alongside NPF3. A revised version of SPP was published in 2020. SPP states that its purpose *"is to set out national planning polices which reflect Scottish Ministers' priorities for operation of the planning system and for the development and use of land"* (Scottish Government, 2020). As a statement of Scottish Ministers' priorities, the content of SPP is a material consideration that carries significant weight in the assessment of Section 36 applications, although SPP makes it clear that it is for the decision maker to determine the appropriate weight in each case.

4.2.5 The subject policies contained in SPP mirrors the structure of the NPF3 and are set out under the following headings:

- A Successful, Sustainable Place;
- A Low Carbon Place;
- A Natural, Resilient Place; and
- A Connected Place.

4.2.6 The narrative and policies under the Low Carbon Place heading are likely to be of most relevance to the Proposed Development, as this section contains commentary relating to renewable energy matters in general and in relation to onshore wind in particular. Table 1 of SPP Spatial Frameworks shows areas where wind farms will not be acceptable (Group 1), areas of significant protection (Group 2) and areas with potential for wind farm development (Group 3). As far as it is possible to tell from

[5] https://www.gov.scot/publications/scotlands-fourth-national-planning-framework-position-statement/
[6] https://www.gov.scot/publications/scottish-planning-policy/

the scale of the spatial frameworks on both South Ayrshire Council's website and East Ayrshire Council's website, the site is located within both Group 2, due to high level carbon rich soil data, and Group 3 areas.

4.2.7 The Planning Statement will consider the Proposed Development in the context of the Spatial Framework and other relevant commentary in SPP, including aims and objectives regarding the creation of a low carbon economy, the presumption in favour of sustainable development and other relevant matters relating to rural development.

Planning Advice Notes

4.2.8 Alongside NPF3 and SPP, the Scottish Government provides technical advice on specific land use planning matters through a series of Planning Advice Notes (PANs). A number of PANs are potentially relevant to the Proposed Development and these may be briefly discussed in the Planning Statement, with more detailed commentary reserved for the relevant technical chapters of the EIA Report. At this stage, it is envisaged that the following PANs may be of relevance:

- PAN 1/2011: Planning and Noise (2011);
- PAN 1/2013: Environmental Impact Assessment, Revision 1.0 (2017);
- PAN 2/2011: Planning and Archaeology (2011);
- PAN 3/2010: Planning Advice on Community Engagement (2010);
- PAN 51: Planning, Environmental Protection and Regulation (2006);
- PAN 60: Planning for Natural Heritage (2000);
- PAN 61: Planning and Sustainable Urban Drainage Systems (2001);
- PAN 68: Design Statements (2003);
- PAN 69: Planning and Building Standards Advice on Flooding (2004);
- PAN 75: Planning for Transport (2005); and
- PAN 79: Water and Drainage (2006).

Historic Environment Policy for Scotland (2019)

4.2.9 The Historic Environment Policy for Scotland[7] (HEPS) sets out policies for the historic environment, provides greater policy direction for Historic Environment Scotland and provides a policy framework to inform the work of organisations that have a role and interest in managing the historic environment. HEPS is a material consideration which should be taken account of whenever a planning decision will affect the historic environment. Pages 10 and 11 illustrate the challenges and opportunities facing the historic environment including climate change and the effort required to mitigate and adapt to its effects.

4.2.10 The Planning Statement will consider the Proposed Development against HEPS, notably the Policies and Principles which include conservation and management of change for the benefit of present and future generations. HEPS recognises that changes in society, climate change and economy can create challenges for the historic environment requiring that resources are managed sustainably to balance competing demands.

4.3 Energy Policy

4.3.1 Most of the energy policy documents of relevance to the Proposed Development are concerned with reducing the amount of greenhouse gases that are emitted as a result of energy production and a related objective of increasing the proportion of energy derived from renewable sources. The Planning Statement will identify and discuss the key aims and objectives of the most pertinent energy policy documents to the Proposed Development, as at the time of EIA Report preparation. The discussion will include relevant international, European, United Kingdom (UK) and Scottish energy related legislation and policy.

International and European Context

4.3.2 It is anticipated that the commentary will identify and discuss the following publications:

- The COP UN Paris Agreement 20158 (the Paris Agreement), sets out the ambition of holding the increase of global average temperature to *"well below 2°C"* and pursuing efforts to limit temperature increases to 1.5°C. The

[7] https://www.historicenvironment.scot/advice-and-support/planning-and-guidance/historic-environment-policy-for-scotland-heps/
[8] https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement

UK ratified the Paris Agreement in 2016. Any changes emerging from the forthcoming COP26 to be held in Glasgow later in 2021 will also be discussed.

- Intergovernmental Panel on Climate Change 20189 (IPCC) – Special Report on Global Warming of 1.5°, looks at a number of actions required to limit warming to 2°C above pre-industrial levels, including phasing out fossil fuel power generation.
- The United Nations Emissions Gap Report 202010, the eleventh in a series of reports comparing where greenhouse gas emissions are heading, against where they need to be and highlighting the ways to close the gap. This latest report underlines that renewable energy deployment and energy efficiency are key to an energy transition and driving down greenhouse gas emissions. It states that enhanced action by G20 members will be essential for global mitigation to succeed.
- European Union (EU) Directive 2018/200111 establishes a common framework for the promotion of renewable energy and sets a binding target of 32% of energy consumption to be from renewable sources by 2030. Despite the exit of the UK from the EU, the EU (Withdrawal) Act 2018[12] (as amended) provides that EU derived domestic legislation continues to have effect.

UK Context

4.3.3 In a UK energy policy context the following will be considered:

- The Climate Change Act 2008[13] introduced a legally binding target for the UK to reduce CO2 emissions by at least 80% by 2050, relative to 1990 levels.
- The Climate Change Act 2008 (2050 Target Amendment) Order 2019[14] passed into law the target for UK greenhouse gas emissions to be at least 100% lower than the 1990 baseline by 2050 (net zero by 2050). This positioned the UK as the first G7 nation to set such a goal.

[9] IPCC (2018) 'Global Warming of 1.5°C, an IPCC special report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development and efforts to eradicate poverty'
[10] https://www.unenvironment.org/emissions-gap-report-2020
[11] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32018L2001
[12] http://www.legislation.gov.uk/ukpga/2018/16/contents/enacted
[13] https://www.legislation.gov.uk/ukpga/2008/27/contents
[14] https://www.legislation.gov.uk/ukdsi/2019/9780111187654

- The UK government published the Energy White Paper – Powering our Net Zero Future[15] in 2020. A key focus of this publication is the need to actually achieve targets, not just set goals for action. The main route for achieving this is highlighted as the further deployment of renewable energy generation, including onshore wind.
- Committee on Climate Change (CCC) - Progress in reducing emissions and Progress in adapting to climate change - 2021 Progress Reports to Parliament[16] and CCC – Net Zero and The UKs contribution to stopping global warming and The Sixth Carbon Budget[17] (2020) are the most recent publications from the CCC. These documents send out an urgent message regarding the need to tackle climate change, noting the crucial role that the renewables sector has to play in facing this challenge.

Scottish Context

4.3.4 In relation to Scottish Government energy policy, the following will be considered:

- The Climate Change (Scotland) Act 2009[18] created the statutory framework for greenhouse gas emission reductions in Scotland, which was then amended in 2019 with the Climate Change (Emissions Reduction Targets) (Scotland) Act (2019)[19] to introduce the commitment for Scotland to become net-zero by 2045.
- The Reducing Emissions in Scotland – 2020 Progress Report to the Scottish Parliament[20] (2020) assesses the progress made in achieving targets to reduce GHG emissions and considers the actions required to help to achieve the net-zero 2045 target.
- The Scottish Government's Programme for Scotland 2020-2021, Protecting Scotland, Renewing Scotland,[21] (2020) focuses on achieving a green recovery post COVID-19 and sets the commitment to addressing climate change within this aim. An updated version of the programme will be considered instead, if published prior to submission of the Section 36 application.

[15] https://www.gov.uk/government/publications/energy-white-paper-powering-our-net-zero-future
[16] https://www.theccc.org.uk/publication/2021-progress-report-to-parliament/
[17] https://www.theccc.org.uk/publication/sixth-carbon-budget/
[18] http://www.legislation.gov.uk/asp/2009/12/contents
[19] http://www.legislation.gov.uk/asp/2019/15/enacted
[20] https://www.theccc.org.uk/wp-content/uploads/2020/10/Reducing-emissions-in-Scotland-Progress-Report-to-Parliament-FINAL.pdf
[21] https://www.gov.scot/publications/protecting-scotland-renewing-scotland-governments-programme-scotland-2020-2021/

- Update to the Climate Change Plan 2018 – 2032: Securing a Green Recovery on a Path to Net Zero[22] updates the Scottish Government's legislative commitment to reduce emissions by 75% by 2030 and to reach net-zero by 2045. Embedded within these targets is a focus to evolve and update policy that will continue the growth of renewable energy generation.
- The Scottish Energy Strategy 2017[23] sets out the Scottish Government's strategy through to 2050, marking a 'major transition' over the next 3 decades in terms of energy management, demand reduction and generation. Scotland's Energy Strategy Position Statement[24] was published in 2021 and provides an overview of the short to medium term priorities for ensuring a green recovery, aligned with the net zero target.
- The Onshore Wind Policy Statement 2017[25] emphasises the important role of the low carbon sector to Scotland's economy and that building on the onshore wind sector remains a top priority for Ministers.

4.4 Local Planning Policy

4.4.1 As the Proposed Development is located partly within South Ayrshire and partly within East Ayrshire, local planning policy for both Council areas will be considered.

South Ayrshire's Local Development Plan (2014)

4.4.2 The adopted development plan is the South Ayrshire Local Development Plan (2014)[26] (LDP). South Ayrshire's LDP2 is currently in examination and the Council envisages LDP2 being adopted by late autumn 2021.

4.4.3 The Council acknowledge and recognise within the LDP that they have a responsibility to identify those areas which are the most appropriate for onshore

[22] https://www.gov.scot/publications/securing-green-recovery-path-net-zero-update-climate-change-plan-20182032/
[23] https://www.gov.scot/publications/scottish-energy-strategy-future-energy-scotland-9781788515276/
[24] https://www.gov.scot/publications/scotlands-energy-strategy-position-statement/
[25] https://www.gov.scot/publications/onshore-wind-policy-statement-9781788515283/
[26] https://www.south-ayrshire.gov.uk/documents/localdevplan_final.pdf

wind energy, that contribute to the overall national supply and which can offer benefits which can be important to the wellbeing of rural communities.

4.4.4 The principles of sustainable development which underpin the policies of the LDP are overarching and will therefore be applied in the assessment of all wind farm development.

4.4.5 A variety of policies in the LDP will be relevant to consider, the key policies being LDP policy: renewable energy and LDP policy: wind energy. These policies state that the Council will be supportive of wind energy proposals subject to a number of criteria including the landscape being capable of accommodating such proposals and that there will not be a significant detrimental effect on residential amenity and natural heritage, amongst other criteria.

4.4.6 South Ayrshire's LDP2 will also be considered in relation to the Proposed Development. Should LDP2 be adopted by the time of submission then it will supersede the 2014 LDP. Should it not have been adopted by submission, but because it has reached the final stages of review prior to being adopted, LDP2 will still be a material consideration and will therefore be taken into account in the Planning Statement.

South Ayrshire Supplementary Planning Guidance: Wind Farms (2015)[27]

4.4.7 The purpose of this guidance is twofold;

- firstly to inform the reader of the spatial strategy for wind energy, in line with the requirements of SPP, the strategy identifies areas within South Ayrshire which are afforded significant protection and those areas within which there is potential for a range of wind turbine typologies; and
- secondly to provide guidance to developers on how the policy criteria within the LDP will be applied and the information the Council will seek from them when assessing their proposals.

South Ayrshire Landscape Wind Capacity Study (2018)[28]

4.4.8 This study provides guidance on the appraisal of wind farm proposals and considers the landscape and visual sensitivity of various landscape character types. Potential

[27] https://www.south-ayrshire.gov.uk/documents/adopted%20wind%20energy-supplementary%20guidance.pdf
[28] https://www.south-ayrshire.gov.uk/planning/documents/south%20ayrshire%20landscape%20wind%20capacity%20study%20-%20final%20august%202018.pdf

cumulative issues are also considered as well as the scope for repowering existing wind farms with larger turbines.

East Ayrshire's Local Development Plan (2017)

4.4.9 The East Ayrshire LDP29 was adopted by East Ayrshire Council in 2017. The LDP sets out how East Ayrshire should develop in the next 10 – 20 years, putting in place a framework for sustainable economic growth, good placemaking and appropriate conservation and enhancement of the environment.

4.4.10 A variety of policies in the LDP will be relevant to consider, the key policy being Policy RE3: Wind energy proposals over 50 metres in height. Policy RE3 states that the Council will assess wind energy proposals over 50 metres in height using the Spatial Framework and consider all other relevant LDP policies.

4.4.11 East Ayrshire Council is in the process of preparing a new LDP. The Council currently expects a Proposed Plan to be placed on deposit for consultation in the Autumn of 2021. This draft document will be considered and may be referred to in the Planning Statement, depending upon publication date.

East Ayrshire's Local Development Plan Supplementary Guidance: Planning for Wind Energy (2017)[30]

4.4.12 This Supplementary Guidance sets out the Council's spatial approach to wind energy development and provides further detail on the criteria against which all medium and large scale wind energy proposals will be assessed. The Supplementary Guidance includes the Spatial Framework for onshore wind and includes maps showing landscape sensitivity to wind turbines of various scales.

East Ayrshire Landscape Wind Energy Capacity Study (2018)[31]

4.4.13 This study considers the landscape and visual sensitivity of various landscape character types as well as considering cumulative issues and the scope for repowering of existing wind farms with larger turbines. This study is non-statutory

[29] https://www.east-ayrshire.gov.uk/Resources/PDF/E/EALDP-Adopted-2017-Vol-1.pdf
[30] https://www.east-ayrshire.gov.uk/Resources/PDF/P/Planning-SG-Planning-for-Wind-Energy.pdf
[31] https://www.east-ayrshire.gov.uk/Resources/PDF/L/Landscape-wind-capacity-study.pdf

guidance, however will still be a material consideration for the Proposed Development.

4.5 Questions

Do consultees agree with the extent of the planning policy and energy documents described above?

Are there any additional planning and energy documents that consultees wish to be considered?

5 Landscape and Visual

5.1 Introduction

5.1.1 The Landscape and Visual Impact Assessment (LVIA) will consider direct and indirect effects on landscape resources, landscape character and designated landscapes. It will examine the nature and extent of effects on existing views and visual amenity. The effects of the proposed wind turbines, as well as the ancillary infrastructure (access tracks, masts, transformers etc.) will be assessed during the construction and operational phases of the Proposed Development. The LVIA will also consider cumulative effects i.e. the incremental effects of the Proposed Development in combination with other wind farms.

5.1.2 The LVIA will be undertaken following the approach set out in the Guidelines for Landscape and Visual Impact Assessment, Third Edition (GLVIA3)[32]. The assessment will also draw upon current good practice guidance issued by NatureScot (formerly Scottish Natural Heritage) and the Landscape Institute. The LVIA will be undertaken by Chartered Landscape Architects (CMLI) at LUC.

5.2 Legislation, Policy and Guidance

5.2.1 The LVIA will be undertaken in line with current guidance and good practice to produce a robust and reliable assessment. This will be achieved using LUC's most recent methodologies which have been developed in accordance with GLVIA3, drawing on subsequent technical clarifications published by the Landscape Institute, and LUC's extensive experience in the field. The following guidance and policy will be referred to where appropriate:

- Countryside Agency and SNH (2002), Landscape Character Assessment: Guidance for England and Scotland;
- Scottish Natural Heritage (SNH) (2012), Assessing the Cumulative Impacts of Onshore Wind Energy Developments;
- Landscape Institute and the Institute of Environmental Management and Assessment (2013), Guidelines for Landscape and Visual Impact Assessment, Third Edition (GLVIA3);

[32] Landscape Institute and Institute of Environmental Management & Assessment (2013) Guidelines for Landscape and Visual Impact Assessment, Third Edition

- SNH (2015), Spatial Planning for Onshore Wind Farms: Natural Heritage Considerations;
- SNH (2017), Siting and Designing Wind Farms in the Landscape, Version 3a;
- Landscape Institute (2019), Visual Representation of Development Proposals - Technical Guidance Note 06/19;
- Landscape Institute (2019), Residential Visual Amenity Assessment (RVAA) – Technical Guidance Note 02/19;
- NatureScot (2020), Assessing impacts on Wild Land Areas - technical guidance; and
- NatureScot (2020), Draft Landscape Sensitivity Assessment Guidance (final version expected in 2021).

5.2.2 Relevant policies from the following documents will be referred to as appropriate:

- Scottish Planning Policy (2014);
- East Ayrshire Local Development Plan (2017);
- East Ayrshire Council (2017), Local Development Plan Supplementary Guidance: Planning for Wind Energy;
- South Ayrshire Local Development Plan (2014); and
- South Ayrshire Council (2015), Supplementary Planning Guidance: Wind Energy.

5.3 Proposed Scope of Assessment

5.3.1 Landscape and visual assessments are separate, although linked, processes. LVIA therefore considers the potential effects of a proposed development on:

- Landscape as a resource in its own right (caused by changes to the constituent elements of the landscape, its specific aesthetic or perceptual qualities and the character of the landscape); and
- Views and visual amenity as experienced by people (caused by changes in the appearance of the landscape).

5.3.2 Whilst landscape and visual effects are linked, the LVIA will consider landscape and visual effects separately, followed by an assessment of cumulative landscape and

visual effects where relevant. Based on NatureScot guidance, a landscape and visual Study Area of 45 km radius around the turbine positions will be used.

5.3.3 The Site was subject to a previous application for wind energy development by RES in 2013, Keirs Hill Wind Farm. The LVIA will address landscape and visual matters raised during the planning process for this earlier application.

Landscape Effects

5.3.4 Predicted changes on both the physical landscape within the Site and the landscape character within the Study Area will be identified (see Figure 5.1). However, it is anticipated that potential significant direct and indirect effects will be limited to a more focussed area within c. 15-20 km of the Site.

5.3.5 Effects will be considered in terms of the magnitude and type of change to the landscape, including its key characteristics as set out in NatureScot's national landscape character assessment. The sensitivity of the landscape will also be taken into account, acknowledging value placed on the landscape through designation or other indicators.

Visual Effects

5.3.6 Visual effects are experienced by people at different locations throughout the Study Area, at static locations (for example settlements or viewpoints) and transitional locations (such as sequential views from routes, including roads, footpaths and cycleways). Visual receptors are the people who will be affected by changes in views at these places, and they are usually grouped by what they are doing at those places (for example residents, motorists, recreational users).

5.3.7 GLVIA3 states that the nature of visual receptors, commonly referred to as their sensitivity, should be assessed in terms of the susceptibility of the receptor to change in views/visual amenity and the value attached to particular views. The nature of the effect should be assessed in terms of the size and scale, geographical extent, duration and reversibility of the effect. These aspects will all be considered to inform a judgement regarding the overall significance of effect.

5.3.8 Assessment of the visual effects of the Proposed Development will be based on an analysis of a zone of theoretical visibility (ZTV), field studies and assessment of effects at representative viewpoints. Figure 5.2 shows a maximum turbine blade tip

height (200 m) ZTV of an indicative turbine layout, which will be subject to further refinement, with proposed representative viewpoint locations.

5.3.9 The viewpoint locations have been selected to provide a representative range of viewing distances and viewing experiences, including views from settlements, points of interest and sequential views from routes. A list of proposed viewpoints for the assessment is set out in Table 5.1. This list is based on the viewpoints used for the Keirs Hill Wind Farm application, with additions and omissions based on matters raised during that application process focusing the assessment on likely significant effects. Please note that viewpoints will be subject to further refinement in the field.

Table 5.1: Proposed viewpoints for inclusion in the LVIA.

VP Ref	VP Name	Easting	Northing	Reason for Inclusion
1	B741 at Gass	241803	605876	Represents close-range views from the road to the south of the site. The road connects Straiton and Dalmellington and the viewpoint is located on the high point of the road (285 m above ordnance datum (AOD)).
2	Auchenroy Hill	244546	605596	Represents views experienced by walkers. The hill is marked by a trig point and accessible from the Doon Valley to the east.
3	Waterside	244006	608398	Represents views experienced by residents of Waterside to the east of the site, and visitors to the Doon Valley Railway.
4	Patna	241822	610107	Represents views experienced by residents and road users. The viewpoint is adjacent to the A713.
5	Lethanhill	242863	610412	Represents views experienced by walkers on paths providing access to the valley slopes east of Patna, including the site of Lethanhill.
6	Dalmellington	248039	606071	Represents views from the settlement of Dalmellington. The viewpoint is at a high point on Knowehead, by the church.
7	Colonel Hunter Blair's Monument, Craigengower	239173	603963	Represents views experienced by walkers adjacent to a historic monument which is in a prominent location south-east of Straiton.
8	Minor road west of Straiton	236989	604440	Represents views experienced by road users approaching Straiton from the south-west on a minor road, looking across the Girvan valley.
9	Blairquhan	235915	605761	Represents views experienced by recreational visitors on the drive to Blairquhan. The viewpoint is in the grounds of Blairquhan House, included on the Inventory of Historic Gardens and Designed Landscapes in Scotland.
10	B7045 near Kirkmichael	233686	608791	Represents views experienced by road users Viewpoint is adjacent to the road approaching

				Kirkmichael from the west. Views within the settlement itself will only be glimpsed.
11	Maybole	230358	610308	Represents views experienced by residents and road users. The viewpoint is slightly elevated, on a railway bridge on the B7024 Alloway Road.
12	B741 near Ruglen	230450	604245	Represents views experienced by residents and road users. The viewpoint is adjacent to the B741, in the Girvan Valley.
14	Cornish Hill	240455	594221	Represents views experienced by walkers at the edge of Merrick Wild Land Area. The viewpoint is on a hilltop, accessible from the walkers car park at Stinchar Bridge.
15	Cairnsmore of Carsphairn	259442	597989	Represents views experienced by walkers and at this open hill summit, marked by a trig point, accessed via paths from the south-west.

Cumulative Effects

5.3.10 The cumulative landscape and visual assessment (CLVIA) will be carried out in accordance with the principles contained in NatureScot's Assessing the Cumulative Impact of Onshore Wind Energy Developments (March 2012).

5.3.11 A review of patterns of development will be provided for operational, consented and proposed wind farms which are the subject of a valid planning application, up to 60 km from the Site, following NatureScot guidance.

5.3.12 The CLVIA will focus on wind energy developments considered to have potential to give rise to significant cumulative effects. This is likely to primarily be those wind farms in the more immediate landscape context within 25 km. One of the key cumulative relationships to consider will be that between the Proposed Development and the operational Dersalloch Wind Farm.

5.3.13 Turbines under 50 m to tip and single turbines beyond 5 km from the Site will not be included in the CLVIA as significant cumulative effects are not likely to occur.

5.3.14 The LVIA will consider the potential effects of the addition of the Proposed Development to the existing landscape against a baseline that includes existing wind farms and those under construction. The CLVIA will consider the potential additional effects of the Proposed Development, against a baseline that includes wind farms that may or may not be present in the landscape in the future (i.e. wind farms that

are consented but unbuilt, undetermined planning applications, or schemes subject to planning appeal).

5.3.15 Consideration will also be given to 'total' cumulative effects, which considers all current and future proposals, including the Proposed Development.

5.3.16 Schemes at scoping stage and which lie near to the Proposed Development, where there is potential for significant effects, will only be included in the cumulative assessment where it is deemed appropriate and when sufficient design information is available in the public domain.

5.3.17 **Error! Reference source not found.** presents all known wind energy developments w ithin 25 km that fit the cumulative criteria discussed above, and this list will be used to select those that will be considered within the CLVIA. These wind farms are shown on Figure 5.5. It is accepted that the cumulative situation will change over time and this will be considered during consultation and updated within the assessment.

Table 5.2 : Cumulative Wind Farms to be Considered in the Assessment.

Name	Status	No. of Turbines	Tip Height (m)	Distance from Site (km)
Dersalloch	Operational	23	125	3.2
Knockshinnoch	Consented	2	126.5	6.3
Polquhairn[33]	Application Submitted	9	145	9.4
North Kyle Energy Project	Application Submitted	54	149.9	11.1
Overhill	Application Submitted	10	180	11.5
Craiginmoddie	Application Submitted	14	200	12.9
Benbrack Variation	Consented	18	149.9	13.8
South Kyle	Under Construction	50	149.5	14.4
Enoch Hill[34]	Application Submitted	16	149.9	15.2
Kirk Hill – Kirkoswald	Consented	8	115.5	15.4
Greenburn Wind Park	Application Submitted	16	149.9	15.5
Chapelton Farm, Turnberry	Under Construction	3	67	17.3
Brockloch Rig 3 (former Windy Standard 3)	Consented	20	177.5	17.5
Hadyard Hill	Operational	52	111	18.4
Brockloch Rig 2 (formerly Windy Standard 2)	Operational	30	120	18.7
Pencloe	Application Submitted	19	149.9	19.0

[33] Consent exists for a scheme of nine turbines to 100 m.
[34] Consent exists for a scheme of 16 turbines to 130 m.

Brockloch Rig 1 (formerly Windy Standard 1)	Operational	36	62.5	20.6
Afton	Operational	27	120	21.4
Windy Rig	Under Construction	12	125	21.9
Clauchrie	Appeal / Public Inquiry	18	200	21.9
Tralorg	Operational	8	100	22.2
Assel Valley	Operational	11	110	23.4
Hare Hill Phase 1	Operational	20	63.5	24.2
Shepherds Rig	Appeal / Public Inquiry	17	149.9	24.7
Hare Hill Phase 2	Operational	35	91	25.1

Visualisations

5.3.18 Wireframes and photomontages for each representative viewpoint will be used to consider and illustrate changes to views. Photomontages will involve overlaying computer-generated perspectives of the Proposed Development over the photographs of the existing situation to illustrate how the views will change against the current baseline. Other (cumulative) wind farms visible from each of the viewpoints will be shown on the wireframes. Visualisations will be prepared in accordance with NatureScot's Visual Representation of Wind Farms Guidance (2017).

5.3.19 Ancillary elements such as anemometer masts, access tracks and the substation and control building will be shown in photomontages for viewpoints within 5km when they would be visible. Beyond 5km it is considered unlikely that these ancillary elements would form more than a minor element of the entire development when compared to the turbines.

Assessment of Visible Aviation Lighting

5.3.20 In the interests of aviation safety, structures of a height greater than 150m (including wind turbines), require visible aviation lighting35. Potential visual effects arising from visible lighting (typically consisting of 2000 candela red lights mounted on the wind turbine nacelle and intermediate 32 candela lights mounted on the wind turbine tower) will be a key consideration. Informed by NatureScot's Visual Representation of Wind Farms Guidance (2017), and using approaches validated

[35] Civil Aviation Authority (2016) CAP 764: CAA Policy and Guidelines on Wind Turbines

through recent Appeal decisions, the assessment of visual effects will consider the effects of aviation lighting.

5.3.21 The assessment will be carried out as part of the LVIA and will be informed by a hub height ZTV as a starting point to illustrate the areas from which nacelle may be visible. Visibility of turbine lighting from each LVIA assessment viewpoint will be considered, however the night-time assessment will focus on viewpoints from which significant effects may be anticipated.

5.3.22 Night-time photomontage visualisations will be prepared for representative viewpoints where people are likely to be present in the hours of darkness. It is suggested that the following viewpoints will be used:

- Viewpoint 1 B741 at Gass;
- Viewpoint 3 Waterside; and
- Viewpoint 4 Patna.

5.3.23 The baseline night-time context and presence of existing artificial lighting at these locations will be described, with the related sensitivity identified and the magnitude of change arising from the proposed aviation lighting assessed. The predicted effects of aviation lighting on the visual amenity at these viewpoints will be drawn on to provide general comment on the likely effects across the wider Study Area.

Residential Visual Amenity

5.3.24 A number of residential properties within 2 km of the Site, including part of the settlement of Patna. However, the landform of the Doon Valley effectively screens views towards the Proposed Development from the closest parts of this settlement.

5.3.25 A Residential Visual Amenity Assessment (RVAA) will be undertaken to accompany the LVIA. This will be prepared in accordance with the Landscape Institute's Residential Visual Amenity Assessment Technical Guidance Note 2/19 (2019).

5.3.26 A detailed assessment of potential visual effects on residential properties within a 2 km study area (measured from the nearest proposed turbines) will be undertaken as follows:

- Production of a ZTV for the 2 km study area including the location of all residential properties (with reference) indicated as having theoretical visibility of the Proposed Development;

- A detailed description of existing and proposed views from the primary orientation of residential properties (or groups of properties where they are close together) will be prepared, taking consideration of the distance and direction to the Proposed Development, proportion of attainable view occupied and the context/ baseline situation at the residence (for example number of floors or the presence of vegetation within the curtilage) to determine the nature of the predicted change to residential visual amenity; and
- The assessment will be supported by wireline views from each property or group of properties assessed.

5.4 Baseline Conditions

5.4.1 The Proposed Development will be located partly in East Ayrshire and partly in South Ayrshire, between the settlements of Patna and Straiton. The Site includes forested moorland to the west of the River Doon valley. The majority of the site is over 200 m AOD, with a high point at Green Hill (306 m AOD).

5.4.2 The Site is forested to the west side of Keirs Hill, with open moorland to the east. A large plantation woodland covers Lambdoughty Hill, Cloncaird Moor and Glenside Hill, from Patna in the north-east to the B741 in the south. A man-made reservoir, Loch Spallander, lies less than 1km to the west of the Site, held back by an earth dam. A 275 kV overhead power line runs north-south through a wayleave located in the forestry immediately to the west of the Proposed Development.

5.4.3 To the east, the River Doon meanders through a broad valley, followed by the A713, a single-track railway, and an overhead power line. The valley has a history of mineral extraction, which has left its mark on the landscape, most prominently in the recently restored surface mine at Dunston Hill. Patna was established in the early 19th century as a mining town, and an ironworks at Waterside opened in 1848. A heritage railway, the Doon Valley Railway, now operates from the former Dunaskin Ironworks at Waterside. The remains of mineral railways cross the valley sides, and a large bing occupies land to the west of Waterside.

5.4.4 To the south of Dalmellington the broad Doon Valley becomes narrower, with more intricate hills along the valley sides replacing the smooth slopes around Waterside and Patna. This more intimate part of the Doon Valley is within the inventory-listed designed landscape of Craigengillan. The ground rises to the south of the site, to a higher plateau with distinct hills including Auchenroy Hill, Turgeny and further west Craigengower which is topped by a monumental obelisk.

5.4.5 To the west of the Proposed Development, beyond the broad, forested Sclenteuch Moor, is the valley of the Girvan Water. Within the valley is the conservation village of Straiton overlooked by Craigengower to the south. To the north of the village are the policy woodlands and forestry associated with Blairquhan House, an inventory-listed designed landscape.

5.4.6 By night there is no lighting across the site itself, though there are some light sources along the B741. The settlements of Dalmellington and Patna, and to a lesser extent Straiton and Waterside, are provided with street lighting. To the north

lighting is increasingly prevalent in the landscape, while to the south there is very little artificial light within the Galloway Hills.

Designated and Protected Landscapes

5.4.7 Areas which are designated or protected for their special landscape qualities and scenic value are shown on Figure 5.3.

5.4.8 There are two Regional Scenic Areas (RSAs) and the Merrick Wild Land Area (WLA) within the Study Area. However, the ZTV indicates that visibility would be limited in these areas and the Applicant notes that the proposed wind turbines would only be visible from these areas directly behind those of operational development at Dersalloch. The Applicant therefore proposes to scope out effects on the Merrick Wild Land Area, and on the locally designated RSAs.

5.4.9 The site lies within locally designated Special Landscape Areas (SLA) within East Ayrshire and South Ayrshire. The LVIA will consider the effects of the Proposed Development on the special qualities for which these SLAs are designated.

5.4.10 Although it is not protected for landscape character, the site is close to the Galloway Dark Skies Park, which extends across large areas to the Galloway Hills. A Dark Sky Park is described as a place with exceptionally dark night skies and limited light pollution. However, light pollution mapping shows that skies around Dalmellington and other settlements close to the site are much brighter than the dark skies to the south.[36]

Landscape Character

5.4.11 Landscape Character Types (LCTs) identified in NatureScot's landscape character assessment (2019) are shown on Figure 5.4. The LVIA will consider potential effects on those LCTs within 15 km of the Site.

5.5 Potential Mitigation

5.5.1 The primary form of mitigation for landscape and visual effects, including cumulative effects, is through iterative design of the layout of the turbines and

[36] See https://www.nightblight.cpre.org.uk/maps/

associated infrastructure, as seen from key viewpoints. Design development will be set out in detail in the design strategy that will form part of the EIAR.

5.5.2 Initial design work has sought to address concerns highlighted by the reporter during the PLI for the Keirs Hill Wind Farm application. These issues will continue to inform the layout of the Proposed Development, and include:

- limiting potential impacts on designated scenic areas;
- the scale of proposed wind turbines in relation to the landform of the site and adjoining areas;
- the importance of views towards Arran as seen from Auchenroy Hill, for the landscape character of the area;
- limiting potential impacts on residential properties in the Doon Valley and other areas nearby; and
- cumulative effects in relation to nearby wind farms, such as Dersalloch.

5.5.3 A scheme of aviation lighting will be agreed, and the Applicant will seek to use the minimum necessary number of lights to comply with regulations. The design of lighting will allow significant reduction in brightness when seen from lower angles of elevation (i.e. looking up from within the settled valleys). In addition, regulations allow for brightness to be reduced in clear weather conditions. These measures will help to minimise the visibility of the proposed lighting.

5.6 Questions

Considering the findings in the determination of Keirs Hill Wind Farm application, and the proposed changes to the scheme, do you agree with the overall methodology proposed to assess effects on landscape and visual receptors, including cumulative effects?

Do you agree that the proposed list of viewpoint locations is a representative selection of views from receptors most likely to experience significant effects?

Do you agree that the wind farms listed in Table 5-2 and shown on Figure 5.5 comprise the cumulative baseline to inform the cumulative assessment?

Do you agree that all relevant landscape or visual receptors have been identified (i.e. those where it is possible that significant effects may occur)?

Are there any other relevant consultees who should be consulted with respect to the LVIA?

6 Cultural Heritage and Archaeology

6.1 Introduction

6.1.1 This section presents the proposed scope of work for the impact assessment for Cultural Heritage and Archaeology. The purpose of the process is to identify the potential effects of the Proposed Development on the historic environment and its cultural significance within the area in which the Proposed Development is located. The heritage impact assessment will follow policy and best practice guidance in order to establish a robust and transparent analysis of the issues.

6.1.2 The cultural heritage assets, which form the historic environment, constitute a finite and non-renewable resource. Direct physical impacts on assets are permanent and irreversible. Some indirect setting impacts are temporary and/or reversible, particularly with respect to those due to construction activity.

6.1.3 For the Keirs Hill Wind Farm application, the reporter for the PLI made a number of findings with respect to effects on cultural heritage assets. These were that there would be unacceptable impacts on the setting of Colonel Hunter Blair's Monument, a Category B listed building (LB19104), unacceptable cumulative setting impacts on the Craigengillan Garden and Designed Landscape (GDL00111) and Colonel Hunter Blair's Monument, in which the reporter was in agreement with the objections of East Ayrshire Council. Historic Environment Scotland noted potential adverse impacts on nationally important designated heritage assets, but did not judge these to be sufficient to object to the Keirs Hill Wind Farm application. West of Scotland Archaeology Service noted potentially adverse impacts on the setting of the Scheduled Monuments at Waterside, but did not judge these to be sufficient to object to the Keirs Hill Wind Farm application. The reporter also concluded that there would be unacceptable impacts on the setting of the collection of designated heritage assets (Conservation Area, Scheduled Monuments and Listed Buildings) at Waterside, which exceeded the findings/submissions of the relevant consultees. The Proposed Development would be at a greater distance from the collection of assets

at Waterside and Craigengillan GDL, which may reduce potential setting impacts on these heritage assets.

6.2 Legislation, Policy and Guidance

Legislation

6.2.1 The key pieces of legislation that cover the historic environment with respect to terrestrial planning are as follows:

- Historic Buildings and Ancient Monuments Act 1953;
- Ancient Monuments and Archaeological Areas Act 1979;
- Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997; all acts as amended by the Historic Environment (Amendment) (Scotland) Act 2011; and
- Statutory Instrument No 102 Town and Country Planning (EIA Scotland) Regulations 2017

National Policy

6.2.2 The key national policies are as follows:

- Scottish Planning Policy 2020, paragraphs 135-151;
- Historic Environment Policy for Scotland 2016;
- Historic Environment Circular 1: Policies and Procedures 2016.

Local Policy

6.2.3 The key local policies for East Ayrshire are as follows:

- East Ayrshire Local Development Plan 2017, with specific policies;
  - ENV1: Listed Buildings;
  - ENV2: Scheduled Monuments and Archaeological Resources;
  - ENV3: Conservation Areas;
  - ENV4: Gardens and Designed Landscapes;
  - ENV5: Historic Battlefields.
- Supplementary Guidance: Listed Buildings and Buildings within Conservation Areas Design Guidance 2018,

- Relevant Conservation Area appraisals.

6.2.4 The key local policies for South Ayrshire are as follows:

- South Ayrshire Local Development Plan 2014, with specific policies for the Historic Environment and Archaeology;
- Supplementary Guidance on the Historic Environment 2014, specifically
    - Supplementary Guidance Policy 2: Listed Buildings of Architectural and Historical Interest;
    - Supplementary Guidance Policy 3: Conservation Areas;
    - Supplementary Guidance Policy 4: Scheduled Monuments;
    - Supplementary Guidance Information Note 1: Designed Landscapes and Historic Gardens
- Relevant Conservation Area appraisals.

Guidance

6.2.5 The key guidance documents referred to are:

- Managing Change in the Historic Environment: Setting. Historic Environment Scotland 2016; and
- Standard and Guidance for Historic Environment Desk Based Assessment. Charted Institute for Archaeologists 2014, updated 2020;

6.2.6 Due cognisance has also been taken of the Environmental Impact Assessment Handbook, Scottish National Heritage and Historic Environment Scotland 2018.

6.3 Proposed Scope of Assessment

Study Areas

6.3.1 It is proposed that the cultural heritage assessment will employ two study areas. The Inner Study Area will comprise the Site plus a buffer of 500m. The Inner Study Area will allow the development of the local historic environment to be understood, the assessment of the significance of known cultural heritage assets located in the area

of the Proposed Development and the appraisal of the potential for unrecorded heritage assets to be present in the area of the proposed development.

6.3.2 An Outer Study Area comprising an area from the edge of the Inner Study Area outwards to a distance of 10km from the location of the proposed turbines will be used to identify designated heritage assets of national importance, and non-designated heritage assets of equivalent significance, for the purpose of assessment of potential impacts on the setting of these assets. Assets for assessment of impacts will be selected on the basis of the likelihood of significant impacts. Tools such as Zone of Theoretical Visibility (ZTV) modelling will be used to assist in the process of selection.

6.3.3 Assessment of the potential indirect effects on setting will be carried out on all the assets within the Inner Study Area, and on heritage assets of national importance within the Outer Study Area.

Sources

6.3.4 The baseline situation for the EIA will be based on a desk-based study. The desk study will provide an overview of the historic environment within the study areas, and will be based on the following sources:

- East Ayrshire Historic Environment Record (HER);
- National Record of the Historic Environment (Canmore);
- Historical Map Regression using historic mapping sources over the Inner Study Area to identify changes in/development of the historic landscape;
- Available Historic Landscape Characterisation of the Inner Study Area;
- Aerial photographs of the Inner Study Area (National Collection of Aerial Photography, Edinburgh);
- Any relevant geotechnical data;
- Readily available published sources;
- Online data on designated assets; and
- Walkover survey.

6.3.5 The baseline data gathered during the desk study will be analysed using a Geographic Information System (GIS) and the results presented in a synthetic report,

which will include relevant mapping, pictorial and photographic evidence, laying out the evidence for the development of the historic environment of the Site.

Walkover Survey and Site Visits

6.3.6 A walkover survey of the safely accessible portions of the Proposed Development will be undertaken. This will cover the footprint of the Proposed Development to check for any previously unrecorded heritage assets. Recorded heritage assets within the Inner Study Area will also be visited where these are close enough to the footprint of the Proposed Development for there to be a realistic prospect of a direct impact, or where there is a realistic prospect of an indirect impact due to setting change.

6.3.7 Site visits will also be undertaken to assess the settings of nationally important heritage assets. The heritage assets that will be inspected will be selected on the basis of visualisations carried out as part of the Landscape and Visualisation Assessment, an examination of aerial imagery and historical mapping, as well as being based on the intrinsic nature of the potentially affected heritage asset. This will ensure that the effects that are most likely to be significant are assessed. It is envisaged that all nationally important cultural heritage assets in the Study Areas, individually or in associated groups, will be inspected where there is reason to predict significant intervisibility or other sensory effects.

Assessment of Effects

6.3.8 Following design freeze, the EIA will assess the potential direct impacts of construction within the footprint of the Proposed Development, including any effects from associated infrastructure or temporary works, such as borrow pits or compounds. Potential indirect effects, including change to the settings of heritage assets within the Inner Study Area and nationally important heritage assets within the Outer Study Area, will also be assessed.

6.3.9 Analysis of baseline data gathered during the desk study, walkover survey and site inspection visits, combined with relevant visualisations of the proposed development from the location of key selected heritage assets, will be used to undertake the assessment of effects.

6.3.10 The relevant aspects of parallel studies undertaken for the EIA will be incorporated into the cultural heritage assessment through liaison with the other specialist technical disciplines during the assessment process and cross-referencing in the

resulting EIAR chapters. Key related studies are anticipated to be the Landscape and Visual chapter and the Geology, Hydrology and Hydrogeology chapter.

6.3.11 Analysis will include assessing the value of the heritage assets, including elements such as their function, purpose, associations, relative rarity and vulnerability to change. This is also relevant to the assessment of cumulative effects on potentially sensitive assets. Assessment of effects will be presented in the following stages:

- Description of asset (where appropriate, assets may be addressed in related groups);
- Assessment of significance, and for indirect effects, how the setting of the asset contributes to its significance;
- Assessment of the magnitude of effects likely to be caused by the proposed development, taking into account the sensitivity of the asset to that form of change;
- An assessment of the significance of the effects, which will be considered in the following stages: construction and operation.

6.3.12 These assessments will be carried out using professional judgement, taking into account designations and significance as assessed against standards derived from national policy (see Section **Error! Reference source not found.**). Significance of e ffect will be based on a combination of asset significance and magnitude of effect.

Cumulative and Residual Effects

6.3.13 A cumulative effect is considered to occur when there is:

- A non-negligible effect on an asset or group of assets due to changes which would be caused by the main development under assessment; and
- An effect on the same asset or group of assets which would be caused by another development or developments.

6.3.14 Consideration of the other potential contributor developments will be limited to those of the following kind:

- Wind farm developments within 10 km of the Proposed Development which have been applied for with decision pending or under appeal; and
- Wind farm developments within 10 km of the Proposed Development which have been granted permission but not yet implemented.

6.3.15 Consultation with East Ayrshire Council and South Ayrshire Council shall assist with identifying developments to be considered within the cumulative assessment. Having firstly addressed the effects of the current application alone, cumulative effects would be addressed in two stages:

- Assess the combined effect of the developments including the proposed development; and
- Assess the degree to which the Proposed Development adds to the combined effects of the other developments.

6.3.16 A residual impact assessment will identify the significance of effect of the Proposed Development on heritage assets presuming implementation of the mitigation strategy (see below) has been undertaken. This will cover both the effects of the Proposed Development alone and cumulative effects, as appropriate.

6.4 Baseline Conditions

6.4.1 Within 10 km of the currently proposed turbines there are 180 Listed Buildings, of which nine are Category A, 79 are Category B and 92 are Category C. The Listed Buildings are concentrated in six Conservation Areas at Dalrymple, Kirkmichael, Dalmellington, Straiton, Crosshill and to a limited extent in Waterside.

6.4.2 There are fifteen Scheduled Monuments within 10 km of the currently proposed turbines, with nearest to the Proposed Development consisting of the complex associated with Waterside; the Waterside Bing (SM7544), Waterside Dalmellington Ironworks (SM4345) and the Waterside miners' villages and mineral railway (SM7863), as well as the site of Laight Castle (SM7690), which are located between 1.5 and 4 km of the Proposed Development.

6.4.3 There are four Gardens and Designed Landscapes that are located partially or wholly within 10 km of the proposed turbines, comprising Craigengillan (GDL00111), Blairquhan (GDL00063), Skeldon House (GDL00342) and Kilkerran (GDL00238).

6.4.4 There are no Battlefields on the national inventory, or Properties in Care within 10 km of the currently proposed turbines.

6.4.5 Within the Site, there are approximately thirteen recorded heritage assets. Although, a number are undated, the majority appear to reflect the post-medieval to modern rural economy, consisting of elements such as enclosures, farmsteads, boundaries and occasional traces of mining and limeworks. There are a number of

possible hut circles within the Site, which are generally dated to later prehistory. Part of the Site has been subject to previous walkover surveys, both for the Keirs Hill Wind Farm application and for electrical cable routes. These do not appear to have revealed previously unrecorded heritage assets within the area of the Proposed Development.

6.5 Potential Mitigation

Design Input and Design Mitigation

6.5.1 Analysis of GIS layered historic environment data will be used to review the design of the Proposed Development at stages throughout the design process. This will allow mitigation during the design process through fine-scale changes to the locations of the components of the Proposed Development to reduce or eliminate direct impacts on heritage assets. Advice on larger scale design issues, made in conjunction with the Landscape and Visualisation team will also be given, which may allow indirect impacts from setting change to be reduced or eliminated.

Mitigation

6.5.2 Where adverse effects on heritage assets are identified, measures to prevent, reduce and/or offset these will be proposed. Measures which may be adopted include:

- The fencing off or marking out of heritage assets in proximity to working areas in order to ensure avoidance of disturbance;
- A programme of archaeological work which might comprise excavation of assets in areas of construction disturbance or a watching brief for ground-breaking operations in areas of archaeological potential;
- A working protocol to be implemented should previously unrecorded archaeological features be discovered.

6.6 Questions

Do you agree the proposed study areas are sufficient to facilitate a robust assessment of potential impacts arising from the Proposed Development?

Do you agree the range of proposed sources is sufficient to enable a comprehensive baseline study to be undertaken?

Do you agree the selection criteria for identifying developments to be included in the cumulative assessment is appropriate to the scale of the Proposed Development?

7 Ecology

7.1 Introduction

7.1.1 This chapter sets out the proposed approach to the assessment of potential effects on important ecological features (IEFs) during construction and operation of the Proposed Development. IEFs are species (except birds) and habitats that are protected by legislation, are of high conservation importance or are particularly sensitive to effects. Important ornithological features (IOFs) are discussed separately in Chapter 8: Ornithology.

7.1.2 Baseline ecology survey work to inform scoping, and therefore the EIA, commenced in February 2020. Surveys were undertaken for habitats and protected mammals (including bats). The results are summarised in the following sections.

7.1.3 Results of these surveys are used to identify IEFs that could sustain positive or negative effects as a result of the Proposed Development. Where no significant effects are identified for an IEF after standard mitigation, the Applicant proposes that these features are not carried forward for inclusion in the relevant Ecological Impact Assessment (EcIA) and are 'scoped out'. This will allow for an EIA Report that focusses on features which could be significantly affected, or for which the predicted effects are currently unknown.

7.1.4 This section also provides information on statutory sites of international importance, upon which the Proposed Development may have a 'Likely Significant Effect' (LSE). A screening process will be undertaken alongside the EIA to determine whether the predicted effects of the Proposed Development will result in an LSE. The screening process will allow the competent authority to determine whether an Appropriate Assessment (AA) will be required.

7.2 Legislation, Policy and Guidance

7.2.1 The ecological baseline surveys and preliminary assessment presented in this Scoping Report have been carried out with reference to a number of national and

international policy documents. Legislative and guidance documents with relevance to ecology are listed below:

Legislation

- EU Exit: The Habitats Regulations in Scotland[37];
- The Conservation of Habitats and Species Regulations 2017 (the Habitats Regulations), which transposes the Habitats Directive into UK law;
- The Conservation (Natural Habitats, &c.) Amendment (Scotland) Regulations 2012;
- The Conservation of Habitats and Species (Amendment) Regulations 2017, relating to reserved matters in Scotland;
- Wildlife and Countryside Act (WCA) 1981 (as amended)[38];
- The Nature Conservation (Scotland) Act 2004;
- The Wildlife and Natural Environment (Scotland) Act 2011;
- Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017, which transpose the EIA Directive into the Scottish planning system; and
- The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017.

National Policy Guidance

- Planning Advice Note (PAN) 51: Planning, Environmental Protection and Regulation[39];
- Planning Advice Note (PAN) 60: Planning for Natural Heritage[40];
- PAN 1/2013 – Environmental Impact Assessment[41];

[37] Scottish Government. (2020). EU Exit: The Habitats Regulations in Scotland.

[38] Wildlife and Countryside Act (WCA) 1981 (as amended).

[39] Scottish Government. (2006). *PAN 51. Planning, Environmental Protection and Regulation*. Scottish Government, Edinburgh.

[40] Scottish Government. (2000 (updated 2008)). *PAN 60. Planning for Natural Heritage*. Scottish Government, Edinburgh.

[41] Scottish Government. (2013 (updated 2017)). *PAN 1/2013 – Environmental Impact Assessment*. Scottish Government, Edinburgh.

- Nature Conservation: Implementation in Scotland of the Habitats and Birds Directives: Scottish Executive Circular 6/1995 as amended[42]; and
- Scottish Planning Policy (SPP)[43].

Other Guidance

- Guidelines for Ecological Impact Assessment in the UK and Ireland[44];
- European Protected Species, Development Sites and the Planning System: Interim guidance for local authorities on licensing arrangements[45];
- British Standard 42020:2013 Biodiversity – code of practice for planning and development;
- Land Use Planning System SEPA Guidance Note 4: Planning Guidance on Windfarm Developments[46];
- Land Use Planning System SEPA Guidance Note 31: Guidance on Assessing the Impacts of Development Proposals on Groundwater Abstractions and Groundwater Dependent Terrestrial Ecosystems[47];
- Good Practice during Wind Farm Construction[48];
- Bats and Onshore Wind Turbines (January 2019)[49]; and
- Scottish Biodiversity List (SBL)[50].

[42] Scottish Executive. (1995 (updated 2000)). *Nature Conservation: Implementation in Scotland of the Habitats and Birds Directive*. Scottish Executive, Rural Affairs Department, Edinburgh.

[43] Scottish Government. (2014). *Scottish Planning Policy (SPP)*. Scottish Government, Edinburgh.

[44] CIEEM. (2018). *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine*. Chartered Institute of Ecology and Environmental Management, Winchester.

[45] Scottish Executive. (2001 (updated 2006)). *European protected species, development sites and the planning system. Interim guidance for local authorities on licensing arrangements*. Scottish Executive, Edinburgh.

[46] SEPA. (2017a). *Land use Planning System Guidance Note 4: Planning guidance on windfarm developments*. Appendix 2. Issue 9: 11 September 2017.

[47] SEPA. (2017b). *Land Use Planning System Guidance Note 31: Guidance on Assessing the Impacts of Development Proposals on Groundwater Abstractions and Groundwater Dependent Terrestrial Ecosystems*. Version 3: 11 September 2017.

[48] Scottish Renewables, SNH, SEPA, Forestry Commission Scotland, Historic Environment Scotland, Marine Scotland Science, AEECoW. (2019). *Good practice during windfarm construction*. Version 4.

[49] SNH. (2019). *Bats and onshore wind turbines: survey, assessment and mitigation*. Version January 2019.

[50] The SBL forms a list of species and habitats of importance for biodiversity conservation in Scotland, produced by the Scottish Government.

7.3 Baseline Conditions

7.3.1 This section outlines the preliminary ecological baseline of the Proposed Development. Figure 7.1 illustrates the Ecology Survey Areas.

7.3.2 Baseline ecological surveys including: Phase 1 habitat, National Vegetation Classification (NVC), protected mammal, and bat activity surveys were conducted by Natural Power at the Proposed Development in 2012 and 2013. These surveys were undertaken to inform the Keirs Hill Wind Farm application. The results of these surveys were used to inform the scope of the survey programme for the Proposed Development. These results are considered to be relevant because the Keirs Hill Wind Farm application boundary included the land within the Site which provides recent context and information on ecological receptors at the Proposed Development. A summary of the survey results is provided within the relevant results section.

7.3.3 Consultation with NatureScot was undertaken in 2020 to confirm the ecological baseline survey methodology. A survey method statement was sent outlining the proposed baseline survey methods which included surveys for otter, water vole, badger, bats (static detectors and bat roost assessment), extended Phase 1 habitat and NVC. In response NatureScot advised that fish habitat and freshwater pearl mussel (FWPM) surveys should be undertaken and that an assessment of potential impacts on deer should be included in the EIA Report.

7.3.4 Surveys proposed for the ecological baseline survey have been conducted during the appropriate seasons in 2020 and 2021.

7.3.5 The following surveys were completed at the time of writing and therefore results have been included in this report:

- Extended Phase 1 habitat and NVC survey within a 250 m buffer of proposed turbines[51] in 2020 (2020 Habitat Study Area);
- Bat roost survey within a 250 m buffer of proposed turbines[51] in 2020 and within a 250 m buffer of the proposed access track in 2021 (Bat Roost Study Area);

[51] NB: Surveys undertaken in 2020 used a different turbine layout to that proposed as part of this report. Any discrepancies will be accounted for during surveys undertaken in 2021.

- Badger survey within a 250 m buffer of proposed turbines[51] in 2020 and within 250 m of the proposed access track in 2021 (Badger Study Area); and
- Otter and water vole surveys along watercourses within a 250 m buffer of proposed turbines (Lochhead and Lamdoughty Burns plus tributaries) and along watercourses within 250m of the proposed access track (Red Burn, Keirs Burn upper tributaries and River Doon). Combined these are defined as the Watercourse Study Area and include all watercourses within 250 m of infrastructure proposed within this report.

7.3.6 The following surveys will be undertaken in summer/autumn 2021 and therefore results are not included in this report:

- Extended Phase 1 habitat and NVC survey within 250 m buffer of the proposed access track and in missing areas within 250 m of proposed turbine locations (2021 Habitat Study Area). This survey will also highlight any badger signs or potential bat roosts in missing areas within 250 m of proposed turbine locations;
- Static bat detector activity survey in the turbine area (spring deployment was undertaken in 2021 but results are not included in this report);
- Fish habitat survey in watercourses within the Watercourse Study Area (defined above);
- Freshwater pearl mussel survey in watercourses within the Watercourse Study Area; and
- Great crested newt (GCN) surveys in July 2021 – Habitat Suitability Index (HSI) and eDNA surveys[52].

Methods - Desk Based Review - Designated Sites

7.3.7 To assess any connectivity between ecological features recorded on site with populations protected on designated sites, a desk study was undertaken using the

[52] It is acknowledged that this is outwith the standard GCN eDNA survey period of mid-April to end of June. However, as the site is near to the northern extent of their range it is considered to still be within the period range when GCN could be present in ponds in the area.

NatureScot Sitelink website[53] and the online GIS tool MAGIC (Multi-Agency Geographic Information for the Countryside)[54]. Data were sought for the following:

- Special Areas of Conservation (SACs) – within 10 km of the Proposed Development;
- Sites of Special Scientific Interest (SSSIs) – within 10 km of the Proposed Development;
- Locally designated sites such as Sites of Important Nature Conservation (SINCs) and Sites of Nature Conservation Interest (SNCIs) – within 5 km of the Proposed Development; and
- Local and National Nature Reserves (including Wildlife Trust Reserves) – within 5 km of the Proposed Development.

7.3.8 Only sites with ecological interest features are assessed in this section, any sites with birds as an interest feature will be discussed in Section 8 Ornithology. Figure 7.2 illustrates designated sites within 10km of the Proposed Development.

Methods - Desk Based Review - Existing Data

7.3.9 Existing data from the Keirs Hill Wind Farm application is included, as described in paragraph 7.3.2.

7.3.10 To provide background information pertaining to the baseline status of protected species in the local environment, records of relevant ecological data recorded within the last ten years (2011-2021) will be requested from the South West Scotland Environmental Information Centre (SWSEIC) and included with the Ecology chapter of the EIA Report.

7.3.11 Searches for species data will be limited to:

- Data from within 5 km of the Proposed Development for protected species (other than bats); and
- Data from within 10 km of the Proposed Development for bat species.

[53] https://sitelink.nature.scot/home

[54] https://magic.defra.gov.uk/MagicMap.aspx

7.3.12 Protected species and habitats, for the purposes of this data search, were classified as:

- Species and habitats listed under Annex 1 of the Habitats Directive;
- Schedule 5 listed species under the Wildlife and Countryside Act (WCA);
- Species listed on the Protection of Badgers Act; and
- Species and habitats as listed under the Scottish Biodiversity List (SBL).

Methods - Field Surveys - Habitats

7.3.13 An extended Phase 1 habitat survey was carried out within 250 m of proposed turbine locations in August 2020, following the standard habitat survey method as described in JNCC[55]. Descriptions of habitat types were provided, and target notes were taken to document habitats and features of conservation interest where present. Based on information about priority habitats from the Phase 1 Habitat survey a NVC survey was undertaken concurrently following the standard survey method as described in Rodwell (2006)[56]. The purpose of the NVC survey was to assess habitat classification with regards to potential Annex 1, SBL and Ground Water Dependent Terrestrial Ecosystems (GWDTE). Quadrat data were collected for any priority habitats encountered, with at least one quadrat per habitat type.

[55] JNCC. (2010). *Handbook for Phase 1 Habitat Survey: a Technique for Environmental Audit*. Joint Nature Conservation Committee, Peterborough.

[56] Rodwell, J. S. (2006). *National Vegetation Classification: Users' handbook*. JNCC, Peterborough.

Quadrats were 2 m by 2 m in size and species and percentage cover of species were recorded in each quadrat.

7.3.14 Phase 1 and NVC surveys will be undertaken within 250 m of the proposed access track in 2021 using the same methodology as outlined above.

Methods - Field Surveys - Bat Roost Surveys

7.3.15 A preliminary roost assessment to identify potential bat roost features (PRFs) was carried out within the Bat Roost Study Area. Surveys followed methods set out in Collins (2016)[57].

Methods - Field Surveys - Bat Activity Surveys

7.3.16 Baseline bat activity surveys are currently being conducted at the Proposed Development in 2021. In line with updated guidance (SNH, 2019)[49], automated full spectrum static detectors (Wildlife Acoustic SM4) are being deployed, with nine detectors sited as close as possible to the location of proposed turbines, and one additional detector sited within a control location representing higher value habitat for bats (forestry edge – Scots pine plantation/blanket bog). The devices are being deployed for three ten-day periods of suitable weather over the course of the season: covering spring (April/May), summer (June-early August) and autumn (late August-September). All activity data is being recorded in full spectrum. Site-specific weather data including wind speed, temperature and rainfall is also being recorded.

7.3.17 Bat activity levels will be assessed using the online tool Ecobat[58] to compare data entered by the user with bat survey information from similar areas at the same time of year and in similar weather conditions.

Methods - Field Surveys - Other Protected Species

7.3.18 The extended Phase 1 habitat survey highlighted habitat suitability for otter, water vole and badger. Badger, otter and water vole surveys were undertaken in the

[57] Collins, J. (ed.) (2016). *Bat Surveys for Professional Ecologists. Good practice Guidelines (3rd edition).* The Bat Conservation Trust, London.
[58] The Mammal Society – Ecobat online tool available at: http://www.ecobat.org.uk

Badger/Watercourse Study Areas in 2020 and 2021, as described in Paragraph 7.3.5. Surveys followed standard methodology for each species[59,60,61,62].

Methods - Field Surveys - Freshwater Pearl Mussel Surveys

7.3.19 FWPM surveys will be conducted in summer 2021 in potentially suitable habitat within the Watercourse Study Area using the standardised shallow-water survey methodology recommended by NatureScot[63]. These surveys will involve transect searches for pearl mussels within a minimum of 1 m width and 50 m length in any suitable habitat.

Methods - Field Surveys - Fish Habitat Surveys

7.3.20 Fish habitat surveys will be carried out in July 2021 within the Watercourse Study Area to evaluate habitat quality and important features such as spawning locations, following guidance provided by the Scottish Fisheries Coordination Centre (SFCC)[64]. These surveys will comprise of a short walk-over along all watercourses to record the relative proportions of different fish habitat characteristics (e.g., water depth, substrate, bankside structure) within 100 m stretches. Notes will be made of potential pollution sources and obstructions to migration. This data will be used to evaluate habitat quality and important features such as pools deep enough for spawning locations, shelter and food availability.

Results - Desk Based Review - Designated Sites

7.3.21 Six designated sites of national ecological importance are located within 10 km of the Proposed Development (**Error! Reference source not found.**; Figure 7.2).

Table 7.1 : Designated Sites within 10km of the Proposed Development

Site	Designation	Distance from Site	Designation Criteria
Dalmellington Moss	SSSI	2.7 km	Raised bog.
Bogton Loch	SSSI	3.3 km	Breeding bird assemblage, open water transition fen.

[59] Sargent, G. & Morris, P. (2003). *How to Find & Identify Mammals*. The Mammal Society, London.

[60] Strachan, R., Moorhouse, T. & Gelling, M. (2011). *The Water Vole Conservation Handbook*. Third edition, Wildlife Conservation Research Unit, University of Oxford, Abingdon.

[61] Harris, S., Cresswell, P. & Jefferies, D. (1989). *Surveying Badgers*. The Mammal Society, London.

[62] Bang, P. & Dahlstrøm, P. (2001). *Animal Tracks and Signs*. Third edition. Collins, London.

[63] SNH (2018). Freshwater Pearl Mussel Survey Protocol. Available at: https://www.nature.scot/sites/default/files/2018-10/Freshwater%20pearl%20mussel%20survey%20-%20protocol%20for%20use%20in%20site%20specific%20projects.pdf.

[64] SFCC Habitat Surveys Training Manual. (2007). Available at: https://www.sfcc.co.uk/resources/habitat-surveying.html

Ness Glen	SSSI	5.8 km	Atlantic woodland bryophyte assemblage, upland mixed ash woodland.
Loch Doon	SSSI	6.6 km	Arctic charr.
Auchalton	SSSI	6.8 km	Lowland neutral grassland.
Martnaham Loch and Wood	SSSI	8.2 km	Mesotrophic loch, upland oak woodland.

Source: Magic Online GIS tool

Results - Existing Data (Keirs Hill Wind Farm) - Habitats

7.3.22 Extended Phase 1 and NVC surveys were undertaken in the area of the proposed access route as part of the baseline for the Keirs Hill Wind Farm application. These surveys identified the presence of seventeen vegetation community types, including several examples of Annex 1 and potential GWDTE habitats. The sensitive habitats found during these surveys are listed in Table 7.2. Most sensitive habitats found during the Keirs Hill Wind Farm application surveys were found in the 250m buffer of the currently proposed access track, where update surveys have not yet been undertaken (scheduled July 2021).

Table 7.2 : Summary of habitats identified during 2013 planning application surveys

Phase 1 Habitat	NVC Community	Conservation Status
Unimproved acid grassland	U5; MG10	SBL; GWDTE (mod)
Marshy grassland	M23; M25; MG10; U6	SBL; GWDTE (high/mod)
Wet heath	M15	Annex 1; SBL; GWDTE (high)
Blanket/Modified bog	M2; M3; M17; M18; M19; M25	Annex 1; SBL
Acid/Neutral flush	M6	SBL; GWDTE (high)
Basic flush	M10	SBL; GWDTE (high)

Source: Natural Power

Results - Existing Data (Keirs Hill Wind Farm) - Protected Species

7.3.23 Signs of protected species were recorded during 2012 and 2013 surveys. These included badger setts and otter holts showing signs of recent use, and live sightings of red squirrel on the site.

7.3.24 Manual transect and static detector sample surveys undertaken during 2012 and 2013 identified the presence of eight bat species:

- Common pipistrelle;

- Soprano pipistrelle;
- Nathusius' pipistrelle;
- Daubenton's bat;
- Natterer's bat
- Noctule;
- Leisler's bat; and
- Brown long-eared bat.

7.3.25 Activity was recorded across the whole Keirs Hill Wind Farm application site, though most activity was in the west of the survey area, particularly near Loch Spallander Reservoir. One small pipistrelle bat roost was located in a building in Keirs Glen, over 1 km away from currently proposed turbines and over 250 m from the currently proposed access track. Additionally, the area of broadleaved woodland along Keirs Glen (within 200 m of the currently proposed access track) was assessed to have high potential for bat roosts.

7.3.26 Great crested newt (GCN) surveys were undertaken in ten ponds within the Keirs Hill Wind Farm application site in 2013. These comprised of Habitat Suitability Index (HSI) assessment and a four-visit presence/absence survey. For two ponds HSI assessment was not undertaken, but presence/absence surveys were undertaken. **Error! Reference source not found.** shows the HSI scores and distance from infrastructure proposed in the Proposed Development for all ponds surveyed in 2013.

Table 7.3 : Ponds assessed for GCN during 2013 planning application surveys

Pond Number	HSI Score	Distance from currently proposed infrastructure (m)
1	Good	197
2	Below average	268
3	Average	191
4a	Below average	51
4b	Average	36
5	Average	208
6	Average	92
7	Good	733
8	Poor	697
9	Not assessed	7
10	Not assessed	72

Source: Natural Power

Results - Field Surveys

7.3.27 A summary of the results of the ecological field surveys undertaken so far at the Proposed Development are included here. Detailed results are available on request and will be provided in full in the EIA Report.

Results - Field Surveys - Habitats

7.3.28 Seven Phase 1 Habitat types were identified within the 2020 Habitat Study Area (see Error! Reference source not found. and Figure 7.3).

Table 7.4 : Summary of Habitats within the 2020 Habitat Study Area

Phase 1 Habitat	NVC Community	Description	Conservation Status	Area (ha)
Broadleaved woodland - Plantation	NA	Young beech plantation on recently clearfelled area.	NA	0.3
Coniferous woodland - Plantation	NA	Areas of Sitka spruce and Scot's pine plantation	NA	280.6
Mixed woodland - Plantation	NA	Mixture of hazel, beech and Sitka spruce	NA	0.2
Recently felled coniferous plantation	NA	Areas of conifer felling. Some areas recently replanted	NA	46.6
Marshy grassland	M23, M25	Rush pasture and purple moor-grass mire on shallow soils	SBL; GWDTE (mod or high)	50.9
Blanket bog	M3, M17, M19	Intact bog with Sphagnum carpet and bog pools	Annex 1; SBL	11.7
Wet modified bog	M25	Purple moor-grass mire on deep peat	Annex 1; SBL	6.4
Standing water	NA	Small ponds	SBL	0.1
Quarry	NA	Quarry	NA	0.6

Source: Natural Power

Results - Field Surveys - Bat Roost Surveys

7.3.29 No PRFs were found during surveys undertaken within the Bat Roost Study Area in 2020. Habitats within the 250 m buffer of the proposed turbines consisted mostly of

homogenous coniferous plantation, with no suitable roosting features and no buildings.

7.3.30 Two groups of trees with moderate bat roost potential were found during surveys along the proposed access track in 2021 (see Figure 7.4). PRFs such as snapped branches, tree holes and lifting bark were identified on trees in these groups. One group of trees was located within 100 m of the proposed access track (but over 250 m from any proposed turbine locations).

Results - Field Surveys - Protected Mammal Surveys

7.3.31 Otter, badger and pine marten signs were found during protected mammal surveys (see Figure 7.5).

Results - Field Surveys - Otter

7.3.32 Three otter resting places (one holt and two couches) were found within the Watercourse Study Area (see Table 7.5), two of which were previously identified in 2012. One couch was within 100 m of a proposed turbine location. Additionally, recent otter spraints were found along the Lochhead Burn, Red Burn and the River Doon.

Table 7.5 : Summary of otter resting places in the Watercourse Study Area

Resting place type	Watercourse	2012 survey	2020/2021 survey	Distance from infrastructure
Holt	Lochhead Burn	Confirmed active	Potential for use	>200 m
Couch	Lochhead Burn	Confirmed active	Potential for use	>30 m
Couch	River Doon	Not surveyed	Potential for use	>100 m

Source: Natural Power

Results - Field Surveys - Water vole

7.3.33 No signs of water vole were found within the Watercourse Study Area during either the 2020 or 2021 surveys. However, there were some areas of suitable water vole habitat along the Lochhead and Red Burns.

Results - Field Surveys - Badger

7.3.34 Three active badger setts were found during 2020/2021 mammal surveys. All setts were over 250 m from proposed infrastructure (see **Error! Reference source not found.**). Badger feeding signs (snuffle holes) and latrines were also identified within

the Badger Study Area along woodland edges and in open habitats providing suitable badger feeding grounds.

Table 7.5 : Summary of badger setts in the Badger Study Area

Number of holes	2013 survey	2020/2021 survey	Distance from infrastructure
3-hole main sett	Confirmed active	Confirmed active	>250 m
1-hole annex	Confirmed active	Confirmed active	>250 m
7-hole main sett	Not surveyed	Potential for use	>250 m

Source: Natural Power

Results - Field Surveys - Pine marten

7.3.35 No potential or active denning locations were identified during surveys conducted within the Badger Study Area in 2020 or the access track in 2021. However, three probable pine marten scats were found along a track and a ride in the south of the Badger Study Area in 2020 within 250 m of a proposed turbine.

7.4 Embedded Mitigation

7.4.1 This section outlines any embedded mitigation/good practice measures assumed to be in place prior to undertaking the assessment.

7.4.2 To ensure compliance with legislation, and to follow good practice guidance and consultation recommendations, a number of standard measures will be implemented should the application be consented. The standard measures which are relevant to avoiding and reducing effects on IEFs include:

- A maximum of eight months prior to commencement of works, pre-construction ecology walkover surveys will be carried out and will include surveys for:
    - potential bat roosts;
    - pine marten dens;
    - squirrel dreys;
    - badger setts;

- a check of all riparian habitat for signs of otter and water vole65; and
- potential reptile and amphibian hibernacula.

- Refinements to mitigation, micrositing and/or the construction programme will be made, if necessary, to take account of any updated distribution or presence of protected species, with a suitable mitigation plan adopted on a case-by-case basis;
- No development shall take place (including demolition, ground works, vegetation clearance) until a CEMP, incorporating a Construction Method Statement (CMS), has been submitted to and approved in writing by the local planning authority. The CEMP shall include the following:
  - Practical measures (both physical measures and sensitive working practices) to avoid or reduce impacts during construction (may be provided as a set of method statements), including a Pollution Prevention Plan outlining measures to control pollution and a Drainage Management Plan outlining measures for management of surface and groundwater;
  - The location and timing of sensitive works to avoid harm to ecological features;
  - The times during construction when specialist ecologists need to be present on site to oversee works;
  - Species Protection Plans (SPPs) outlining specific measures to avoid and reduce impacts on protected species, including disturbance buffers;
  - Responsible persons and lines of communication; and
  - The role and responsibilities on site of an Environmental Clerk of Works (ECoW) or similarly competent person.

7.4.3 No development shall commence until the role and responsibilities and operations to be overseen by an appropriately competent ECoW have been submitted to and approved in writing by the local planning authority. The ECoW will monitor and advise on potential effects on ecological features during

[65] NB: No evidence of red squirrel or water vole was found during baseline surveys, but there is some suitable habitat for both species within the Sclenteuch Site Boundary. As both species are present within the local area of the Proposed Development they could move in before or during construction and therefore mitigation measures for these species will be included in the EIA Report and the CEMP.

construction in order that these effects are avoided or minimised through best practice. This includes maintaining water quality and minimising the potential for disturbance or risk of injury/death for protected species which may be using the site.

7.4.4 The approved CEMP shall be adhered to and implemented throughout the construction period strictly in accordance with the approved details, unless otherwise agreed in writing by the local planning authority.

7.5 Proposed Scope of Assessment

7.5.1 Potential effects will be assessed on the basis that the standard good practice mitigation outlined above will be implemented.

Designated Sites

7.5.2 The Proposed Development is within 10 km of six biological SSSIs. Five of these sites are designated for habitats, although Bogton Loch is also designated for its breeding bird assemblage. The ornithological features of this SSSI will be discussed in the Section 8: Ornithology. Loch Doon SSSI is designated for Arctic charr (a salmonid fish).

7.5.3 The five SSSIs designated for habitats (Dalmellington Moss, Bogton Loch, Ness Glen, Auchalton and Martnaham Loch and Wood) are not hydrologically linked to the Proposed Development and are outwith the Zone of Influence for dust impacts, meaning that there is no route to impact for these sites. Therefore, these designated sites will be **scoped out** of the EIA Report for Ecology.

7.5.4 The access track for the Proposed Development crosses the River Doon, which is connected to Loch Doon SSSI. The river crossing lies over 8.5 km downstream of Loch Doon, meaning that there is no route to direct impact on the loch habitat. As Arctic charr in Scotland are wholly freshwater dwelling and rarely use running water[66] it is considered unlikely that the Proposed Development would have a significant impact on the population within Loch Doon. Therefore, Loch Doon SSSI will be **scoped out** of the EIA Report.

Habitats

7.5.5 Some small areas of Annex 1 and potential GWDTE habitats were found during the 2020 habitat survey. These include blanket and modified bog (Annex 1 habitats) and marshy grassland (potential GWDTE). There were also several

[66] Walker A.F. (2006). *Stream spawning of Arctic charr in Scotland.* Ecology of Freshwater Fish 16(1):47 – 53.

sensitive habitat types (Annex 1/SBL/potential GWDTE) found within the 250 m buffer of the proposed access track during the 2013 application surveys and this area has yet to be re-surveyed. Therefore, there is the potential that sensitive habitats may be impacted by the development and as such will be **scoped in** to the EIA Report.

Bats

7.5.6 Two groups of trees with moderate bat roost potential were identified during 2021 surveys along the proposed access track. One of these was within 100 m of the proposed access track. Furthermore, bat activity surveys are still being carried out, which means that the potential impact of turbine collisions on bats cannot be assessed in this report. Therefore, bats will be **scoped in** to the EIA Report.

Otter

7.5.7 A small number of otter signs were found during the 2020 and 2021 mammal surveys. Additionally, three potential otter resting places were found within the Watercourse Study Area. One of these potential resting places was located within 100 m of a proposed turbine location. There was, however, no evidence found during the survey to suggest that any of these resting places were in use at the time of the survey. Otter are widespread across Scotland and in the local area of the Proposed Development, and the levels of activity recorded indicate that while this species is present it is unlikely to be in sufficient numbers to consider this population of greater than local value.

7.5.8 Embedded mitigation measures, as outlined in Section 7.4, will include pre-construction surveys to identify any new resting places, which would be protected under the CEMP. This will prevent a breach of legislation pertaining to this species and is considered to be sufficient to minimise any impacts on this species to negligible. Therefore, it is proposed that otter is **scoped out** of the EIA Report.

Water vole

7.5.9 No evidence of water vole was found during baseline surveys. It is therefore considered likely that this species is absent from the Site. Some areas of suitable habitat were found within the Watercourse Study Area, which means that there is a possibility that water vole could move in to the area before or

during construction. However, water voles are scarce within the surrounding area of the Proposed Development[67], meaning that this is unlikely.

7.5.10 Embedded mitigation, as outlined in Section 7.4, includes pre-construction surveys to ensure that any new water vole territories that could be disturbed by construction will be identified and protected under the CEMP.

7.5.11 It is therefore considered that embedded mitigation will be sufficient to minimise any potential impacts on this species to negligible and it is proposed that water vole is **scoped out** of the EIA Report.

Badger

7.5.12 Two main badger setts and one accompanying annex sett were found during baseline mammal surveys. These were over 250 m from the nearest proposed infrastructure and are therefore outwith the maximum 100 m disturbance distance for badger setts. Badgers are widespread across Scotland and in the local area of the Proposed Development, and the levels of activity recorded indicate that while this species is present it is unlikely to be in sufficient numbers to consider the population of greater than local value.

7.5.13 Embedded mitigation, as outlined in Section 7.4, will include pre-construction and pre-felling surveys to identify any new setts, which would be protected under the CEMP. This will prevent a breach of legislation pertaining to this species and is considered to be sufficient to minimise any impacts on this species to negligible. It is therefore proposed that badger is **scoped out** of the EIA Report.

Pine marten

7.5.14 Three pine marten scats were recorded within the Badger Study Area, although no resting places were recorded. It is therefore considered likely that pine martens use the Proposed Development Area only occasionally.

7.5.15 Embedded mitigation as outlined in Section 7.4, including pre-construction and pre-felling surveys to identify any new dens, which would be protected under the CEMP. This will prevent a breach of legislation pertaining to this species and is considered to be sufficient to minimise any impacts on this species to

[67] McGuire, C. (2017) *National Water Vole Database and Mapping Project 2005-2015*. Hampshire and Isle of Wight Wildlife Trust, Curdridge.

negligible. It is therefore proposed that pine marten is **scoped out** of the EIA Report.

Red squirrel

7.5.16 Red squirrel signs were identified during Keirs Hill Wind Farm application baseline surveys undertaken in 2012 within the Site. It is therefore assumed that red squirrel are still present at the Proposed Development.

7.5.17 Embedded mitigation, as outlined in Section 7.4, includes pre-construction surveys to ensure that any red squirrel dreys that could be disturbed by construction will be identified and protected under the CEMP.

7.5.18 It is therefore considered that embedded mitigation will be sufficient to minimise any potential impacts on this species to negligible and it is proposed that red squirrel is **scoped out** of the EIA Report.

Great crested newt

7.5.19 There is habitat within the Site that has the potential to support GCN. GCN surveys have not yet been carried out at the time of writing (surveys scheduled July 2021). As such, the potential impact of the Proposed Development on GCN cannot be assessed in this report and will be **scoped in** to the EIA Report.

7.5.20 Embedded mitigation, as outlined in Section 7.4, includes pre-construction surveys to ensure that any reptile or amphibian hibernacula that could be disturbed by construction will be identified and protected under the CEMP.

7.5.21 It is therefore considered that embedded mitigation will be sufficient to minimise any potential impacts on this species to negligible and it is proposed that reptiles and amphibians are **scoped out** of the EIA Report.

Reptiles and amphibians

7.5.22 There is habitat within the Site that has the potential to support common reptiles and amphibians protected under the Wildlife and Countryside Act.

7.5.23 Embedded mitigation, as outlined in Section 7.4, includes pre-construction surveys to ensure that any reptile or amphibian hibernacula that could be disturbed by construction will be identified and protected under the CEMP.

7.5.24 It is therefore considered that embedded mitigation will be sufficient to minimise any potential impacts on this species to negligible and it is proposed that reptiles and amphibians are **scoped out** of the EIA Report.

Freshwater pearl mussel

7.5.25 FWPM surveys have not yet been carried out at the time of writing (surveys scheduled July 2021). As such, the potential impact of the Proposed Development on FWPM cannot be assessed in this report and FWPM will be **scoped in** to the EIA Report.

Fish

7.5.26 Fish surveys have not yet been carried out at the time of writing (surveys scheduled July 2021). As such, the potential impact of the Proposed Development on fish cannot be assessed in this report and fish will be **scoped in** to the EIA Report.

Summary

7.5.27 The following lists the ecological features requiring more detailed assessment and are, therefore, scoped in to the EIA Report (an asterisk (*) denotes those receptors for which field surveys shall be undertaken during continued baseline recording):

- Habitats*;
- Bats*;
- Great crested newts*;
- Freshwater pearl mussel*; and
- Fish*.

7.5.28 It is anticipated that the Proposed Development will have negligible impact on the following receptors and they have therefore been scoped out:

- Loch Doon SSSI;
- Dalmellington Moss SSSI;
- Bogton Loch SSSI;
- Ness Glen SSSI;
- Auchalton SSSI;
- Martnaham Loch and Wood SSSI;
- Otter;
- Water vole
- Badger;
- Pine marten;
- Red squirrel; and
- Reptiles and amphibians.

7.6 Questions

Do consultees agree that the EIA should concentrate on those receptors which may be subject to significant effects from the Proposed Development (either directly or indirectly)?

Do consultees agree with the list of receptors and impacts to be included within the EIA Report?

8 Ornithology

8.1 Introduction

8.1.1 The intention of this chapter of the Scoping Report is to provide the competent authority and its advisors with sufficient information (where it currently exists) as to the likely impacts of the Proposed Development on important ornithological features (IOFs). IOFs are species that are protected by legislation, are of high conservation importance and/or are particularly sensitive to the effects of onshore wind farms. Important ecological features (IEFs) are discussed in Chapter 7.

8.1.2 This chapter describes the baseline ornithology surveys carried out between September 2018 and July 2021 for the Proposed Development and presents the results in order to identify IOFs that could be affected by the Proposed Development. Where likely non-significant effects are identified for an ornithological feature, it is proposed that these features are not carried forward for inclusion in the relevant Environmental Impact Assessment (EIA) Report and are 'scoped out'. This will allow for an EIA Report that focusses on features which could be significantly affected, or for which the predicted effects are currently unknown.

8.1.3 In addition, this chapter also provides information on statutory sites of international importance, upon which the Proposed Development may have a 'Likely Significant Effect' (LSE). A screening process will be undertaken alongside the EIA to determine whether the predicted impacts of the Proposed Development will result in an LSE. The screening process will allow the competent authority to determine whether an Appropriate Assessment (AA) will be required.

8.1.4 The ornithological baseline conditions of the Proposed Development were already described as part of the previous Keirs Hill Wind Farm application. The baseline surveys for Keirs Hill Wind Farm application (which covered a larger area than the Proposed Development) were conducted in 2010-12 and are summarised in the 2013 Keirs Hill Wind Farm application Environmental Statement (ES). The ES concluded no significant effects on any IOFs. The main findings from the ES, although now outdated, were used to inform the survey programme for the Proposed Development.

8.2 Legislation, Policy and Guidance

8.2.1 The ornithological baseline surveys and preliminary assessment presented in this report have been carried out with reference to a number of national policy documents. Legislative and guidance documents with relevance to ornithology are listed below:

Legislation

- EU Exit: The Habitats Regulations in Scotland;
- Directive 2009/147/EC on the Conservation of Wild Birds (the Birds Directive);
- Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (the Habitats Directive);
- The Conservation of Habitats and Species Regulations 2017 (as amended), relating to reserved matters in Scotland including the granting of consent under section 36 of the Electricity Act (together, "the Habitats Regulations");
- The Conservation (Natural Habitats, &c.) Regulations 1994 (as amended) (the Habitats Regulations), which transposes the Habitats Directive into UK law[68];
- Wildlife and Countryside Act (WCA) 1981 (as amended);
- The Nature Conservation (Scotland) Act 2004; and
- The Wildlife and Natural Environment (Scotland) Act 2011.

National Policy Guidance

- Planning Advice Note (PAN) 51: Planning, Environmental Protection and Regulation[69];
- Planning Advice Note (PAN) 60: Planning for Natural Heritage (Scottish Government 2000)[70];

[68] Wildlife and Countryside Act (WCA) 1981 (as amended).

[69] Scottish Government. (2006). *PAN 51. Planning, Environmental Protection and Regulation*. Scottish Government, Edinburgh.

[70] Scottish Government (2000). PAN 60: *Planning for Natural Heritage*. Scottish Government, Edinburgh.

- PAN 1/2013 – Environmental Impact Assessment[71]; and
- Nature Conservation: Implementation in Scotland of the Habitats and Birds Directives: Scottish Executive Circular 6/1995 as amended[72].

Other Guidance

- Guidelines for ecological impact assessment in the UK and Ireland[73];
- Recommended bird survey methods to inform impact assessment of onshore wind farms[74];
- Birds and Wind Farms: risk assessment and mitigation[75];
- Developing field and analytical methods to assess avian collision risk at wind farms[76];
- Windfarms and birds: calculating a theoretical collision risk assuming no avoidance action[77];
- Assessing significance of impacts from onshore windfarms on birds outwith designated areas[78];
- Monitoring the impacts of onshore wind farms on birds[79];
- Guidance on methods for monitoring bird populations at onshore wind farms[80];
- Avoidance rates for the onshore SNH wind farm collision risk model[81];

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[71] Scottish Government. (2013 (updated 2017)). *PAN 1/2013 – Environmental Impact Assessment*. Scottish Government, Edinburgh.

[72] Scottish Executive (1995 (updated 2000)). *Nature Conservation: Implementation in Scotland of the Habitats and Birds Directives*. Scottish Executive, Rural Affairs Department, Edinburgh.

[73] CIEEM (2018). *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine*. Chartered Institute of Ecology and Environmental Management, Winchester.

[74] SNH (2017). *Recommended bird survey methods to inform impact assessment of onshore wind farms*. Scottish Natural Heritage, Battleby.

[75] de Lucas, M., Janss, G. & Ferrer, M. (eds.) (2007). *Birds and Wind Power*. Quercus, Madrid.

[76] Band, W., Madders, M. & Whitfield, D.P. (2007). *Developing field and analytical methods to assess avian collision risk at wind farms*. In de Lucas, M., Janss, G. & Ferrer, M. (eds.) Birds and Wind Power. Quercus, Madrid.

[77] SNH (2000). *Windfarms and birds: calculating a theoretical collision risk assuming no avoidance action*. Scottish Natural Heritage, Edinburgh.

[78] SNH (2018). *Assessing significance of impacts from onshore windfarms on birds outside designated areas*. Scottish Natural Heritage, Inverness.

[79] SNH (2009). *Monitoring the impact of onshore wind farms on birds* (Guidance note). Scottish Natural Heritage, Edinburgh.

[80] SNH (2009). *Guidance on methods for monitoring bird populations at onshore wind farms*. Scottish Natural Heritage, Edinburgh.

[81] SNH (2017). *Avoidance rates for the onshore SNH wind farm collision risk model*. Scottish Natural Heritage, Battleby.

- Assessing the cumulative impact of onshore wind energy developments[82];
- Good practice during Wind Farm construction[83];
- Assessing connectivity with Special Protection Areas (SPAs)[84];
- A review of disturbance distances in selected bird species[85];
- British Standard 42020:2013 Biodiversity – code of practice for planning and development;
- Natural Heritage Zone (NHZ) bird population estimates. Scottish Windfarm Bird Steering Group (SWBSG). Commissioned report number 1504[86];
- Bird Monitoring Methods[87];
- A method for censusing upland breeding waders[88];
- Raptors: A Field Guide to Survey and Monitoring[89];
- Birds of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands and the Isle of Man[90]; and
- Scottish Biodiversity List (SBL)[91].

8.3 Baseline Conditions

8.3.1 This section outlines the ornithological baseline of the Proposed Development.

8.3.2 The survey requirements were approved by NatureScot during the consultation process in 2020 and 2021. NatureScot agreed that one year of survey would be

[82] SNH (2018). *Assessing the cumulative impacts of onshore wind farms on birds: guidance*. Scottish Natural Heritage, Inverness.

[83] Scottish Renewables, SNH, SEPA, Forestry Commission Scotland, Historic Environment Scotland, Marine Scotland Science, AEECoW (2019). *Good Practice during windfarm construction*. Version 4.

[84] SNH (2016). *Assessing connectivity with Special Protection Areas (SPAs)* (Guidance note: Version 3). Scottish Natural Heritage, Edinburgh.

[85] Ruddock, M. & Whitfield, D.P., (2007). *A Review of Disturbance Distances in Selected Bird Species*. A report from Natural Research (Projects) Ltd to Scottish Natural Heritage.

[86] Wilson, M.W., Austin, G.E., Gillings, S. & Wernham, C.V. (2015). *Natural Heritage Zone bird population estimates*. SWBSG commissioned report number 1504. Pp72. Available from www.swbsg.org

[87] Gilbert, G., Gibbons, D.W. & Evans, J. (1998). *Bird Monitoring Methods*. RSPB, Sandy.

[88] Brown, A. F. & Shepherd, K. B. (1993). *A method for censusing upland breeding waders*. Bird Study, 40: 189-195.

[89] Hardey, J., Crick, H., Wernham, C., Riley, H., Etheridge, B. & Thompson, D. (2013). *Raptors: a field guide to survey and monitoring*. 3rd Edition. The Stationery Office, Edinburgh.

[90] Eaton M.A., Aebischer N.J., Brown A.F., Hearn R.D., Lock L., Musgrove A.J., Noble D.G., Stroud D.A. and Gregory R.D. (2015). *Birds of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands and Isle of Man*. British Birds 108, 708–746.

[91] Scottish Biodiversity List (SBL):

sufficient as the survey work demonstrated that there have been no significant changes in flight activity levels since 2011/12.

8.3.3 The baseline surveys commenced in September 2018 but after six months the survey works were put on hold. The surveys recommenced in February 2020 and lasted 12 months. Additional surveys took place in the 2021 breeding season to cover a previously unsurveyed area proposed for the access track. Overall, the baseline surveys were completed between September 2018 and July 2021.

8.3.4 The baseline surveys included:

- Vantage Point (VP) surveys in the non-breeding season 2018/19, in the breeding season 2020 and in the non-breeding season 2020/21;
- Breeding bird surveys (BBS) in 2020 and 2021;
- Breeding raptor surveys, including barn owls, in 2020 and 2021; and
- Black grouse surveys in 2020 and 2021.

8.3.5 The BBS, breeding raptor and black grouse surveys conducted in 2020 covered the Main Study Area (turbine area with appropriate survey buffers) and the surveys conducted in 2021 covered the Access Track Study Area (as shown in Figure 8.1).

8.3.6 Baseline ornithological surveys conducted for the Keirs Hill Wind Farm application in 2011-12 included VPs, breeding bird, breeding raptor, including breeding barn owl, black grouse, winter walkover (WWO) and winter point count surveys. The main findings of these surveys are briefly described in the Results (Desk-based Review) section of this chapter.

Methods - Desk Based Review - Designated Sites

8.3.7 To assess any connectivity between ornithological features recorded within the Proposed Development with populations protected on designated sites, a desk study was undertaken involving an online search using the NatureScot Sitelink website[92] and Online GIS tool MAGIC (Multi-Agency Geographic Information for the Countryside)[93]. Data were sought for the following:

- Special Protection Areas (SPAs) – within 10 km of the Proposed Development (25 km for sites designated for geese and/or gulls);

[92] https://Proposed Developmentlink.nature.scot/home

[93] https://magic.defra.gov.uk/MagicMap.aspx

- Ramsar sites (Ramsar Convention on Wetlands of International Importance especially as Waterfowl Habitat) – within 10 km of the Proposed Development (and 25 km for geese and/or gulls);
- Sites of Special Scientific Interest (SSSIs) – within 5 km of the Proposed Development;
- Locally designated sites such as sites of Important Nature Conservation (SINCs) and sites of Nature Conservation Interest (SNCIs) – within 5 km of the Proposed Development; and
- Local and National Nature Reserves, including Royal Society for the Protection of Birds (RSPB) and Wildlife Trust Reserves – within 5 km of the Proposed Development.

Methods - Desk Based Review - Species of Note (Existing Data)

8.3.8 To provide background information pertaining to the baseline status of ornithological species in the local environment, records of relevant data recorded within the last ten years (2011-2021) will be requested from the RSPB, the Raptor Study Group (RSG) and the South-West Scotland Environmental Information Centre (SWSEIC) and included within the Ornithology chapter of the EIA Report.

8.3.9 Searches for ornithological data will be limited to:

- Data from within 25 km of the Proposed Development for goose species;
- Data from within 10 km from the Proposed Development for eagle species; and
- Data from within 5 km from the Proposed Development for all other protected species.

8.3.10 Protected species, for the purposes of this data search, were classified as:

- Species Annex I listed under the Habitats Directive and the Birds Directive;
- Schedule 1 listed species under the Wildlife and Countryside Act (WCA)[68];
- Species as listed under Scottish Biodiversity List (SBL)[91]; and
- British Trust for Ornithology (BTO) Birds of Conservation Concern (BoCC) red and amber listed bird species[90].

Methods - Field Surveys

8.3.11 The baseline ornithology surveys undertaken are described below.

8.3.12 Survey methodology followed standard NatureScot guidance[80]. Surveys were all carried out by appropriately qualified and experienced personnel, in possession of a Schedule 1 licence where appropriate, and were undertaken in suitable weather conditions.

8.3.13 Full information on the dates, times and weather conditions for all ornithology surveys undertaken at the Proposed Development can be provided upon request in Excel format; but is not included here due to the large size of this dataset.

Methods - Field Surveys - Target Species

8.3.14 NatureScot guidance[80] states that work to establish the ornithological baseline should focus on those species which are afforded a higher level of legislative protection, or those which, as a result of their behaviour, may be more likely to be subject to impact from wind farms. There are three important species lists from which target species may be drawn:

- Annex I of the EC Birds Directive;
- Schedule 1 of the Wildlife & Countryside Act 1981[68]; and
- Red-listed Birds of Conservation Concern (BoCC[90]).

8.3.15 Target species should be restricted to those likely to be affected by wind farms. It is generally considered that passerine species are not significantly impacted by wind farms.

8.3.16 As such, and in accordance with the NatureScot guidance, surveys focused on the following target species:

- All species of raptors and owls listed in Annex I of the EC Birds Directive and/or Schedule 1 and 1A of the WCA 1981 (as amended)[68];
- All species of wildfowl (with the exception of Canada goose and mallard);
- All gull species*[94];
- Black grouse; and

[94] Gulls are not usually recorded as target species unless they have connectivity with an SPA, however due to proximity of the Proposed Development to the Bogton Loch SSSI with black-headed gull as a designated feature, and the proximity to Loch Spallander Reservoir which can attract large numbers of gulls, this group was recorded as targets as a precautionary approach.

- All wader species.

8.3.17 Raptor species that do not appear on the Annex I/Schedule 1 lists (such as kestrel), and which are considered to be of lower conservation concern than target species (such as buzzard), are termed secondary species. Recording of secondary species is subsidiary to recording of target species. The following species were considered secondary species for the purposes of flight activity (VP) surveys:

- All other raptor and species (buzzard, sparrowhawk, kestrel);
- Tawny owl;
- Grey heron; Canada goose and mallard;
- Red grouse;
- Raven;
- Schedule 1[68] passerines (e.g. crossbill); and
- Any large aggregations of red-listed passerines.

Methods - Field Surveys - Vantage Point Surveys

8.3.18 VP surveys were undertaken during:

- Non-breeding season 2018/19 (September 2018 – February 2019);
- Breeding season 2020 (March – August 2020); and
- Non-breeding season 2020/21 (September 2020 – February 2021).

8.3.19 This accounted for 18 months of baseline monitoring. These surveys were used to record the flight activity of target species within the vicinity of the Proposed Development. The flight activity of secondary species was also recorded.

8.3.20 In the non-breeding season 2018/19 two vantage points were used to carry out the VP surveys covering the Proposed Development (VP1) and an area to the east of it (VP2) (Figure 8.1):

- VP1 was located on the west of Turgeny, looking north-west, at NGR 242050 605709; and
- VP2 was located on Green Hill, looking south-west, at NGR 244104 609033.

8.3.21 In 2020 and 2021 the VP surveys covered the Proposed Development and were conducted from a single location (VP1) with a 3 km viewshed (this was agreed with NatureScot).

8.3.22 The VP locations were carefully selected to obtain maximum visibility based on viewshed analysis and a ground-truthing visit prior to surveys commencing.

8.3.23 Following NatureScot guidance[80] a minimum of 36 hours of survey effort was undertaken at each VP during the breeding season and two non-breeding seasons (**Error! Reference source not found.**). During goose migration periods and core raptor breeding season additional survey effort was undertaken.

Table 8.1 : Vantage Point survey effort

Month (year)	VP1 hours	VP2 hours
September (2018)	6	6
October (2018)	18	18
November (2018)	12	12
December (2018)	6	6
January (2019)	6	6
February (2019)	6	6
Total non-breeding season 2018/19	**54**	**54**
February (2020) – early start	6	
March (2020)	18	
April (2020)	12	
May (2020)	12	
June (2020)	3	
July (2020)	15	
August (2020)	6	
Total breeding season 2020	**72**	
September (2020)	12	
October (2020)	11	
November (2020)	13	
December (2020)	6	
January (2021)	6	
February (2021)	6	
Total non-breeding season 2020/21	**54**	

Source: Natural Power

Methods - Field Surveys - Breeding Bird Surveys

8.3.24 Breeding bird surveys were undertaken in 2020 and 2021, following standard NatureScot guidance[74]. These surveys covered areas of open moorland ground: in 2020 within the Main Study Area, and in 2021 within the Access Track Study Area.

8.3.25 The surveys followed the widely used Brown & Shepherd (1993)[88] methodology, but utilising four survey visits, as is currently recommended (Calladine *et al.*, 2009)[95].

8.3.26 The NatureScot recommendation is that only waders, skuas, gulls, red grouse and some wildfowl species are targeted during breeding bird surveys. This approach was followed, however for completeness passerine species were also recorded, but were only tallied within each km^2 on the Ordnance Survey (OS) map grid (or part thereof) and were not mapped. Woodland breeding passerine species were not recorded, as this is not recommended in current NatureScot guidance.

8.3.27 Upon completion of the fourth survey visit, records from all visits were combined and analysed to estimate the location of breeding territories; based upon the territory analysis method outlined in Bibby *et al.*, (2000)[96]. Full details as to how the data were analysed to produce the territory maps can be provided on request.

8.3.28 The BBS effort is summarised in Table 8.2.

Table 8.2 : Breeding bird survey effort

Year	Visit	Date 2020	Survey effort (hours)
2020	1	21 April	4
2020	2	12 May	4.5
2020	3	2 June	3
2020	4	14 July	3
Total			**14.5**
2021	1	21 April	4.5
2021	2	19 May	4.5
2021	3	24 June	5
2021	4	8 July	4.5
Total			**18.5**

Source: Natural Power

[95] Calladine, J., Garner, G., Wernham, C. & Thiel, A. (2009). The influence of survey frequency on population estimates of moorland breeding birds. Bird Study, 56, 381-388.

[96] Bibby, C. J., Burgess, N. D., Hill, D. A. & Mustoe, S. (2000). *Bird Census Techniques*. Second Edition. Academic Press, London.

Methods - Field Surveys - Breeding Raptor Surveys

8.3.29 Dedicated breeding raptor surveys covered the Main Study Area in 2020, and the Access Track Study Area in 2021. The surveys in 2021 also included barn owl surveys.

8.3.30 The nature of these surveys was determined by the target species recorded during the VP surveys and breeding bird surveys and by those species considered to have the potential to breed within the survey area, based upon the available habitat. Surveys involved walkovers and short VP watches to identify breeding sites and, where possible, productivity. Surveys were undertaken by experienced surveyors holding a Schedule 1 Licence. Species-specific survey methods were informed by the methods outlined in Gilbert *et al.* (1998)[87] and Hardey *et al.* (2013)[89].

8.3.31 The raptor survey effort is summarised in Table 8.3.

Table 8.3 : Raptor survey effort

Year	Date	Survey effort (hours)
2020	6 March	12
2020	23 March	3.75
2020	25 March	2
2020	31 March	5.5
2020	7 April	6
2020	13 April	7
2020	21 April	3
2002	23 April	4
2020	20 May	12
2020	12 June	2.5
2020	31 July	6
Total		**63.75**
2021	24 March	5.66
2021	1 April	6.5
2021	13 April	6
2021	22 April	3
2021	30 June	5
Total		**26.16**

Source: Natural Power

Methods - Field Surveys - Black Grouse Surveys

8.3.32 Dedicated black grouse surveys were carried out in 2020 and 2021, covering suitable habitats within the Main Study Area and Access Track Study Area (in respective years). The survey followed methods outlined in The National Black Grouse Survey Instructions (Etheridge and Baines, 1995[97]); summarised in Gilbert *et al.* 1998[87]).

8.3.33 Three survey visits were undertaken in 2020, but only two in 2021 as the first preparatory visit to locate suitable lekking habitat was not required in the second year. Survey dates are found in Table 8.4.

Table 8.4 : Black grouse survey effort

Year	Date	Survey effort (hours)
2020	6 March	6
2020	23 April	2
2020	12 May	2
Total		**10**
2021	22 April	3
2021	23 April	2.5
Total		**5.5**

Source: Natural Power

Methods - Collision Risk Modelling

8.3.34 Collision Risk Modelling (CRM) uses data collected during flight activity (VP) surveys to predict the number of individuals per species that have the potential to collide with turbine rotors. The modelling methods proposed for the Proposed Development are based on the Band *et al.*[76] collision risk model recommended by NatureScot. When using the Band model, height bands are typically chosen such that all flights recorded within certain height bands can be considered to be at potential collision height (PCH); i.e. the height at which rotor blades sweep.

8.3.35 For the Proposed Development, flight activity data were recorded into the following height bands, based on the expected turbine specifications that were current at the time survey work commenced:

- Height band 1: <25 m;
- Height band 2: 25-150 m;

[97] Etheridge, B. & Baines, D. (1995). Instructions for the Black Grouse Survey 1995/6: a Joint RSPB/GCT/JNCC/SNH Project. Unpublished.

- Height band 3: 150-220 m; and
- Height band 4: >220 m.

8.3.36 The current layout for the Proposed Development comprises nine turbines, all of which are proposed to be up to 200 m in height (to blade tip). However, the blade length and hub height are not defined at the point of writing this document and, therefore, the minimum rotor swept height is not yet known. A precautionary approach using a PCH between 25-220 m has been used for this Scoping Report, with all flights in height bands 2 and 3 considered to be within PCH. As noted, this will be a precautionary approach as some flights at the lower end of height band 2 and higher end of height band 3 (those above 200 m) will lie outside PCH.

8.3.37 In the VP survey results presented below, those ornithological features recorded at PCH are highlighted. Three or more flights and/or ten or more individuals at PCH within the collision risk zone (CRZ) (blade width plus 200 m buffer) are considered as qualifying a species for CRM. For the purposes of identifying species at potential collision risk within this Scoping Report, all species that recorded three or more flights and/or ten or more individuals at PCH within the surveyed viewsheds have been highlighted as requiring CRM; which can be considered precautionary as not all flights shall pass through the CRZ.

8.3.38 CRM has not been undertaken at this stage but is described here in order to confirm that this shall be an important part of the assessment. Full CRM will be undertaken for the EIA Report, using the finalised dimensions of the proposed turbines and full determination of those flights that occurred at PCH within the CRZ.

Results - Desk-based Review - Designated Sites

8.3.39 A search of the NatureScot online tool Sitelink[92] was used to identify and provide information on areas designated at a local, national or international level for ornithological interests within 5 km of the Proposed Development and 25 km of the Proposed Development where geese and/or gulls are listed as a qualifying interest.

8.3.40 One site of national importance designated for ornithological interests was identified within 5 km of the Proposed Development and no SPAs which list geese

and/or gulls as a qualifying interest were identified within 25 km. A summary of the identified site's citation is provided in Table 8.5.

Table 8.5: Summary of designated sites

Designation	Site name	Distance from Proposed Development (km)	Reason for designation
SSSI	Bogton Loch	3.2	The SSSI is designated for its breeding bird assemblage which includes; song thrush, grasshopper warbler, spotted flycatcher, willow tit, reed bunting and, sporadically, a small colony of black-headed gulls.

Source: Natural Power

Results - Species of Note (Existing Data) - Vantage Point Surveys

8.3.41 Vantage point surveys were undertaken in 2011 and 2012 for the Keirs Hill Wind Farm application. A total of 13 target species were recorded during all VP surveys undertaken from locations that covered the Keirs Hill Wind Farm application (Table 8.6). Gulls were not recorded as targets during these surveys.

Table 8.6: Summary of target species flights recorded during all VPs at the Keirs Hill Wind Farm application during 2011 and 2012

Species	Total number of flights	Total number of individuals
Whooper swan	5	30
Pink-footed goose	2	152
Greylag goose	9	156
Teal	1	1
Goldeneye	1	1
Goosander	46	139
Hen harrier	4	4
Merlin	3	3
Peregrine	4	4
Oystercatcher	1	2
Golden plover	2	139
Curlew	45	61
Woodcock	1	1

Results - Breeding Bird Territories

8.3.42 BBS were undertaken in 2010 and 2012 for the previously proposed Keirs Hill Wind Farm application. A total of 29 species of conservation concern (red or amber-listed) were recorded within the survey area, of which four (passerines excluded)

had territories within the proposed Keirs Hill Wind Farm application survey area (Table 8.7).

Table 8.7: Summary of breeding bird territories recorded during BBS surveys at the Keirs Hill Wind Farm application during 2010 and 2012

Species	Total estimated no. of territories/breeding pairs	
	Survey area: 2010 (2012)	Survey area inside Keirs Hill Wind Farm: 2010 (2012)
Oystercatcher	0 (1)	0 (1)
Snipe	0 (1)	0 (0)
Curlew	3 (6)	1 (2)
Common sandpiper	0 (1)	0 (1)

Results - Black Grouse

8.3.43 Black grouse surveys were undertaken in 2011 within the Keirs Hill Wind Farm application. No evidence of black grouse or black grouse leks were recorded within the survey area.

Results - Breeding Raptors

8.3.44 Breeding raptor surveys were undertaken in 2011 within the Keirs Hill Wind Farm application. No evidence was recorded of any Annex I or Schedule 1 raptors breeding within the survey area.

Results - Winter Walkover

8.3.45 Winter Walkover surveys were undertaken in 2011 and 2012 in open ground within the 500 m buffer of the Keirs Hill Wind Farm application. The main findings of these surveys are shown in Table 8.8.

Table 8.8: Summary of winter walkover survey results at the Keir's Hill Wind Farm application during 2011 and 2012

Species	Total number of flights
Goshawk	1
Golden plover	2
Snipe	14

Results - Field Surveys - Vantage Point Surveys - Target Species - Breeding Season 2020

8.3.46 The breeding season surveys during 2020 recorded flight lines from a total of eight target species. Table 8.9 summarises levels of flight activity for each species and the level of flight activity which was at PCH. This shows that great black-backed gull and goshawk were the most frequently recorded species, with the former being recorded in the greatest numbers overall. The associated flight lines are shown in Figure 8.2 in the Appendix. In bold are species for which flight activity meets the required criteria for conducting CRM.

Table 8.9: Target species recorded during the breeding season 2020 vantage point surveys

Species	No. Flights (individuals)	No. Flights (individuals) at PCH
Goshawk	12(13)	8(8)
Red kite	2(2)	1(1)
Curlew	8(9)	1(2)
Snipe	2(2)	-
Great black-backed gull	14(17)	9(10)
Common gull	1(1)	-
Herring gull	2(3)	-
Lesser black-backed gull	1(1)	1(1)

Source: Natural Power

Results - Field Surveys - Vantage Point Surveys - Target Species - Non-Breeding Seasons 2019/20 and 2020/21

8.3.47 A total of 12 target species were recorded during non-breeding season VP surveys between September 2018 to February 2019 (inclusive) and September 2020 to February 2021 (inclusive). Six of those species were also recorded during the breeding season. Table 8.10 summarises levels of flight activity for each species and the level of flight activity which was at PCH. In terms of number of records, herring gull and goshawk were the most frequently recorded species, the former being recorded in greater numbers. The flight lines for the non-breeding season target species are shown in Figures 8.3-8.6 in the Appendix. In bold are species for which flight activity meets the required criteria for conducting CRM.

Table 8.10: Results of non-breeding season vantage point surveys in 2018/2019 and 2020/2021

Species	No. Flights (individuals) 2018/19	No. Flights (individuals) at PCH 2018/19	No. Flights (individuals) 2020/21	No. Flights (individuals) at PCH 2020/21
Greylag goose	3(10)	2(6)	-	-
Goosander	1(2)	-	-	-

Goshawk	6(6)	6(6)	1(1)	1(1)
Hen Harrier	4(4)	2(2)	1(1)	-
Red kite	3(3)	3(3)	1(1)	-
Golden plover	3(18)	3(18)	-	-
Common gull	2(9)	2(9)		
Great black-backed gull	3(5)	3(5)	4(7)	4(7)
Herring gull	6(24)	5(23)	-	-
Lesser black-backed gull	5(5)	4(4)	-	-
Unidentified gull	7(28)	5(15)	-	-
Unidentified large gull	2(2)	2(2)	-	-
Barn owl	-	-	1(1)	-
Peregrine	2(2)	2(2)	-	-

Source: Natural Power

Results - Field Surveys - Vantage Point Surveys - Incidental Records

8.3.48 A number of incidental records of target species were made during VP surveys. Records in this category include birds heard only and birds recorded before/after formal survey effort. These records are summarised in Table 8.11 for completeness.

Table 8.11: Summary of incidental records of target species recorded during VP surveys

Species	Number of records/flights	Number of individuals
Snipe	4	5
Hen harrier	1	1

Source: Natural Power

Results - Field Surveys - Vantage Point Surveys - Secondary Species Records

8.3.49 A summary of the secondary species recorded during the VP surveys is shown in Table 8.12.

Table 8.12: Summary of secondary species recorded during all VP surveys

Species	No. flights recorded	No. individuals recorded
Buzzard	140	248
Canada goose	7	26
Grey heron	1	1
Kestrel	18	18

Mallard	1	1
Raven	161	259
Red grouse	1	1
Sparrowhawk	11	12
Tawny owl	1	2

Source: Natural Power

Results - Field Surveys - Breeding Bird Surveys

8.3.50 A total of 25 species (mostly including moorland breeding passerines) were recorded. Eighteen passerine species, and five species of no conservation concern and/or species of which no breeding was suspected were excluded from the results section. Two wader species were considered to have held territories within the survey area (Table 8.13). The locations of these territories (mapped by estimated central point) are shown in Figure 8.7. Passerine species were not mapped, with surveyors instead recording a total number of individuals present on each visit and averaging the total number over four visits.

Table 8.13: Estimated number of territories of bird species found during breeding bird surveys in 2020 (excluding passerine species)

Species	Estimated no. territories in the Main Study Area (2020)	Estimated no. territories within Access Track Study Area (2021)
Snipe	2	1
Oystercatcher	-	1

Source: Natural Power

Results - Field Surveys - Breeding Raptor Surveys

8.3.51 The results of the dedicated breeding raptor surveys carried out during 2020 and 2021 are shown in Confidential Figure 8.8.

8.3.52 In March 2020 a female hen harrier was observed hunting within the Proposed Development – with no further records made later in the season.

8.3.53 In April 2020 two pairs of goshawk were seen displaying within the Proposed Development, suggesting the possibility of two separate territories. The Proposed Development was checked for nests, but no nest were found occupied. A single unoccupied nest was located, and there was no further evidence of breeding

recorded on the Proposed Development. No further flight records for goshawk in the breeding season 2020 were made beyond April.

8.3.54 Two flight records for red kite were made beyond the Main Study Area.

8.3.55 In 2021 no breeding raptors were recorded within the Access Track Study Area. Overall, the habitat for nesting raptors within this area was considered poor.

8.3.56 No signs of breeding barn owls were found within the Proposed Development during the baseline surveys.

8.3.57 Secondary species recorded during raptor surveys include: buzzard, raven, kestrel and sparrowhawk.

Results - Field Surveys - Black Grouse Surveys

8.3.58 There were no black grouse recorded on the Proposed Development, including the Access Track Study Area, during dedicated surveys in 2020 and 2021.

8.4 Embedded Mitigation

8.4.1 To ensure compliance with legislation, and to follow good practice guidance and consultation recommendations, a number of embedded mitigation measures will be implemented should the application be consented. The Applicant would suggest that in order to ensure these practices are adopted that they be included as planning conditions. The proposed wording of these conditions, which can easily be transposed into the planning consent, is as follows:

- No vegetation stripping or removal of trees or shrubs shall take place between 1 March and 31 August inclusive, unless a competent Environmental Clerk of Works (ECoW) has undertaken a careful, detailed check of vegetation for active birds' nests in advance of vegetation being cleared and provided written confirmation that no birds will be harmed and/or that there are appropriate measures in place to protect nesting bird interest on Proposed Development;
- No development shall take place (including demolition, ground works, vegetation clearance) until a Construction Environmental Management Plan (CEMP), incorporating a Construction Method Statement (CMS), has been submitted to and approved in writing by the local planning authority. The CEMP shall include the following:
  - Risk assessment of potentially damaging construction activities;

- Identification of “biodiversity protection zones”;
- Practical measures (both physical measures and sensitive working practices) to avoid or reduce impacts during the construction phase (may be provided as a set of method statements);
- The location and timing of sensitive works to avoid harm to ornithological features;
- The times during construction when specialist ecologists need to be present on the Proposed Development to oversee works;
- Responsible persons and lines of communication;
- The role and responsibilities on the Proposed Development of an ECoW or similarly competent person; and
- Use of protective fences, exclusion barriers and warning signs;

- No development shall commence until the role and responsibilities and operations to be overseen by an appropriately competent ECoW have been submitted to and approved in writing by the local planning authority. The appointed person shall undertake all activities, and works shall be carried out, in accordance with the approved details. The ECoW will monitor and advise on potential effects on ornithological features during construction in order that impacts are minimised through good practice. This includes maintaining water quality and minimising the potential for disturbance or risk of injury/death for protected species which may be using the Proposed Development; and
- Should there be any other specific impacts as a result of the EcIA, there may also be further planning conditions specific to the particular impact that the Applicant will discuss with consultees on a case by case basis.

8.4.2 The approved CEMP shall be adhered to and implemented throughout the construction phase strictly in accordance with the approved details, unless otherwise agreed in writing by the local planning authority.

8.5 Proposed Scope of Assessment

8.5.1 This section outlines any potential impacts of the Proposed Development on protected sites and bird species after considering implementation of standard mitigation measures outlined above.

Designated Sites

8.5.2 The Proposed Development is within 5 km of one SSSI which is designated for ornithological features. Bogton Loch SSSI lies 3.2 km from the Proposed Development and is designated for its breeding bird assemblage, which includes; song thrush, grasshopper warbler, spotted flycatcher, willow tit, reed bunting and sporadically a small colony of black-headed gulls.

8.5.3 It is generally considered that passerine species are not significantly impacted by wind farms. Also given no records of black-headed gull during baseline surveys, there is no route to impact on the loch or its designated features. Also, the Bogton Loch SSSI is located upstream of watercourses and is not hydrologically linked to the Proposed Development, therefore there is no indirect route to impact this site. As such, Bogton Loch SSSI will be **scoped out** of the EIA Report.

8.5.4 No sites designated for geese and/or gulls have been identified within 25 km of the Proposed Development.

Ornithological Features - Greylag goose

8.5.5 Greylag goose is a resident breeder and winter migrant. It is BoCC amber-listed[90] due to its localised non-breeding population. Three flights (six individuals) were recorded during VP baseline surveys (all during the non-breeding season), but no sufficient flight activity was recorded at PCH to conduct CRM. As such, the Applicant proposes to **scope out greylag goose from the EIA Report**.

Ornithological Features - Goosander

8.5.6 Goosander is a common resident and winter visitor, and a species of no conservation concern. One flight (two individuals) was recorded during VP

baseline surveys. As such, the Applicant proposes to **scope out goosander from the EIA Report**.

Ornithological Features - Goshawk

8.5.7 Goshawk is a rare breeding resident and is a Schedule 1 species.

8.5.8 Goshawk was one of the most frequently recorded species during VP surveys, with 12 flights recorded in the breeding season and seven flights recorded in the non-breeding season. The level of recorded flight activity qualifies this species for CRM. Goshawk were seen displaying early in the breeding season, and it is considered likely that there is at least one, and possibly two, breeding territories within the plantation forestry at the Proposed Development.

8.5.9 Due to breeding activity being recorded within the Main Study Area during baseline surveys there is a potential for disturbance/displacement effects during construction, operation and decommissioning. There is also a potential collision risk for birds during operation. Therefore, the Applicant proposes to **scope in goshawk to the EIA Report.**

Ornithological Features - Hen harrier

8.5.10 Hen harrier is a rare resident breeder. It is a Schedule 1, Annex I and a BoCC red-list species[90] due to both historical and recent population declines.

8.5.11 During baseline VP surveys five hen harrier flights were recorded during the non-breeding seasons (plus one record off-effort) of which two were at PCH. During raptor surveys in 2020 a female hen harrier was observed hunting within the Proposed Development but no further records suggesting breeding were made later in the season. The level of recorded flight activity does not qualify this species for CRM, and with no breeding activity being recorded within the Proposed Development during baseline surveys there is no potential for disturbance/displacement in the breeding season. No hen harriers were recorded during winter walkover surveys in 2011/12 for the Keirs Hill Wind Farm application and unless data search records on roosting hen harrier in winter in the vicinity of the Proposed Development are returned from the RSG, it is predicted there would not be any disturbance/displacement impact for hen harrier in

winter. As such, the Applicant proposes to **scope out hen harrier from the EIA Report**.

Ornithological Features - Red kite

8.5.12 Red kite is a Schedule 1 and Annex I species, a resident breeder and wintering species.

8.5.13 During baseline VP surveys two red kite flights were recorded during the breeding season and four flights were recorded during the non-breeding seasons (which would qualify this species for CRM).

8.5.14 The habitat in the vicinity of the Proposed Development (mature woodland) could be considered suitable for breeding red kite. The open moor outwith the Proposed Development could also be potentially suitable for foraging birds. The potential for disturbance/displacement effects during construction, operation and decommissioning, as well as potential for collision risk during wind farm operation could therefore be predicted. As such the Applicant proposes to **scope in red kite to the EIA Report.**

Ornithological Features - Golden plover

8.5.15 Golden plover is a resident breeder and winter migrant. It is an Annex I species.

8.5.16 Three golden plover flights, totalling 18 individuals, were recorded in the non-breeding season 2028/19 – all at PCH although outside of the Main Study Area (no CRM can be undertaken for this species). All flights were recorded in the month of October (when additional survey effort was undertaken) which suggest that they were migrant birds (golden plover numbers in Scotland peak in October when migrants are moving through[98]). No breeding golden plovers were recorded during baseline surveys.

8.5.17 Collision risk for waders is generally deemed to be low, due to a relatively low cursory flight path, coupled with high flight manoeuvrability[99]. A review of pan-European collision assessments revealed much lower golden plover collision records than other species[100]. Golden plover collisions with turbines are relatively rare (there have been 45 fatalities reported at European wind farms to date,

[98] Murray, R.D., Andrews, I.J. & Holling, M. (2019). Birds in South-east Scotland 2007-13: a tetrad atlas of the birds in Lothian and Borders. The Scottish Ornithologists' Club, Aberlady.
[99] Mc Guinness, S., Muldoon, C., Tierney, N., Cummins, S., Murray, A., Egan, S. & Crowe, O. (2015). Bird Sensitivity Mapping for Wind Energy Developments and Associated Infrastructure in the Republic of Ireland. BirdWatch Ireland, Kilcoole, Wicklow.
[100] Hötker, H., Thomsen, K.M. and Koster, H. (2006) The Impact of Renewable Energy Generation on Biodiversity With Reference to Birds and Bats – Facts, Gaps in our Knowledge, Areas for Further Research and Ornithological Criteria for the Expansion of Renewables. NABU Report, Germany.

none of which were in the UK[101]). Therefore, the potential collision effects on golden plover during the operational phase are considered to be low. As such, the Applicant proposes to **scope out golden plover from the EIA Report.**

Ornithological Features - Curlew

8.5.18 Curlew is a resident breeder and winter migrant. It is a BoCC red-list species[90] due to a severe long-term breeding population decline.

8.5.19 During baseline VP surveys eight curlew flights were recorded during the breeding season. The low flight level activity does not qualify this species for CRM (only one flight was at PCH). As no breeding curlew were recorded at the Proposed Development, no disturbance/displacement effect can be predicted for this species. This species was recorded breeding during baseline surveys in 2011/12 for Keir Hill Wind Farm application, however, the survey area extended far beyond the Proposed Development and covered a much larger area of open ground habitat than the current application. As such, the Applicant proposes to **scope out curlew from the EIA Report.**

Ornithological Features - Snipe

8.5.20 Snipe is a resident breeder and winter migrant, which is included on the BoCC amber-list[90] due to moderate long-term declines in breeding range.

8.5.21 Two snipe flights were recorded during VP surveys in the breeding season, however none were at PCH, therefore no CRM can be conducted for this species.

8.5.22 Between two and three pairs are estimated to be breeding within the Proposed Development. Although small numbers of snipe may be displaced by the Proposed Development there is widespread breeding habitat in the surrounding locale. This species is a common and widespread breeder throughout Scotland, therefore effects of displacement due to disturbance associated with construction and

[101] Vogelverluste an Windenergieanlagen / Bird fatalities at wind turbines in Europe; Daten aus der zentralen Fundkartei der Staatlichen Vogelschutzwarte im Landesamt für Umwelt Brandenburg zusammengestellt: Tobias Dürr; Stand vom: 7 May 2021.

operation of the Proposed Development are likely to be negligible. As such, the Applicant proposes to **scope out snipe from the EIA Report.**

Ornithological Features - Common gull

8.5.23 Common gull is a resident breeder and winter migrant. It is a BoCC amber-list species[90] due to the international importance of the British non-breeding population.

8.5.24 During baseline VP surveys one common gull flight was recorded in the breeding season and two flights (totalling nine individuals) were recorded in the non-breeding season. This level of flight activity does not qualify this species for CRM, therefore the Applicant proposes to **scope out common gull from the EIA Report.**

Ornithological Features - Great black-backed gull

8.5.25 Great black-backed gull is a resident breeder and winter migrant. It is a BoCC amber-list species[90] due to a moderate long-term breeding population decline and a moderate decline in the non-breeding population over a recent 25-year period.

8.5.26 During baseline VP surveys great black-backed gull was one of the most frequently recorded species with 14 flights recorded in the breeding season and seven flights recorded in the non-breeding seasons. A lot of the flight activity occurred beyond the boundaries of the Proposed Development over the River Doon. Also, several flights in the easterly direction were recorded to the south of turbines (straight trajectory of these flights suggest commuting flights). This shows that the habitats within the Proposed Development do not present much foraging opportunities for gulls. The flight activity of this species cannot be associated with any breeding colony in the vicinity of the Proposed Development (there are no SPAs with gulls as a designated feature within 25 km distance from the Proposed Development, and there are no clear flight paths in the direction of the nearby Loch Spallander Reservoir to the northwest),

8.5.27 However, providing that sufficient flight activity occurred in the CRZ, collision risk could be calculated for this species for both breeding and non-breeding seasons (although it is likely to be low). On that basis, and on the proviso that

CRM can be undertaken, the Applicant proposes to **provisionally scope in great black-backed gull in the EIA Report.**

Ornithological Features - Herring gull

8.5.28 Herring gull is a resident breeder and winter migrant. It is a BoCC red-list species[90] due to severe long-term breeding and non-breeding population declines.

8.5.29 During baseline VP surveys two herring gull flights were recorded in the breeding season, and six flights, totalling 24 individuals were recorded in the non-breeding season 2018/19 (there were no records in the non-breeding season 2020/21). The presence of this species in the Proposed Development was sporadic and cannot be associated with any breeding colony in the vicinity of the Proposed Development (there are no SPAs with gulls as a designated feature within 25 km distance from the Proposed Development).

8.5.30 However, providing that sufficient flight activity occurred in the CRZ, collision risk could be calculated for this species in the non-breeding season (although it is likely to be low). On that basis, and on the proviso that CRM can be undertaken, the Applicant proposes to **provisionally scope in herring gull in the EIA Report.**

Ornithological Features - Lesser black-backed gull

8.5.31 Lesser black-backed gull in a summer visitor and a breeding bird in Scotland. It is BoCC amber-listed due to the localisation and international importance of the UK breeding population.

8.5.32 During baseline VP surveys one lesser-black-backed gull was recorded in the breeding season, and five were recorded in the non-breeding season 2018/19 (there were no records in the non-breeding season 2020/21). The presence of this species in the Proposed Development was sporadic and cannot be associated with any breeding colony in the vicinity of the Proposed Development (there are no SPAs with gulls as a designated feature within 25 km distance from the Proposed Development).

8.5.33 However, providing that sufficient flight activity occurred in the CRZ, collision risk could be calculated for this species for the non-breeding season (although it is likely to be low). On that basis, and on the proviso that CRM can be

undertaken, the Applicant proposes to **provisionally scope in lesser black-backed gull in the EIA Report.**

Ornithological Features - Barn owl

8.5.34 Barn owl is a Schedule 1 species and uncommon resident breeder.

8.5.35 Only one record of barn owl was made during baseline surveys to the south of the Proposed Development. No suitable breeding sites were identified during barn owl surveys although one owl pellet was found, again to the south of the Proposed Development (more than 1 km from the nearest proposed turbine beyond the Proposed Development boundary). Given the scarcity of records, the Applicant proposes to **scope out barn owl from the EIA Report.**

Ornithological Features - Peregrine

8.5.36 Peregrine is a resident breeder in Scotland and is classed as a Schedule 1 and Annex I species.

8.5.37 During baseline VP surveys only two peregrine flights were recorded in the non-breeding season 2018/19. No other peregrine records were made during other surveys. Due to the lack of suitable nesting locations and no breeding activity recorded within the Proposed Development during baseline surveys there is no potential for disturbance/displacement effects on this species during construction, operation and decommissioning. Also, recorded flight activity does not qualify this species for CRM. As such, the Applicant proposes to **scope out peregrine from the EIA Report.**

Ornithological Features - Secondary raptor species

8.5.38 Buzzard (no conservation designations), kestrel (BoCC amber-list) and sparrowhawk (no conservation designations) were regularly recorded during the VP surveys, with 140 flights (248 individuals), 18 flights (18 individuals) and 11 flights (12 individuals) recorded respectively. Tawny owl (BoCC amber-list) was recorded only once, although it is likely to be under-recorded.

8.5.39 Should the Proposed Development receive consent, good practice mitigation measures (e.g. pre-construction nest checks, use of exclusion zones etc.) will be followed during the pre-construction and construction phases, to ensure compliance with the Wildlife and Countryside Act (1981).

8.5.40 Turbine collision is a potential risk for these species, particularly for buzzard and kestrel which spend more time hunting over open ground compared to

sparrowhawk. However, any such effects are considered unlikely to have any more than a local impact on these populations.

8.5.41 With the above mitigation measures in place and given the relatively low predicted potential impact of collision effects, the Applicant proposes to **scope out buzzard, kestrel, sparrowhawk and tawny owl from the EIA Report.**

Ornithological Features - Other secondary species

8.5.42 Raven (no conservation designations) and Canada goose (no conservation designations) were regularly recorded during baseline VP surveys, with 161 flights (259 individuals) and seven flights (26 individuals) recorded respectively. Red grouse (BoCC amber-list), grey heron (no conservation designations) and mallard (BoCC amber-list) were each recorded once. Of these species raven is considered to have bred in small numbers within the Proposed Development.

8.5.43 Should the Proposed Development receive consent, best practice mitigation measures (e.g. pre-construction nest checks, use of exclusion zones etc.) will be followed during the pre-construction and construction phases, to ensure compliance with the Wildlife and Countryside Act (1981).

8.5.44 Turbine collision is a potential risk for these species, particularly for raven which spend more time flying at PCH than other non-raptor secondary species (i.e. scavenging over open ground). However, any such effects are considered unlikely to have any more than a local impact on the raven population.

8.5.45 With the above mitigation measures in place and given the relatively low predicted potential impact of collision effects the Applicant proposes to **scope out raven, red grouse, grey heron and mallard from the EIA Report.**

Ornithological Features - Passerines Species

8.5.46 No passerines of high conservation concern were recorded in large numbers during baseline surveys. Although some displacement of woodland breeding passerines can be expected as a result of tree felling, the impact on wider populations will be no greater in magnitude than impacts resulting from standard operations in rotationally felled forestry. Moreover, passerines are not considered to be significantly affected by collision with turbines. As such, it is expected that there will be no significant population level impact of disturbance/displacement

and/or collisions on these species as a result of construction, operation and decommissioning of the Proposed Development.

8.5.47 The Applicant therefore propose to **scoping out passerine species from the EIA Report.**

Summary

8.5.48 Table 8.14 provides a summary of the designated sites and ornithological features that Natural Power seeks to 'scope in' (i.e. progress to EIA) and those features that can be expected to experience no significant effects of the Proposed Development ('scoped out'). Designated sites and ornithological features that are scoped in are shown in bold.

Table 8.14 : Summary of ornithological features and potential impacts

Designated site	Impact		Scoped in/out of the EIA Report
Bogton Loch SSSI	An adverse effect on site integrity (breeding: song thrush, grasshopper warbler, spotted flycatcher, willow tit, reed bunting and sporadically a small colony of black-headed gulls)		Out
Feature	**Potential disturbance/ displacement**	**Potential collision**	**Scoped in/out of the EIA Report**
Greylag goose	None	Negligible	Out
Goosander	None	Negligible	Out
Goshawk	To be assessed in the EIA Report	To be assessed in the EIA Report	In
Hen harrier	Negligible	Negligible	Out
Red kite	To be assessed in the EIA Report	To be assessed in the EIA Report	In
Golden plover	Negligible	Negligible	Out
Curlew	Negligible	Negligible	Out
Snipe	Negligible	Negligible	Out
Common gull	None	Negligible	Out
Great black-backed gull	None	To be assessed in the EIA Report	In*
Herring gull	None	To be assessed in the EIA Report	In*
Lesser black-backed gull	None	To be assessed in the EIA Report	In*
Barn owl	Negligible	Negligible	Out
Peregrine	Negligible	Negligible	Out

**This feature was qualified for inclusion in the EIA Report on the proviso that sufficient flight information was recorded in the CRZ to conduct CRM*

Features Proposed for Assessment within the EcIA

8.5.49 In order to ensure compliance with the EIA Directive, and to ensure that the EcIA is focussed on potentially significant effects only, the Applicant propose that only those IOFs and impacts identified in Table 8.15 be assessed within the EIA Report.

Table 8.15: Features and impacts to be assessed within the EIA Report impacts

Feature	Impact	Assessment
Goshawk	Collision and disturbance/displacement	EcIA including CRM
Red kite	Collision and disturbance/displacement	EcIA including CRM
Great black-backed gull	Collision	EcIA including CRM
Herring gull	Collision	EcIA including CRM
Lesser black-backed gull	Collision	EcIA including CRM

8.6 Questions

8.6.1 The questions below are for consultees regarding the information provided in this Scoping chapter, for which it would be useful to receive feedback. Not all questions will be relevant to all consultees, therefore the Applicant request that consultees provide feedback only on those questions appropriate to them. The questions should not be considered an exhaustive list, and consequently consultees are welcome to provide feedback on any issue they consider relevant to the Proposed Development. If consultees elect not to respond, the Applicant will assume that consultees are satisfied with the approach adopted/proposed.

Do consultees agree that the EIA should only concentrate on those features which may be subject to significant effects from the Proposed Development (either directly or indirectly)?

Table 8.14 notes the features and potential impacts proposed to be included within the EIA. Do consultees agree with the list of features and impacts to be included within the EIA Report?

9 Geology, Hydrology and Hydrogeology

9.1 Introduction

9.1.1 This chapter outlines the proposed scope of the EIA to assess the significant effects from the Proposed Development on geology, hydrology and hydrogeology. The chapter has been prepared by SLR Consulting Limited, who will also undertake the assessment of effects for the geology, hydrology and hydrogeology for the Environmental Impact Assessment (EIA).

9.1.2 Much is known already about the Proposed Development site as a result of the Keirs Hill Wind Farm application and the studies completed to inform that assessment. The scope of the proposed geology, hydrology and hydrogeology assessment reflects the previous studies and existing knowledge of the Site and surrounding area.

9.2 Legislation, Policy and Guidance

Geology, Peat and Soils

- SEPA Regulatory Position Statement - Developments on Peat (Scottish Environment Protection Agency, 2010).
- Good Practice during Windfarm Construction, 4th Edition (Scottish Renewables, Scottish Natural Heritage (now NatureScot), Scottish Environment Protection Agency, Forestry Commission Scotland, Historic Environment Scotland, Marine Scotland Science and AEECoW, 2019).
- Peat Landslide Hazard and Risk Assessments: Best Practice Guide for Proposed Electricity Generation Developments (Scottish Government, January 2017).
- Developments on Peatland - Guidance on the assessment of peat volumes, re-use of excavated peat and the minimisation of waste (Scottish Renewables& SEPA, 2012).
- Floating Roads on Peat - Report into Good Practice in Design, Construction and Use of Floating Roads on Peat with particular reference to Wind Farm Developments in Scotland (Forestry Commission Scotland & Scottish Natural Heritage, 2010).

- Managing Geotechnical Risk: Improving Productivity in UK Building and Construction (Institution of Civil Engineers, 2001).
- Ground Engineering Spoil: Good Management Practice CIRIA Report 179 (CIRIA, 1997).
- Scottish Roads Network Landslides Study Summary Report (Scottish Executive, 2005).
- Guidelines for the Risk Management of Peat Slips on the Construction of Low Volume/Low Cost Roads on Peat (Forestry Commission, 2006).
- Hydrology and Hydrogeology
- Scottish Planning Policy (SPP) (Scottish Executive, June 2014).
- EC Water Framework Directive (2000/60/EC).
- Water Environment and Water Services (Scotland) Act 2003.
- Water Environment (Controlled Activities) Regulations 2011.
- The Water Intended for Human Consumption (Private Supplies) (Scotland) Regulations 2017.
- Good Practice during Windfarm Construction, 4th Edition (Scottish Renewables, Scottish Natural Heritage (now NatureScot), Scottish Environment Protection Agency, Forestry Commission Scotland, Historic Environment Scotland, Marine Scotland Science and AEECoW, 2019).
- Forests and Water Guidelines (Forestry Commission, 2012).
- Land Use Planning System – SEPA Guidance Note 31 (Guidance on Assessing Impacts of Development Proposals on Groundwater Abstractions and Groundwater Dependent Terrestrial Ecosystems), Version 3, (SEPA, 11/09/2017).
- Control of Water Pollution from Linear Construction Projects – Technical Guidance, C648 (CIRIA, 2006).
- The SuDS Manual C753 (CIRIA, 2015).
- Environmental Good Practice on Site C741 (CIRIA, 2015).

9.3 Proposed Scope of Assessment

9.3.1 The potential effects from the Proposed Development on geology and the water environment (hydrology and hydrogeology) will be assessed by completing a desk study and consultation, field investigation followed by an impact assessment, the processes of which are detailed below.

Desk Study

9.3.2 A desk study will be undertaken to confirm the baseline characteristics by reviewing available information relating to soils, peat, geology, hydrology and hydrogeology.

9.3.3 The desk study will review previous assessments undertaken in support of the Keirs Hill Wind Farm application and supporting EIA, as well as from neighbouring sites as much valuable and relevant information is likely to be contained in these reports and can be used to initially characterise the following:

- the depth and distribution of peat;
- the nature of the underlying geology;
- groundwater resources;
- licenced and unlicenced groundwater and surface water abstractions;
- public and private water supplies; surface water flows; and
- flood extents; rainfall data; and water quality data.

9.3.4 The baseline assessment will include review of published geological maps, OS maps, aerial photographs digital terrain models (slope plans) and geological literature.

9.3.5 It is recognised that some of the information presented in previous reports may now be out of date and as part of the baseline assessment data requests would be made East and South Ayrshire Councils, to the Scottish Environment

Protection Agency and British Geological survey, in order that a contemporary assessment of baseline conditions can be made.

9.3.6 If appropriate, Ironside Farrer Limited, who are advisors to the Scottish Government on matters regarding peat would also be consulted.

9.3.7 The desk study will be used to develop a conceptual site model which would then be used to identify sensitive features or receptors which may potentially be affected by the Proposed Development, and which might warrant further investigation as part of the proposed field surveys.

Field Surveys

9.3.8 The geological and water assessment specialists will liaise closely with each other as well as with the project ecologists and wider project team to ensure that appropriate information is gathered to allow potentially sensitive features or receptors to be adequately assessed and a comprehensive impact assessment to be completed.

9.3.9 A programme of site visits and surveys will be undertaken to:

- verify the information collected during the desk study;
- undertake a visual assessment of the main surface waters and identify private water supplies;
- identify drainage patterns, areas vulnerable to erosion or sediment deposition, and any pollution risks;
- visit any identified Groundwater Dependent Terrestrial Ecosystems (GWDTEs) (in consultation with the project ecologists);
- visit Private Water Supply sources that might be affected by the Proposed Development to confirm details of the location of the abstraction, its type and use;
- prepare a schedule of potential watercourse crossings;
- inspect rock exposures and establish by probing an estimate overburden thickness;
- where required supplement existing soils / peat depth probing data to confirm areas of thick peat that may influence the Proposed Development in accordance with current best practice; and

- confirm substrate beneath areas of peat based on the type of refusal of peat depth probe.

9.3.10 The desk study and field surveys will be used to identify potential development opportunities and constraints and be used to inform the site design.

9.3.11 Once the desk study and initial field surveys are complete and sensitive soil, geological and water features have been identified, an impact assessment will be undertaken.

Impact Assessment

9.3.12 The purpose of the assessment will be to assess potential effects on soils, peat, geology and the water environment (hydrology and hydrogeology) and specifically:

- identify any areas susceptible to peat slide, using site specific peat thickness and Digital Terrain Mapping (DTM) data to analysis slopes;
- assist micro-siting turbines, tracks and other proposed infrastructure in areas of no peat or shallow peat, and areas where there is little peat landslide hazard risk;
- if required show how any disturbed peat will be managed and safeguarded, by preparing a peat management plan;
- determine what the likely effects of the Proposed Development are on the hydrological regime, including water quality, flow and drainage;
- allow an assessment of potential effects on identified licenced and private water supplies; and
- assess potential effects on water (including groundwater) dependent habitats.

9.3.13 The impact assessment will consider potential cumulative or in-combination effects associated with other developments in the same hydrological or hydrogeological catchments and within 5 km of the Proposed Development.

9.3.14 It is anticipated that the impact assessment might include the following technical appendices:

- peat landside and hazard risk assessment;
- peat management plan;

- schedule of watercourse crossings;
- private water supply risk assessment; and
- groundwater dependent terrestrial ecosystems risk assessment.

9.4 Baseline Conditions

9.4.1 The Proposed Development is shown by the British Geological Survey (BGS)[102] to be underlain by peat and glacial till with areas of alluvium adjacent to the larger watercourses. The bedrock within the Site consists of several units of Carboniferous to Devonian aged sedimentary rocks (predominantly limestones and sandstones) as well as several igneous intrusions.

9.4.2 Discrete areas of peat are recorded by NatureScot[103] as 'Class 1' priority peatland within the Site.

9.4.3 The sedimentary bedrock deposits are classified by BGS[104] as a moderately productive aquifer which is described as a multi-layered aquifer with fracture flow, yielding up to 10 l/s. The igneous intrusions are classified as low productivity aquifers where small amounts of groundwater may be present within near surface weathered zone and in secondary fractures.

9.4.4 The Proposed Development is located within the surface water catchments of the Muirsmill Burn to the north-west, the Kirk Burn to the south-west and the River Doon to the east.

9.4.5 SEPA flood mapping[105] confirms flood extents are typically confined to the watercourse corridors, except for the River Doon where a wider flood extent is shown, however this does not extend to the Proposed Development.

9.4.6 A review of NatureScot SiteLink[106] indicates that no designated sites are located within the Site or downstream of the Proposed Development.

9.5 Potential Mitigation

9.5.1 The Proposed Development will undergo design iterations and evolution in response to constraints identified as part of the baseline studies and field

[102] British Geological Survey (2016) *GeoIndex (Onshore) 1:50k scale digital geological map data*. Available from https://mapapps2.bgs.ac.uk/geoindex/home.html [Accessed 25 June 2021]
[103] Scottish Natural Heritage (Now NatureScot) (2016) *Carbon and Peatland 2016 map*. Available from https://map.environment.gov.scot/Soil_maps/?layer=10 [Accessed 25 June 2021]
[104] British Geological Survey (2017) *Hydrogeological 1:625k digital hydrogeological map of the UK*. Available from https://mapapps2.bgs.ac.uk/geoindex/home.html [Accessed 25 June 2021]
[105] Scottish Environment Protection Agency (Updated 2020) *Flood Maps*. Available at https://www.sepa.org.uk/environment/water/flooding/flood-maps/ [Accessed 25 June 2021]
[106] NatureScot (2018) *SiteLink*. Available at https://sitelink.nature.scot/home [Accessed 25 June 2021]

studies so as to avoid and/or minimise potential effects on receptors where possible. This will include geological and hydrological and hydrogeological constraints which include slope stability, deep peat, watercourse locations, areas of potential flooding, private water supplies and groundwater dependent terrestrial ecosystems.

9.5.2 For example, it is expected that the following potential mitigation measures will be included in the design of the Proposed Development:

- a buffer of up to 50 m will be applied to watercourses;
- site specific peat probing will be used to identify areas of potential deep peat and these will be avoided;
- a site-specific peat landslide and hazard risk assessment will be prepared and areas of potential increased peat slide risk will be avoided;
- if required, a peat management plan will be prepared to show how the integrity of peat will be safeguarded; and
- impacts private water supply sources and areas of GWDTE will be avoided.

9.5.3 There is much best practice guidance (see section 9.2) which has been developed to assist developers minimise the risks associated with wind farm construction, operation and decommissioning and this will be used to develop site specific mitigation measures. Measures will be proposed to control and mitigate, for example, pollution risk (from anthropogenic and geogenic sources), flood risk, watercourse crossings, impacts on surface and groundwater flow paths, and management of peat soils.

9.5.4 Mitigation measures will be specified for all stages of the site life (construction, operation and decommissioning).

9.5.5 A qualitative risk assessment methodology will be used to access the significance of the potential effects. Two factors will be considered: the sensitivity of the receiving environment and the potential magnitude should that potential impact occur.

9.5.6 This approach provides a mechanism for identifying the areas where mitigation measures are required, and for identifying mitigation measures appropriate to

the risk presented by the Proposed Development. This approach also allows effort to be focused on reducing risk where the greatest benefit may result.

9.5.7 The sensitivity of the receiving environment (i.e., the baseline quality of the receiving environment as well as its ability to absorb the effect without perceptible change) and the magnitude of impacts will each be considered through a set of pre-defined criteria.

9.5.8 The sensitivity of the receiving environment together with the magnitude of the effect defines the significance of the effect, which will be categorised into level of significance.

Peat Landslide Hazard Risk Assessment

9.5.9 There is existing peat probing depth data for the site which was obtained to inform the Keirs Hill Wind Farm application. This will be reviewed and verified as part of this assessment, and if required additional Phase I peat depth data will be obtained to inform the emerging site design and impact assessment as required by current best practice. As part of the programme of field work the following will be undertaken:

- a geomorphological mapping exercise will be undertaken to link the topographic features with the underlying geology and to visit those areas of the site that may be identified as potentially *"at risk from peat slide"*;
- the thickness of the peat will be established by probing and the underlying sub-strata confirmed by inspections of watercourses; and
- signs of existing or potential peat instability will be recorded.

9.5.10 Further, or Phase II peat depth probing, will be undertaken as part of the site design in accordance with best practice and will include peat probing along the infrastructure at 50 m centres and at 10 m interval crosshair at wind turbine locations.

9.5.11 Output from the field surveys will comprise a record of investigation locations and summary of peat depths recorded.

9.5.12 If significant peat depths are proven a preliminary Peat Landslide Hazard and Risk Assessment (PLHRA) will be completed using the site survey data and slope analysis (using DTM data), highlighting areas that may be impacted by a peat

slide so that appropriate mitigation measures can be identified and included in the site design.

9.6 Questions

Published mapping confirms that most of Site is not identified as being at flood risk. It is proposed, therefore, that a simple screening of potential flooding sources (fluvial, coastal, pluvial, groundwater etc.) is presented in the EIA Report. Is this approach acceptable?

It is not proposed to prepare a detailed drainage design. Rather measures that would be used to control the rate and quality of runoff will be specified in the EIA Report. Again, is this acceptable?

Site investigations, including detailed peat probing and private water survey as outlined in Section 9.3, will be undertaken as part of the proposed assessment. Should any additional investigation or data sources be considered when assessing baseline conditions?

It is not proposed to undertake any water quality sampling, establish groundwater monitoring points, surface water monitoring points or undertake leachability trials of any rock in the proposed borrow pit as there is published data that can be used to characterise baseline conditions and complete the impact. Is this acceptable?

Please advise if there is any specific information or methodology that should be used / followed as part of the Private Water Supply risk assessment?

Do you agree that the scope of the proposed assessment is appropriate?

10 Forestry

10.1 Introduction

10.1.1 This chapter sets out the proposed approach to the assessment of potential effects on forestry during construction and operation of the proposed Development.

10.1.2 In the UK there is a strong presumption against permanent deforestation unless it addresses other environmental concerns. In Scotland, such deforestation is dealt with under the Scottish Government's Control of Woodland Removal Policy (Forestry Commission Scotland, 2009)[107]. The purpose of the policy is to provide direction for decisions on forestry removal in Scotland. It will be essential that the Proposed Development addresses and satisfies the requirements of the Policy.

10.1.3 The Proposed Development is largely located within an area of extensive commercial forestry. The forestry is privately owned and are in the production phase within ongoing harvesting and replanting of mature crops.

10.2 Legislation, Policy and Guidance

10.2.1 The Proposed Development forestry proposals will be prepared in accordance with current policies, guidance and best practice, including, but not limited to:

- Ayrshire Joint Planning Unit (2014): The Ayrshire and Arran Forestry and Woodland Strategy;
- Forestry Commission (2017): The UK Forestry Standard: The Government's Approach to Sustainable Forestry, Forestry Commission, Edinburgh;
- Forestry Commission Scotland (2009): The Scottish Government's Policy on Control of Woodland Removal, Edinburgh;
- Forestry Commission Scotland (2013): The Native Woodland survey of Scotland;
- Forestry Commission Scotland (2018). The National Forest Inventory Woodland Scotland;

[107] Forestry Commission Scotland (2009): The Scottish Government's Policy on Control of Woodland Removal, Edinburgh

- Forestry Commission Scotland (2019): Guidance to Forestry Commission Scotland staff on implementing the Scottish Government's Policy on Control of Woodland Removal;
- SEPA (2013): SEPA Guidance Notes WST-G-027 "Management of Forestry Waste";
- SEPA (2014): LUPS-GU27 "Use of Trees Cleared to Facilitate Development of Afforested Land;
- The Scottish Government (2016): A Land Use Strategy for Scotland, Edinburgh;
- The Scottish Government (2018): The Forestry and Land Management (Scotland) Act 2018, Edinburgh;
- The Scottish Government (2019): Scotland's Forestry Strategy 2019 -2029, Edinburgh; and
- UKWAS (2018): The UK Woodland Assurance Standard 4th Edition, UKWAS, Edinburgh.

10.3 Proposed Scope of Assessment

10.3.1 The Forestry Study Area will be limited to the forestry within the Site. A Proposed Development Forest Plan will be prepared. This will include a felling plan to show which forestry is to be felled, and when, for the construction and operation of the Proposed Development. It will further include a restocking plan showing any areas which are to be replanted and with which species and which areas are to be left unplanted for the Proposed Development.

10.3.2 A key issue will be the integration of the Proposed Development into the forest structure to minimise the loss of forestry area and to prevent fragmentation of the remaining forestry. Forest design and the effect of the Proposed Development on it is an important part of the overall design process.

10.3.3 The changes to the forestry structure will be analysed and described including changes to forestry composition, timber production, traffic movements and the felling and restocking plans. The resulting changes to the forestry structure will be assessed for compliance against the UKFS and the requirement for compensation planting to mitigate against any forestry loss. The Proposed Development Forest Plan will be assessed against the baseline data in line with

the methodology outlined in the Control of Woodland Removal Policy Implementation Guidance (Forestry Commission Scotland, 2019)[108].

10.3.4 There is potential for changes to the forest structure resulting from the Proposed Development, with consequential implications for the wider felling and restocking plans across the remaining parts of the forestry. Areas of forestry are anticipated to be required to be felled for the construction and operation of the Proposed Development including for access tracks, wind turbine locations and other infrastructure, which may result in a loss of forestry area.

10.3.5 The changes to the forestry for a particular development are regarded as site specific and it is considered there are no cumulative on-site forestry issues to be addressed, therefore cumulative forestry effects are scoped out of the EIA Report.

10.3.6 Commercial forests are dynamic and constantly changing through for example landowner activities; market forces; natural events, such as windblow or pest and diseases; or developments. The forestry assessment will be a factual assessment describing the changes to the forest structure resulting from the incorporation of the Proposed Development into the forest structures, in particular the loss of forestry area. Other Chapters within the EIA Report will identify the sensitive receptors relevant to their disciplines and report on the effects of the Proposed Development due to the forestry proposals.

10.4 Baseline Conditions

10.4.1 The forestry baseline will describe the crops existing at time of preparation of the EIA Report. This will include current species; planting year; any felling and replanting plans; and other relevant forestry information. The baseline will be compiled from a desk based assessment and field surveys. The desk based assessment will include landowner crop databases; the Native Woodland Survey of Scotland (NWSS)[109]; the National Forest Inventory (Forestry Commission

[108] Forestry Commission Scotland (2019). Guidance to Forestry Commission Scotland staff on implementing the Scottish Government's Policy on Control of Woodland Removal. Available at https://forestry.gov.scot/publications/349-scottish-government-s-policy-on-control-of-woodland-removal-implementation-guidance/viewdocument (accessed on 30 June 2021).
[109] Forestry Commission Scotland (2013): The Native Woodland survey of Scotland. Available at https://scottishforestry.maps.arcgis.com/apps/webappviewer/index.html?id=0d6125cfe892439ab0e5d0b74d9acc18 (accessed on 30 June 2021).

Scotland, 2018)[110]; aerial photography; SF publicly available databases; and current Policy, Legislation and Guidance.

10.4.2 The field survey will consist of a site walkover to verify and update baseline data as necessary; assess the crops with respect to integration of the development infrastructure; and to identify any opportunities within the forestry for on-site compensatory planting, if any is required.

10.4.3 The forestry consist of three contiguous forestry. There are two large commercial blocks largely planted in the 1980s, High Keirs Forest and Sclenteuch Forest. There is an active Forest Plan on High Keirs which expires in 2025. There was a Forest Plan on Sclenteuch Forest which expired in 2020 and does not appear to have been renewed. The forests lie outwith the boundary of the larch dieback disease (Phytophthora ramorum) management zone and have been issued with Statutory Plant Health Notices for the clearance of infected larch. There is a smaller, younger block of forestry on High Keirs Estate which is not covered by any management plan. In addition to the commercial forestry there are small areas of woodland within the farmland.

10.4.4 An initial desk based assessment identifies there are no woodlands recorded in the Ancient Woodland Inventory (AWI) Scotland[111] within the main commercial forests, though there are small areas recorded in Keirs Glen on the adjacent farmland. The desk based assessment further identified three small areas of native woodland were recorded in the NWSS within the commercial forests, though none of these were recorded as ancient woodland in the AWI. There are no woodland designations over the majority of the Forestry Study Area.

10.5 Potential Mitigation

10.5.1 Measures to avoid or mitigate potential impacts upon the forestry will, as far as practicable, sought to be embedded in the design of the Proposed Development through consideration of the siting of the wind turbines; and by using existing access tracks and forest roads where possible. Forestry loss would be minimised by keyholing infrastructure into the felling and restocking plans.

10.5.2 Potential forms of mitigation may include a redesign of the existing forest structures including, for example, changes to the felling programme; the use of

[110] Forestry Commission Scotland (2018). The National Forest Inventory Woodland Scotland. Available at https://data-forestry.opendata.arcgis.com/datasets/b71da2b45dde4d0595b6270a87f67ea9_0 (accessed on 30 June 2021).
[111] Scottish Natural Heritage (2010). Ancient Woodland Inventory Scotland. Available at: https://map.environment.gov.scot/sewebmap/ (accessed on 30 June 2021).

designed open space; alternative species and forestry types; changing the management intensity; or the provision of compensation planting on or off-site.

10.6 Questions

The following questions have been designed to ensure that the proposed methodologies and assessment are carried out in a robust manner and to the satisfaction of the determining authorities.

Are consultees content with the proposed methodology and scope for the forestry assessment?

Do the consultees have any information, particularly with reference to new guidance, which should be taken into account?

11 Traffic and Transport

11.1 Introduction

11.1.1 The section covers the predicted transport and access issues that may arise from the construction of the Proposed Development, the significance of these effects and what suitable mitigation can be put in place to avoid, minimise or offset any adverse impacts.

11.1.2 Once operational, it is envisaged that the level of traffic associated with the Proposed Development will be minimal and restricted to low flows of light goods vehicles servicing the wind turbines.

11.1.3 The traffic generation levels associated with the decommissioning phase will be less than those associated with the development phase as some elements such as access tracks will be left in place on the Site. As such, the construction phase is considered the worst case assessment to review the impact on the study area.

11.1.4 The study area for the assessment therefore is proposed to include the A713 to the north and south of Patna, the A77, A70 and A76 to ensure that likely access routes for raw materials to the Site are covered.

11.1.5 The Transport & Transport EIA Report Chapter will be supported by a Transport Assessment report, Abnormal Load Route Survey and technical figures.

11.1.6 The key issues for consideration as part of the assessment will be:

- the temporary change in traffic flows and the resultant temporary effects on the study network during the construction phase;
- the physical mitigation associated with the delivery of abnormal loads;
- the design of new access infrastructure; and
- the consideration of appropriate and practical mitigation measures to avoid, minimise or offset any temporary effects.

11.1.7 The potential effects of these will be examined in detail.

11.2 Legislation, Policy and Guidance

11.2.1 The following policy and guidance documents will be used to inform the EIA Report Chapter:

- Transport Assessment Guidance (Transport Scotland, 2012);
- The Guidelines for the Environmental Assessment of Road Traffic (Institute of Environmental Assessment (IEA), 1993);
- SPP (Scottish Government, 2014); and
- National Roads Development Guide (Society of Chief Officers of Transportation in Scotland, 2017).

11.3 Proposed Scope of Assessment

11.3.1 The main transport impacts will be associated with the movement of general heavy goods vehicles (HGV) traffic travelling to and from the site during the construction phase of the Proposed Development.

11.3.2 The Guidelines for the Environmental Assessment of Road Traffic (IEMA 1993) sets out a methodology for assessing potentially significant environmental effects. In accordance with this guidance, the scope of assessment will focus on:

- potential impacts (of changes in traffic flows) on local roads and the users of those roads; and
- potential impacts (of changes in traffic flows) on land uses and environmental resources fronting these roads, including the relevant occupiers and users.

11.3.3 The following rules taken from the guidance will be used as a screening process to define the scale and extent of the assessment:

- Rule 1: Include highway links where traffic flows are predicted to increase by more than 30% (or where the number of HGVs is predicted to increase by more than 30%); and
- Rule 2: Include any other specifically sensitive areas where traffic flows are predicted to increase by 10% or more.

11.3.4 Increases below these thresholds are generally considered to be insignificant given that daily variations in background traffic flow may fluctuate by this amount. Changes in traffic flow below this level predicted as a consequence of

the Proposed Development will therefore be assumed to result in no discernible environmental impact and as such no further consideration will be given to the associated environment effects.

11.3.5 The estimated traffic generation of the Proposed Development will be compared with baseline traffic flows, obtained from existing traffic survey data, in order to determine the percentage increase in traffic.

11.3.6 Potentially significant environmental effects will then be assessed where the thresholds as defined above are exceeded. Suitable mitigation measures will be proposed, where appropriate.

11.3.7 Committed development traffic, i.e. those from proposals with planning consent, will be included in baseline traffic flows, where traffic data for these schemes is considered significant and is publicly available. Developments that are proposed or at scoping would not be included.

11.3.8 It is not anticipated that a formal Transport Assessment will be required as these are not generally considered necessary for temporary construction works. A reduced scope Transport Assessment is therefore proposed.

11.3.9 Each wind turbine is likely to require between 11 and 14 abnormal loads to deliver the components to the Site. The components will be delivered on extendable trailers which will then be retracted to the size of a standard HGV for the return journey.

11.3.10 Detailed swept path analyses will be undertaken for the main constraint points on the route from the port of entry through to the site entrance to demonstrate that the turbine components can be delivered to Site and to identify any temporary road works which may be necessary.

11.3.11 Once operational, it is envisaged that the level of traffic associated with the Proposed Development will be minimal. Regular monthly or weekly visits would be made to the Proposed Development for maintenance checks. The vehicles used for these visits are likely to be 4x4 vehicles and there may also be the occasional need for an HGV to access the Proposed Development for specific

maintenance and/or repairs. It is therefore considered that the effects of operational traffic would be negligible.

11.4 Baseline Conditions

11.4.1 The Proposed Development will be accessed directly from the A713 via a new site entrance to the south of Patna. The site entrance will be designed to accommodate deliveries for the larger turbine components.

11.4.2 It is proposed that all vehicular access will use this access, including Abnormal Indivisible Loads (AIL). A detailed Abnormal Load Route Survey Report will support the application and will identify the necessary access improvements that will be required to enable loads to access the site.

11.4.3 Locally sourced material will be used where feasible and traffic will avoid impacting on local communities as far is possible.

11.4.4 Baseline traffic count data will be obtained from new Automatic Traffic Count (ATC) surveys located at the A713 at the site entrance.

11.4.5 Further traffic data for the A77, A70 and A76 will be obtained from UK Government Department for Transport (DfT) traffic count data or the Traffic Scotland database. National Road Traffic Forecast (NRTF) Low Traffic Growth assumptions will be used to provide a common future year baseline to coincide with the expected construction traffic peak.

11.4.6 Traffic accident data will be obtained from Crashmap UK for the study network to inform the accident review for the immediate road study area. Three years' worth of data for the A713 will be collated.

11.5 Potential Mitigation

11.5.1 Potential impacts that may arise during the assessment may include the following for users of the road and those resident along the delivery routes:

- severance;
- driver delay;
- pedestrian delay;
- pedestrian amenity;
- fear and intimidation; and
- accidents and safety.

11.5.2 Where impacts are noted as being significant, an assessment will be undertaken. That assessment will include standard mitigation measures as detailed below:

- production of a Construction Traffic Management Plan;
- the design of suitable access arrangements with full consideration given to the road safety of all road users;
- a Staff Sustainable Access Plan; and
- a Framework Abnormal Load Transport Management Plan.

11.5.3 Additional mitigation will be included should the assessment reveal criteria that are significant following the application of standard mitigation measures.

11.6 Questions

Is the proposed methodology accepted?

Are the methods proposed for obtaining traffic flow data accepted?

It is accepted that traffic surveys can be undertaken on the local road network following the end of the 2021 summer holiday season (excluding a further national Covid 19 lockdown) and that such flows would be considered acceptable for use in the assessment?

Is the use of Low National Road Traffic Forecasts (NRTF) acceptable for the whole of the study?

What developments should be included as committed developments within the baseline traffic flows in the assessment, noting that these should have planning consent at the time of scoping?

Can consultees provide details of any upgrades or network changes that may be undertaken to the study area network within the next five years?

12 Noise

12.1 Introduction

12.1.1 This chapter sets out the proposed approach to the assessment of potential effects of the Proposed Development in relation to noise during construction and operation of the Proposed Development.

12.2 Legislation, Policy and Guidance

12.2.1 Operational noise shall be assessed in accordance with ETSU-R-97, The Assessment and Rating of Noise from Wind Farms, and the Good Practice Guide to its application issued by the Institute of Acoustics in 2013. The proposed methodology is consistent with Planning Advice Note 1/2011: Planning and Noise (PAN 1/2011) and the further guidance provided in the web-based planning advice on renewable technologies for onshore wind turbines.

12.2.2 Construction noise will be assessed in accordance with the procedures recommended by BS 5228-1: 2009, Code of practice for noise and vibration control on construction and open sites - Part 1: Noise. This is consistent with the web-based Scottish Government technical advice on construction noise assessment in Appendix 1: Legislative Background, Technical Standards and Codes of Practice.

12.2.3 Vibration levels due to blasting shall be predicted in accordance with BS 5228-2:2009 Code of practice for noise and vibration control on construction and open sites - Part 2: Vibration and assessed in accordance with BS 6472-2: 2008 Guide to evaluation of human exposure to vibration in buildings - Part 2: Blast-induced vibration.

12.3 Proposed Scope of Assessment

12.3.1 The assessment will consider the potential effects associated with construction and operation of the Proposed Development as detailed below.

12.3.2 An assessment of the potential effects of operational wind farm noise at the nearest residential properties will be undertaken. The operational noise assessment will be carried out on the basis of the broadband noise level with penalties applied for tonality if applicable. It is not proposed to carry out an assessment of the potential effects of noise at specific frequencies, e.g. low frequency noise, the potential effects of other characteristics of the noise e.g.

amplitude modulation, or potential effects due to vibration. Further reasoning for the scoping out of these potential effects will be provided as part of the EIA.

12.3.3 An assessment of the potential effects of cumulative operational noise due to the Proposed Development in combination with the nearby operational Dersalloch Wind Farm shall also be undertaken. The Good Practice Guide notes that operational wind farms have the right to produce noise levels up to their consented noise limits. A scaling factor would therefore be applied in the cumulative assessment to account for this. The Good Practice Guide goes on to say that where significant headroom between the predicted noise levels and conditioned limits exists, as is the case for Dersalloch Wind Farm, an appropriate margin can be agreed with the Local Planning Authority. It is proposed to limit this margin to a maximum of 3dB to avoid unrealistic noise levels being assumed for the operational Dersalloch Wind Farm.

12.3.4 The noise limits for use in the cumulative assessment shall be based on baseline data measured by RES in 2012 except where the noise levels assumed for the operational Dersalloch Wind Farm alone would exceed these limits. In such cases either the conditioned noise limits for Dersalloch Wind Farm shall be used as the cumulative noise limit or an increased lower limit shall be adopted in the cumulative assessment. The daytime lower limit should be between 35 and 40dB(A) according to ETSU-R-97 with the choice depending upon the trade off between the benefits of the scheme in terms of meeting national renewable energy targets vs the impact of the scheme on local residential amenity i.e. a large scheme with the small impact would be able to justify a 40dB(A) limit. It is proposed that a 40dB(A) daytime lower limit is used where necessary in the cumulative assessment due to the increased planning merit of the cumulative development.

12.3.5 An assessment of the potential effects due to construction noise, including associated traffic, at the nearest residential properties will also be undertaken.

Vibration levels at the nearest residential properties shall be assessed should blasting be required to extract material from any proposed borrow pits.

12.4 Baseline Conditions

12.4.1 The noise character of the area is typical of a rural environment and consists of wind generated noise along with noise from traffic, farm machinery, birds and the occasional overhead aircraft.

12.4.2 Background monitoring has been carried out in the vicinity of the proposed development. Baseline conditions were measured at six locations in a survey which took place in 2012. The results of this survey provide a comprehensive description of the existing baseline conditions.

12.4.3 As there have been no changes in the area since 2012 that are expected to have altered the noise environment significantly, it is not proposed to obtain a second set of measurements.

12.4.4 Further to the above survey, baseline noise data was also gathered in 2011 to inform the acoustic assessment of the nearby Dersalloch Wind Farm. The conditioned noise limits for Dersalloch Wind Farm are based on this data.

12.5 Potential Mitigation

12.5.1 The potential noise effects on nearby residential receptors is being considered in the layout design process by the application of appropriate buffers within which turbines should not be placed.

12.5.2 The baseline noise monitoring results obtained in 2012 will also feed into the layout design with greater separation distances potentially being required for locations with lower background noise levels and corresponding lower noise limits.

12.5.3 Modern wind turbines can be operated in reduced noise mode should this be necessary to meet noise limits derived according to ETSU-R-97.

12.5.4 Standard good practice measures to reduce noise during construction will be implemented in line with the concept of ‘best practicable means’ defined by the Control of Pollution Act 1974. Additional mitigation measures could include

a reduction in construction activities or traffic during certain periods if appropriate.

12.6 Questions

Do the consultees agree with the proposed assessment methodology?

Do the consultees agree with the use of the baseline noise data gathered in 2012, and that it is not necessary to undertake a further survey?

Do the consultees agree that, where significant headroom exists between the predicted noise levels and conditioned noise limits for Dersalloch Wind Farm, a margin of 3dB is appropriate?

Do the consultees agree with the use of conditioned noise limits for Dersalloch Wind Farm as the cumulative noise limit where necessary in the cumulative assessment?

Do the consultees agree that a higher lower limit can be used where necessary in the cumulative assessment due to the increased planning merit of the cumulative development?

13 Safety and Other Issues

13.1 Introduction

13.1.1 A chapter will be included in the EIAR and will contain the assessments of the potential impacts of the Proposed Development from the topics noted below:

- Safety (including);
  - Major Accidents and/or Incidents;
  - Lightning Strike;
  - Public Access;
  - Air Quality;
  - Ice Throw;
- Aviation & Radar;
- Television & Telecommunications; and
- Shadow Flicker.

13.1.2 This section of the Scoping Report sets out the proposed approach to carrying out these assessments.

13.2 Safety

Introduction

13.2.1 Wind turbines have a proven track record for good safety. A small number of wind turbines have been known to lose parts of the rotor assembly through accidental damage, due to lightning or mechanical failure, however, such incidents occur infrequently.

13.2.2 No passive member of the public has ever been directly injured during the normal operation of a wind turbine (Irish Wind Energy Association Environmental Impacts, 2019).

13.2.3 The safe operation of wind turbines is ensured through a combination of design, quality control and manufacturing to high safety standards.

13.2.4 The Applicant will ensure that the selected wind turbine model will have certification from an internationally recognised authority and have a proven track record of safe operation.

13.2.5 The wind turbines installed at the Site will comply with the British Standard BS EN 61400-1 'Wind turbines, Design Requirements.' Once the wind turbines are installed and operational there will be little on-site activity.

13.2.6 The primary safety system at the Site will include a computerised central control system housed within the control building. This system will continually monitor the operational status and safe working of key components for the wind turbines and will allow the operator to remotely monitor the wind turbines.

Major Accidents and/or Incidents

13.2.7 Given the nature of the Proposed Development, and its remote location, the risk of a major accident or disaster is considered to be extremely low. The Principal Designer will ensure a Design Risk Assessment process is followed during the design phase to ensure designers fully assess risks and mitigate to a level deemed as low as reasonably practicable during the design stage as part of the requirements of the Construction (Design and Management) Regulations (2015).

13.2.8 During the operational phase of the Proposed Development, routine maintenance inspections will be completed in order to ensure the safe and compliant operation of all built infrastructure.

13.2.9 It is therefore proposed that an assessment of the risk of major accidents and/or incidents is **scoped out** of the EIA.

Lightning Strike

13.2.10 A small number of wind turbines have been known to lose parts of the rotor assembly through damage caused by lightning, however, such incidents occur rarely.

13.2.11 Turbines are equipped with lightning conductors as mitigation to lightning strikes which could damage internal components. As such lighting strike has been **scoped out** of the EIA.

Public Access

13.2.12 Consideration will be given to the potential effects on public access routes within the proposed development area as a result of the Proposed Development.

13.2.13 Access to the site during construction will be controlled through best practice and a CEMP will be prepares and include a requirement for the installation of appropriate warning signs to safeguard the public.

13.2.14 During the operational period embedded mitigation measures will be implemented and there will be sign-posting and safety notices displayed at entrances and at various key locations throughout the Site.

13.2.15 Full details of how access will be managed during the operational period for all paths/tracks will be provided in a Site Access Plan.

Air Quality

13.2.16 The air quality of the site is expected to be good due to the rural location, with few pollution sources.

13.2.17 During the construction of the wind farm, the increased traffic flow on local roads and the on-site plant would generate exhaust emissions. However, given the short-term nature of the construction period and the limited area to be developed, effects on air quality are likely to be negligible.

13.2.18 During dry spells, construction activities have the potential to generate dust, which may adversely affect local air quality. Given the scale and nature of construction activities and given the distance between construction areas and the nearest residential properties, it is considered that dust from construction is unlikely to cause a nuisance or cause significant effect upon local air quality.

13.2.19 An operational wind farm produces no notable atmospheric emissions. The operation of the wind farm would therefore have no discernible adverse effects on local or national air quality.

13.2.20 Relevant mitigation measures for air quality, dust and pollution control will be captured within the site-specific CEMP.

13.2.21 It is therefore proposed that an assessment of air quality is **scoped out** of the EIA.

Ice Throw

13.2.22 Icing in Scotland is likely to be a rare occurrence, with the *Icing Map of Europe* (WECO, 2000) showing Scotland to be within a light icing area with an annual average of only 2-7 icing days per year.

13.2.23 Wind turbines are fitted with vibration sensors which shut the wind turbines down should any imbalance that might be caused by icing be detected.

13.2.24 It is noted that Core Path D6 between Patna and Straiton runs across the north-western edge of the Site however the risk associated with ice throw affecting

members of the public is considered to be very low given the frequency of risk and technical mitigation as mentioned above.

13.2.25 To further minimise the risk, the following mitigation measures will be taken:

- Service crews will be trained regarding the potential for ice throw;
- Ice risk conditions will be monitored by the wind farm operator; and
- Public notices will be displayed at access points to the Site, alerting members of the public and staff accessing the Site of the possible risk of ice throw under certain weather conditions.

13.2.26 It is therefore proposed that ice throw is **scoped out** of the EIA.

13.3 Aviation & Radar

Introduction

13.3.1 The Applicant has completed an initial appraisal of the potential interactions with aviation and radar signals surrounding the site. This appraisal indicates that there is potential for an impact on the Glasgow Prestwick Airport primary radar and the NATS en route radar at Lowther Hill.

Legislation, Policy and Guidance

13.3.2 The main guidance document for wind farm development with potential impact on radars and aviation is *CAP 764, CAA Policy and Guidelines on Wind Turbines*.

Proposed Scope of Assessment

13.3.3 Consultation will be undertaken with the following consultees to establish if the proposed development will have an effect on their interests:

- Ministry of Defence (MOD) and Defence Infrastructure Organisation (DIO);
- Glasgow Prestwick Airport (GPA);
- NATS En Route Ltd (NERL); and
- Civil Aviation Authority (CAA).

13.3.4 The responses of these organisations will guide the scope of the assessment. It is not possible to accurately determine the scope of the assessment at this stage, as it is necessary to understand how the proposed development interacts with the specific operational procedures and regulations of all of the specific consultees. To date the only indication of impact has been received from NERL.

Baseline Conditions

13.3.5 The initial indication of any potential impacts on radar and aviation is to assess the radar line of sight visibility. This provides a baseline from which to disregard or investigate further any impacts. An internal assessment has been completed and identified GPA and NERL as potentially the main stakeholders with whom further consultation will be necessary. This will be verified once the scoping responses are received.

Potential Effects

13.3.6 It is not anticipated that the construction phase of the proposed development will have any significant effects on aviation or radar receptors. However, the MOD Defence Geographic Centre will be informed of turbine erection dates, turbine locations and tallest crane heights prior to construction so that aviation charts can be updated accordingly to warn aviators of the presence of the wind farm construction activities.

13.3.7 There is potential that the turbines at Sclenteuch could create issues to aviation during the operational phase of the project. The two primary effects are:

- Creating a physical obstruction to air traffic; and
- Interference with aviation radar operations.

13.3.8 The UK Air Navigation Order (ANO) 2016, Article 222, sets out the statutory requirement for the lighting of en-route obstacles, which applies to structures 150 m or more above ground level. As the proposed turbines are above 150 m, visible aviation lighting will be required. The implications of this for visual amenity will be considered in the EIAR as detailed in Chapter 5 above.

13.3.9 The proposed development is located in the 'transition zone' for both the *Supplementary Guidance: Dark Sky Park Lighting* (SAC, undated) and the *East Supplementary Guidance: Dark Sky Park Lighting* (EAC, 2017). Developments with external lighting within this zone are requested to be dark sky park friendly. While the turbines are located within the transition zone they are approximately 2km from the 'buffer zone' and therefore will be considered in the EIAR as detailed in Chapter 5 above.

13.3.10 In addition, the MOD is likely to request an infra-red lighting scheme for low flying military aircraft in the area. This will be agreed through consultation with the MOD.

Potential Mitigation

13.3.11 There are a number of mitigation options available to alleviate problems caused by wind turbines to aviation and aviation radar. The mitigation solutions range from removal of turbines in problematic areas, to complex technical hardware solutions.

13.3.12 To mitigate the effects of aviation lighting on visual amenity, a reduced lighting scheme will be proposed to the CAA and, if required, transponder activated aviation lighting will be considered. Should any further mitigation technologies become available that could further reduce the potential impacts of aviation lighting, these would be considered and assessed for their suitability for the proposed development.

13.3.13 Mitigation solutions are highly specific to the impact in question. Consultation with relevant consultees is key to establishing the appropriate method of mitigation, if required.

13.4 Television and Telecommunications

Introduction

13.4.1 Wind turbines can cause interference of electromagnetic signals through physical and electrical interference. Physical interference can cut across electromagnetic signals resulting in a ghosting effect which largely affects television and radar. Electrical interference arises as a result of the operation of the generator within the nacelle of the turbine and can also affect communication equipment in proximity to the turbines. Where possible, any potential effects on electromagnetic signals will be mitigated during the turbine layout design by the use of exclusion zones around any electromagnetic links.

Television

13.4.2 Digital television signals are much better at coping with signal reflections than analogue television signals and do not suffer from ghosting (Ofcom, 2009).

13.4.3 It is therefore proposed that an assessment of potential effects on television is scoped out of the EIA.

Satellite Television

13.4.4 Satellite television is not generally affected by new structures unless the structure blocks the line-of-sight between a dish antenna and the satellite in the

sky. With satellite signals received from a high elevation, disruption to signals is usually limited to cases where a tall structure is erected very close to a receiver (Ofcom, 2009).

13.4.5 Given the separation distance from neighbouring infrastructure, located north-northwest of the proposed wind turbine locations is approximately 2km, it is considered highly unlikely that the Proposed Development would impact on satellite television.

Other Terrestrial Broadcasts

13.4.6 Broadcast radio (FM, AM and DAB digital radio) are transmitted on lower frequencies than those used by terrestrial television signals. Lower frequency signals tend to pass through obstructions more easily than the higher frequency signals, and diffraction effects also become more significant at lower frequencies. Both these factors will tend to lessen the impact of new structures on broadcast radio (Ofcom, 2009).

13.4.7 It is therefore proposed that an assessment of potential effects on broadcast radio is scoped out of the EIA.

Fixed Links

13.4.8 Ofcom is responsible for the licensing of two-way radio transmitters. It holds a register of most fixed links and will therefore be consulted in order to establish baseline conditions. However, because not all fixed links are published, system operators will also be individually consulted on the potential for the proposed development to cause electromagnetic interference. The outcome of this consultation process, including any mitigation actions taken, will be detailed in the EIA Report.

13.5 Shadow Flicker

13.5.1 Shadow flicker can occur when the blades of a wind turbine covers the sun for brief moments as they rotate. For an observer viewing this phenomenon through a narrow opening (such as a window from within the affected area) it can create a rapid change in luminance, appearing as if the light is being ‘flicked’ on and off each time a blade passes in front of the sun.

13.5.2 The affected area is constrained in size and shape by astronomic and geometric parameters, such as the trajectory of the sun and the position and dimensions of the wind turbine. For a fixed observer, the occurrence of shadow flicker from a

given wind turbine is generally limited to certain parts of the year and certain times of the affected days. It is possible to predict when, where and for how long shadow flicker could theoretically occur.

13.5.3 Onshore Wind Turbines: planning advice (Scottish Government, 2014) sets out the potential affected area which may fall under assessment: "*Where this (shadow flicker) could be a problem, Applicants should provide calculations to quantify effect. In most cases however, where separation is provided between wind turbines and nearby dwellings (as a general rule ten rotor diameters), 'shadow flicker' should not be a problem.*"

13.5.4 Update of UK Shadow Flicker Evidence Base (DECC, un-dated), evaluates the current international understanding of shadow flicker and confirms an acceptable affected area for assessment is ten rotor diameters from each wind turbine and within 130 degrees either side of north. However the Supplementary Guidance : Wind Energy (SAC, 2015) requires assessments to be carried out for all residential properties within 2.5km of a wind turbine, taking account of any screening offered by topography.

13.5.5 Once the Proposed Development has reached a 'design freeze' residential properties within the affected area, as described above, shall be identified and assessed for the potential to be affected by shadow flicker.

13.5.6 While it is unlikely to be required, potential mitigation measures 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 affected residential property.

13.6 Questions

Do you agree with the proposed approach to scope out an assessment of potential effects on television?

Do you agree with the proposed approach to scope out an assessment of potential effects on broadcast radio?

Do you agree with the proposed approach to scope out an assessment of potential effects on ice throw?

14 Potential Grid Connection

14.1 Introduction

14.1.1 The specific configuration of the grid connection between the Proposed Development and the grid network is not yet finalised. It is hoped that all grid connection infrastructure will be within the Proposed Development'sS36 application. If this is the case, the potential grid connection options will be described in the EIAR and consideration of the environmental effects of the indicative grid connection included within the EIA.

14.1.2 If the grid connection between the Proposed Development and the grid network is not within the Proposed Development's S36 application, the grid connection will be subject to a separate application under Section 37 of the Electricity Act 1989.

14.1.3 The EIA and EIAR associated with the grid connection shall accompany that application. However, if sufficient detail is available from the Network Operator the EIAR for the proposed development will include consideration of the environmental effects of an indicative grid route corridor.

14.2 Questions

Do you agree that the proposed approach with respect to the potential grid connection is appropriate?

15 Socio Economic

15.1 Introduction

15.1.1 Consideration of sustainable economic development has become a cornerstone of government policy and a key driver of the planning system in recent years. The underlying socio-economic wellbeing of an area is also itself a driver in terms of population change. The EIA will therefore include a socio-economic assessment to ensure the balance between economic, social and environmental effects can be properly assessed.

15.1.2 A report issued by BiGGAR Economics in 2016 concludes that there is no relationship between the development of onshore wind farms and tourism employment at the level of the Scottish economy, at local authority level nor in the areas immediately surrounding wind farm development.

15.1.3 The PLI report for Keirs Hill Wind Farm application, states on page 9 that "*there would be minor socio-economic benefits arising from both the construction and, to a lesser degree, the operation of the [Keirs Hill] wind farm*".

15.1.4 The PLI report also went to state that "*there would potentially be adverse impacts on the local tourist industry and on recreation, but not to an extent that would, on their own, justify refusal of the application*".

15.2 Proposed Scope of Assessment

15.2.1 It is proposed that the socio-economic assessment would be based upon three economic boundaries (local, regional and national economy) will include the following:

- assess the existing economic environment using official data on population, industrial structure, unemployment and economic activity levels, income and earnings;
- assess the potential economic effects during the development and construction phase of the project including direct employment, supplier effects and income effects;
- assess the potential economic effects during the operation of the wind farm including direct employment, supplier effects and income effects;

- assess the economic affects arising from infrastructure improvements, payment of business rates, and potential community benefits; and
- consider and report on mitigation and management measures which could be employed to minimise any negative impacts and maximise potential positive impacts.

15.2.2 As part of the proposed socio-economic assessment, the social and economic effects associated with the Proposed Development will be identified. Information potentially contained in this section may include the following:

- Direct and supply chain impacts;
- The total amounts predicted to be spent in terms of construction and operation;
- Predicted numbers of jobs supported in the operational phase;
- Predicted spending on accommodation & local businesses – details of accommodation stayed in by construction workers;
- Environmental benefits - electricity generated annually (MWh); and
- Investment in transport infrastructure – details of any investments that have been made.

15.2.3 An audit of tourism activities, patterns, trends, and facilities locally and the wider Ayrshire area will be prepared. The audit covers aspects which make up the tourism product in the area, act as a focus or attraction for visitors, and lead to expenditure by tourists and visitors. Visitor expenditure and its employment and related effects are the main constituents of economic impact in the tourist sector in the area. Potential impacts on recreational users will also be assessed. The areas include:

- tourist accommodation – including Bed & Breakfasts (B&Bs) and guest houses, caravanning, hotels, and camping: their business prospects, visitor profile, and potential business impacts and effects;
- visitor attractions, facilities, and destinations including - archaeological sites, cultural facilities, sports, recreation, and leisure facilities: their market, performance and business impacts and effects;

- visitor activities – including walking, fishing, country pursuits, wildlife interests, and sports: their potential profile, prospects, and business impacts and effects; and
- visitor and tourist routes – including driving, cycling, walking, bridleways, and rights of way: their visitor numbers, patterns of activity and potential focal points of spend.

15.2.4 A summary of the key factors affecting tourism trends and the key drivers influencing the market will also be provided.

15.2.5 A review of research elsewhere into the impacts and effects of wind farms on tourism and recreational visitors/users will be completed to provide a comparative assessment of impact from previous experience. This will be drawn from a wide range of research sources across the UK, but mostly from Scottish experience, including ex-ante (before the event) appraisals of potential impact and ex-post (after the event) assessments of observed impacts.

15.2.6 A do-nothing scenario will be included in the assessment to demonstrate what effects may occur without the project there.

15.2.7 This analysis will help inform the prediction of the likely social and economic effects associated with the proposed development.

15.3 Questions

Do you agree that the proposed approach with respect to the socio-economic assessment is appropriate?

16 Climate Impact Assessment

16.1 Introduction

16.1.1 Climate change is a topic which can be impacted directly by a project and in turn also affect other topics (eg the impact of climate change can affect the future flood risk and such affects will be considered in the individual topic chapters).

16.1.2 Overall, the Proposed Development is anticipated to have a positive effect on climate change due to the carbon savings of renewable energy generation displacing the need for fossil fuel energy generation.

16.2 Legislation, Policy and Guidance

16.2.1 Schedule IV of the EIA Regulations which transpose the EIA Directive into Scottish law and states that;

- *(4) A description of the factors specified in Article 3(1) likely to be significantly affected by the project, including climate (for example greenhouse gas emissions, impacts relevant to adaptation).*
- *(5) A description of the likely significant effects of the project on the environment resulting from, inter alia …*
- *(f) The impact of the project on climate (for example the nature and magnitude of greenhouse gas emissions) and the vulnerability of the project to climate change.*

16.3 Proposed Scope of Assessment

16.3.1 A Climate Impact Assessment (CIA) shall be prepared in accordance with Schedule IV Schedule IV of the EIA Regulations.

16.3.2 The CIA will consider relevant Scottish policy on climate change and adaption and will also consider the climate change targets of the relevant local authorities.

16.3.3 The CIA approach will consider the likely magnitude of greenhouse gas (GHG) emissions of the Proposed Development in comparison to the baseline scenario with no development (where no emissions are produced as no construction takes place).

16.3.4 A carbon balance assessment will be carried out which assesses effects with reference to the magnitude of emissions released by the Proposed Development and the period of time it takes to payback for those carbon emissions, the context of those emissions (e.g. national, regional and local emissions reduction targets) and professional judgement.

16.3.5 This assessment will be based on the proposed information regarding the scale and nature of the Proposed Development. Where data is unavailable, worst-case reasonable assumptions will be used.

16.3.6 The carbon balance assessment consists of 4 steps;

- Step 1 – data gathering (e.g. infrastructure dimensions, peat probe data interrogation, habitat loss calculations);
- Step 2 – data input and review;
- Step 3 – completion of carbon balance tool and reporting;
- Step 4 – review and QA

16.3.7 The carbon balance assessment will aim to quantify the emissions savings over the life of the Proposed Development against the release of CO2 from other energy generation methods as a result of implementing the Proposed Development and will also report on carbon payback time.

16.3.8 This chapter will present the findings of the carbon balance assessment and will contextualise these results through describing the climate benefits which are likely to occur through delivery of the Proposed Development. In broad terms, these benefits include contribution to mitigating the effects of climate change; contribution to, and security of, domestic energy supplies and to a sustainable energy mix within Scotland and more broadly within the United Kingdom.

16.3.9 This chapter will also consider the possible effects of the Proposed Development on climate change, and the resilience of the project to the effects of climate change would be informed by other EIAR chapters including Geology, Hydrology and Hydrogeology, and The Proposed Development (e.g. use of sustainable design measures).

16.3.10 Climate resilience assessment is undertaken to ensure adequate resilience of major projects to the adverse impacts of climate change, for example flooding. It is based on a vulnerability and risk assessment. However, it is considered that many of key climate trends112 such as increased temperature, changes in rainfall events and sea level rise will not affect the Proposed Development due to its location and high elevation. And during severe windstorms, turbines typically engage installed braking mechanisms to shut turbines down. These factors, along with the findings of the original Keirs Hill Wind Farm ES (2013) and PLI report (2016), suggest that a detailed climate vulnerability and risk assessment would not be required and that this level of detailed assessment could be scoped out of further assessment.

16.4 Questions

Do you agree that the proposed approach with respect to climate change assessment is appropriate?

Do you agree the climate vulnerability and risk assessment can be scoped out of further assessment?

[112] https://www.metoffice.gov.uk/research/approach/collaboration/ukcp/index

17 Summary and Conclusions

17.1 Summary and Conclusion

17.1.1 This EIA Scoping Report outlines the proposed technical and environmental assessment that will be included within the EIA Report for the Proposed Development. The proposed scope and methodologies for each assessment have been provided and the guidance to be followed set out. Should any further information be required in order that a full EIA Scoping Opinion can be provided the Applicant would be happy to provide further information and/or discuss any further requirements.

17.1.2 In conclusion, this scoping report seeks the views of the relevant consultees on the proposed EIA and the content of the EIAR for Sclenteuch Wind Farm.

17.1.3 RES is experienced in wind farm development and seeks to work closely with consultees on this project to agree suitable solutions to site issues.

17.2 Responding to this scoping report

17.2.1 Consultee responses to this report should be directed to the Energy Consents Unit which will form a Scoping Opinion.

17.2.2 The ECU can be contacted via email: Econsents_Admin@gov.scot

17.2.3 The Applicant will welcome such responses to inform the scope of EIA to be undertaken for the proposed development and further consultation to be undertaken with each consultee as the EIA progresses.

18 Appendix

18.1 Questions

- Do consultees agree with the extent of the planning policy and energy documents described above?
- Are there any additional planning and energy documents that consultees wish to be considered?
- Considering the findings in the determination of Keirs Hill Wind Farm application, and the proposed changes to the scheme, do you agree with the overall methodology proposed to assess effects on landscape and visual receptors, including cumulative effects?
- Do you agree that the proposed list of viewpoint locations is a representative selection of views from receptors most likely to experience significant effects?
- Do you agree that the wind farms listed in Table 5-2 and shown on Figure 5.5 comprise the cumulative baseline to inform the cumulative assessment?
- Do you agree that all relevant landscape or visual receptors have been identified (i.e. those where it is possible that significant effects may occur)?
- Are there any other relevant consultees who should be consulted with respect to the LVIA?
- Do you agree the proposed study areas are sufficient to facilitate a robust assessment of potential impacts arising from the Proposed Development?
- Do you agree the range of proposed sources is sufficient to enable a comprehensive baseline study to be undertaken?
- Do you agree the selection criteria for identifying developments to be included in the cumulative assessment is appropriate to the scale of the Proposed Development?
- Do consultees agree that the EIA should concentrate on those receptors which may be subject to significant effects from the Proposed Development (either directly or indirectly)?

- Do consultees agree with the list of receptors and impacts to be included within the EIA Report?
- Do consultees agree that the EIA should only concentrate on those features which may be subject to significant effects from the Proposed Development (either directly or indirectly)?
- Table 8.14 notes the features and potential impacts proposed to be included within the EIA. Do consultees agree with the list of features and impacts to be included within the EIA Report?
- Published mapping confirms that most of Site is not identified as being at flood risk. It is proposed, therefore, that a simple screening of potential flooding sources (fluvial, coastal, pluvial, groundwater etc.) is presented in the EIA Report. Is this approach acceptable?
- It is not proposed to prepare a detailed drainage design. Rather measures that would be used to control the rate and quality of runoff will be specified in the EIA Report. Again, is this acceptable?
- Site investigations, including detailed peat probing and private water survey as outlined in Section 9.3, will be undertaken as part of the proposed assessment. Should any additional investigation or data sources be considered when assessing baseline conditions?
- It is not proposed to undertake any water quality sampling, establish groundwater monitoring points, surface water monitoring points or undertake leachability trials of any rock in the proposed borrow pit as there is published data that can be used to characterise baseline conditions and complete the impact. Is this acceptable?
- Please advise if there is any specific information or methodology that should be used / followed as part of the Private Water Supply risk assessment?
- Are consultees content with the proposed methodology and scope for the forestry assessment?
- Do the consultees have any information, particularly with reference to new guidance, which should be taken into account?
- Are the methods proposed for obtaining traffic flow data accepted?

- It is accepted that traffic surveys can be undertaken on the local road network following the end of the 2021 summer holiday season (excluding a further national Covid 19 lockdown) and that such flows would be considered acceptable for use in the assessment?
- Is the use of Low National Road Traffic Forecasts (NRTF) acceptable for the whole of the study?
- What developments should be included as committed developments within the baseline traffic flows in the assessment, noting that these should have planning consent at the time of scoping?
- Can consultees provide details of any upgrades or network changes that may be undertaken to the study area network within the next five years?
- Do the consultees agree with the proposed assessment methodology?
- Do the consultees agree with the use of the baseline noise data gathered in 2012, and that it is not necessary to undertake a further survey?
- Do the consultees agree that, where significant headroom exists between the predicted noise levels and conditioned noise limits for Dersalloch Wind Farm, a margin of 3dB is appropriate?
- Do the consultees agree with the use of conditioned noise limits for Dersalloch Wind Farm as the cumulative noise limit where necessary in the cumulative assessment?
- Do the consultees agree that a higher lower limit can be used where necessary in the cumulative assessment due to the increased planning merit of the cumulative development?
- Do you agree with the proposed approach to scope out an assessment of potential effects on television?
- Do you agree with the proposed approach to scope out an assessment of potential effects on broadcast radio?
- Do you agree with the proposed approach to scope out an assessment of potential effects on ice throw?
- Do you agree that the proposed approach with respect to the potential grid connection is appropriate?

- Do you agree that the proposed approach with respect to the socio-economic assessment is appropriate?
- Do you agree that the proposed approach with respect to climate change assessment is appropriate?
- Do you agree the climate vulnerability and risk assessment can be scoped out of further assessment?

18.2 Turbine Layout

Table 18.1: Turbine layout (see figure 3.2):

Turbine	Easting	Northing
1	240576	606715
2	240428	607711
3	240944	607191
4	241423	606714
5	240821	608168
6	241267	607731
7	241702	607293
8	242048	606784
9	242586	607086

18.3 Figures List

The Scottish Government
Energy Consents Unit

Scoping Opinion on behalf of Scottish Ministers under the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017

Sclenteuch Wind Farm
Natural Power Consultants Ltd
On behalf of Renewables Energy Systems Limited (RES)

November 2021

CONTENTS

1. Introduction

1.1 This scoping opinion is issued by the Scottish Government Energy Consents Unit on behalf of Scottish Ministers to Natural Power Consultants Ltd, on behalf of Renewables Energy Systems Limited (RES), a company incorporated under the Companies Act with company number 1589961 and having its registered office at Beaufort Court, Egg Farm Lane, Station Road, Kings Langley Hertfordshire WD4 8LR ("the Company"). This is in response to a request dated 10 August 2021 for a scoping opinion under the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 in relation to the proposed Sclenteuch Wind Farm ("the proposed Development"). The request was accompanied by a scoping report.

1.2 The proposed development site is located in both South Ayrshire and East Ayrshire near Waterside, east of the A713. The site of the proposed Development covers an area of approximately 1,000 hectares and is currently a mixture of sheep grazing and commercial forestry. It occupies forested hills and the River Doon valley passes to the east, with settlements at Dalmellington, Waterside and Patna. To the west is the Water of Girvan, which flows through the village of Straiton.

Scottish Ministers are aware that the Company is currently exploring the possibility of using borrow pits on the site, the potential impact of any borrow pits should be considered in the EIA.

1.3 The proposed Development will consist of 9 turbines with a likely maximum blade tip height of 200 metres.

1.4 In addition to wind turbines, there will be ancillary infrastructure including:

- Transformers and associated switchgear
- wind turbine foundations;
- crane hardstands at each turbine location;
- substation compound containing a control building;
- site access route from main road network;
- on series of onsite tracks;
- underground cabling;
- borrow pits(dependant on availability of stone on site;
- temporary construction compounds;
- water crossings;
- temporary concrete batching plant;
- signage and anemometer and/or communictaoin masts.

1.5 The Company has not indicated the operational life of the proposed Development however the proposed Development will be decommissioned and the site restored in accordance with a decommissioning and restoration plan.

1.6 The proposed development is located within the planning authority areas of South Ayrshire Council and East Ayrshire Council.

1.7 Located to the west of Waterside, Dalmellington the site was subject to a previous application for wind energy development by RES in 2013 (Keirs Hill Wind Farm application). Chapter 1.2 of the scoping report "need for the development" sets out the Company's position regarding this proposed Development.

2. Consultation

2.1 Following the request for a scoping opinion, a list of consultees was agreed between Natural Power (acting as the Company's agent), and the Energy Consents Unit. Scottish Ministers undertook a consultation on the scoping report and this commenced on 01 September 2021. The consultation closed on 22 September 2021.

2.1.1 Extensions to this deadline were granted to:

- East Ayrshire council;
- South Ayrshire Council;
- Historic Environment Scotland;
- Scottish Environment Protection Agency (SEPA);
- NatureScot;
- Crown Estate Scotland;
- RSPB Scotland; and
- Crosshill, Straiton and Kirkmichael Community Council.

2.1.2 Scottish Ministers also requested responses from their internal advisors Transport Scotland and Scottish Forestry. Standing advice from Marine Scotland Science (MSS) has been provided with requirements to complete a checklist prior to the submission of the application for consent under section 36 of the Electricity Act 1989. All consultation responses received, and the standing advice from MSS, are attached in ***ANNEX A Consultation responses*** along with a full list of consultees.

2.2 The purpose of the consultation was to obtain scoping advice from each consultee on environmental matters within their remit. Responses from consultees and advisors should be read in full for detailed requirements and for comprehensive guidance, advice and, where appropriate, templates for preparation of the Environmental Impact Assessment (EIA) report.

2.3 Unless stated to the contrary in this scoping opinion, Scottish Ministers expect the EIA report to include all matters raised in responses from the consultees and advisors.

2.4 No responses were received from:

- Scottish Forestry
- Civil Aviation Authority – Airspace
- Crown Estate Scotland
- Fisheries Management Scotland
- Doon ASFB
- Joint Radio Company
- Mountaineering Scotland

- Scottish Wildlife Trust
- Scottish Wild Land Group (SWLG)
- Visit Scotland
- West of Scotland Archaeology Service
- Galloway and Southern Ayrshire Biosphere
- Patna Community Council
- Dalmellington Community Council

2.5 With regard to those consultees who did not respond, it is assumed they have no comment to make on the scoping report, however each would be consulted again in the event that an application for section 36 consent is submitted subsequent to the Environmental Impact Assessment scoping opinion.

2.6 The Scottish Ministers are satisfied that the requirements for consultation set out in Regulation 12(4) of the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 have been met.

3. The Scoping Opinion

3.1 This scoping opinion had been adopted following consultation with South Ayrshire Council and East Ayrshire Council, within whose area the proposed development would be situated. Scottish Environment Protection Agency ("SEPA"), NatureScot (Previously "SNH") and Historic Environment Scotland ("HES"), were also consulted as statutory consultation bodies, as were other bodies, which Scottish Ministers considered likely to have an interest in the proposed development by reason of their specific environmental responsibilities or local and regional competencies.

3.2 Scottish Ministers adopt this scoping opinion having taken into account the information provided by the Company in thier request dated 10 August 2021 in respect of specific characteristics of the proposed Development and responses received to the consultation undertaken. In providing this scoping opinion, the Scottish Ministers have had regard to current knowledge and methods of assessment; have taken into account the specific characteristics of the proposed Development, the specific characteristics of that type of development and the environmental features likely to be affected.

3.3 A copy of this scoping opinion has been sent to South Ayrshire Council and East Ayrshire Council for publication on their website. It has also been published on the Scottish Government energy consents website at www.energyconsents.scot.

3.4 Scottish Ministers expect the EIA report, which will accompany the application for the proposed Development to consider in full all consultation responses attached in **Annex A**.

3.5 Scottish Ministers are satisfied with the scope of the EIA set out in chapter 2 Section 2.3.3 of the scoping report.

3.6 In addition to the consultation responses, Ministers wish to provide comments with regards to the scope of the EIA report. The Company should note and address each matter.

3.7 The proposed development set out in the scoping report refers to wind turbines and other technologies and if the proposed development includes battery storage and/or solar panels further information may be required. Any application submitted under the Electricity Act 1989 requires to clearly set out the generation station(s) that consent is being sought for. For each generating station details of the proposal require to include but not limited to:

- the scale of the development (dimensions of the wind turbines, battery storage, solar panels if included in the final design)
- components required for each generating station
- minimum and maximum export capacity of megawatts and megawatt hours of electricity for battery storage and the technology being used.

3.8 Scottish Water provided information on whether there are any drinking water protected areas or Scottish Water assets on which the development could have any significant effect. Scottish Ministers request that the Company contacts Scottish Water (via EIA@scottishwater.co.uk) and makes further enquires to confirm whether there are any Scottish Water assets which may be affected by the development, and includes details in the EIA report of any relevant mitigation measures to be provided.

3.9 Scottish Ministers request that the Company investigates the presence of any private water supplies which may be impacted by the development. The EIA report should include details of any supplies identified by this investigation, and if any supplies are identified, the Company should provide an assessment of the potential impacts, risks, and any mitigation which would be provided. Scottish Ministers advise the Company to take on board the points raised by South Ayrshire Council and their Environmental Health Department regarding the Private Water Supplies in the area.

3.10 Scottish Ministers request the Company now review Marine Scotland's generic scoping guidelines for both onshore wind farm and overhead line development which outline how fish populations can be impacted during the construction, operation and decommissioning of a wind farm development and informs developers as to what should be considered, in relation to freshwater and diadromous fish and fisheries, during the EIA process. https://www2.gov.scot/Topics/marine/Salmon-Trout-Coarse/Freshwater/Research/onshoreren).

3.10.1 In addition to identifying the main watercourses and waterbodies within and downstream of the proposed development area, developers should identify and consider, at this early stage, any areas of Special Areas of Conservation where fish are a qualifying feature and proposed felling operations particularly in acid sensitive areas.

3.10.2 MSS also provide standing advice for onshore wind farms (which has been appended at **Annex A** which outlines what information, relating to freshwater and diadromous fish and fisheries, is expected in the EIA report. Use of the checklist, provided in Annex 1 of the standing advice, should ensure that the EIA report contains the required information; the absence of such information may necessitate requesting additional information which may delay the process.

3.11 Scottish Ministers request the Company now review SEPA's standing advice and planning guidance which is available at the link below and to contact them at the earliest opportunity to discuss impacts on watercourses, lochs, groundwater, other water features and sensitive receptors, such as water supplies, need to be assessed. Measures to prevent erosion, sedimentation or discolouration will be required, along with monitoring proposals and contingency plans.

http://sepa.org.uk/environment/land/planning

3.12 Scottish Ministers consider that where there is a demonstrable requirement for peat landslide hazard risk assessment, the assessment should be clear understanding of whether the risks are acceptable and capable of being controlled by mitigation measures. The Peat Landslide Hazard and Risk Assessments: Best Practice Guide for Proposed Electricity Generation Developments (Second Edition), published at http://www.gov.scot/Publications/2017/04/8868, should be followed in the preparation of the EIA report, which should contain such assessment and details of mitigation measures. Scottish Ministers are aware that 'Class 1' priority peatland is located within the Site.

3.13 The proposed viewpoints are given at Table 5.1 of the scoping report. At this stage we would request that any additional viewpoints, wireframes, ZTVs and photomontages as requested by East Ayrshire Council, South Ayrshire Council and NatureScot are considered in full.

3.13.1 It is recommended by the Scottish Ministers that the final list of viewpoints and visualisations should be agreed following discussion between the Company, East Ayrshire Council, South Ayrshire Council and NatureScot.

3.14 The noise assessment should be carried out in line with relevant legislation and standards as detailed in chapter 12 of the scoping report. The noise assessment report should be formatted as per Table 6.1 of the IOA "A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise. Scottish Ministers request that the Company see the points raised by East Ayrshire Council and South Ayrshire Council who have responded to the focused questions and previous noise survey.

3.15 As the maximum blade tip height of turbines exceeds 150m the LVIA as detailed in chapter 5 of the scoping report must include a robust Night Time Assessment with agreed viewpoints to consider the effects of aviation lighting and how the chosen lighting mitigates the effects. Scottish Ministers request that the Company contacts Defence Infrastructure Organisation and Glasgow Prestwick Airport for further information on Aviation Safety lighting and Low Flying Aircraft.

3.16 Scottish Ministers request that the Company review the information provided in the response from Glasgow Airport and Glasgow Prestwick Airport regarding mitigation measures for impacts on primary radars and Instrument Flight Procedure (IFP) and NATS Safeguarding for further information on safeguarding criteria.

3.17 Scottish Ministers request that the Company review the information provided in the response from Historic Environment Scotland and undertakes an initial

assessment of potential impacts on scheduled monuments, category A listed buildings, and GDLs at an early stage and consults Historic Environment Scotland once this has been undertaken and to keep The Scottish Ministers up to date with any ongoing dialogue.

3.18 Scottish Ministers request that the Company review the information provided in the response from South Ayrshire Council, and John Muir Trust and undertakes a Wild Land Area Impact Assessment for Merrick Wild Land Area.

3.19 Scottish Ministers are aware that further engagement is required between parties regarding the refinement of the design of the proposed development regarding, among other things, surveys, management plans, peat, finalisation of viewpoints, transport routes, cultural heritage, designated sites and cumulative assessments and they request that they are kept informed of relevant discussions.

4. Mitigation Measures

4.1 The Scottish Ministers are required to make a reasoned conclusion on the significant effects of the proposed development on the environment as identified in the EIA. The mitigation measures suggested for any significant environmental impacts identified should be presented as a conclusion to each chapter. Applicants are also asked to provide a consolidated schedule, in tabular form, of all mitigation measures proposed in the environmental assessment, where that mitigation is relied upon in relation to reported conclusions of likelihood or significant of impacts.

5. Conclusion

5.1 This scoping opinion is based on information contained in the Company's written request for a scoping opinion and information available at the date of this scoping opinion. The adoption of this scoping opinion by the Scottish Ministers does not preclude the Scottish Ministers from requiring of the Company information in connection with an EIA report submitted in connection with any other application for section 36 consent for the proposed development.

5.2 This scoping opinion will not prevent the Scottish Ministers from seeking additional information at application stage, for example to include cumulative impacts of additional developments which enter the planning process after the date of this opinion.

5.3 Without prejudice to that generality, it is recommended that advice regarding the requirement for an additional scoping opinion be sought from Scottish Ministers in the event that no application has been submitted within 12 months of the date of this opinion.

5.4 It is acknowledged that the environmental impact assessment process is iterative and should inform the final layout and design of proposed developments. Scottish Ministers note further engagement between relevant parties in relation to the refinement of the design of this proposed development will be required, and would request that they are kept informed of on-going discussions in relation to this.

5.5 Applicants are encouraged to engage with officials at the Scottish Governments Energy Consents Unit at the pre-application stage and at design chill (before proposals reach design freeze.)

5.6 Applicants are reminded that there will be limited opportunity to materially vary the form and consent of the proposed development once an application is submitted.

5.7 When finalising the EIA report, Applicants are asked to provide a summary in tabular form of where within the EIA report each of the specific matters raised in this scoping opinion has been addressed.

5.8 It should be noted that to facilitate uploading to the Energy Consents portal, the EIA report and its associated documentation should be divided into appropriately named separate files of size no more than 10 megabytes (MB). In addition, a separate CD/USB stick containing the EIA report and its associated documentation in electronic format will be required.

Carolanne Brown
Energy Consents Unit
November 2021

ANNEX A

Consultation

List of consultees

East Ayrshire Council	A1-A13
South Ayrshire Council	A14-A18
Ayrshire River Trust	A19-A20
British Horse Society	A21-A23
BT	A24-A25
Civil Aviation Authority – Airspace*	
Crown Estate Scotland*	
Defence Infrastructure Organisation	A26-A27
Doon ASFB*	
Edinburgh Airport	A28
Fisheries Management Scotland*	
Galloway and Southern Ayrshire Biosphere*	
Glasgow Airport	A29
Glasgow Prestwick Airport	A30-A31
Highlands & Islands Airport*	
Historic Environment Scotland	A32-A34
John Muir Trust	A35
Joint Radio Company*	
Mountaineering Scotland*	
NATS Safeguarding	A36-A45
NatureScot	A46-A52
RSPB Scotland	A53
Scottish Environment Protection Agency (SEPA)	A54-A60
Scottish Forestry*	
Scottish Rights of Way and Access Society (ScotWays)	A61-A68
Scottish Water	A69-A70
Scottish Wild Land Group (SWLG)*	
Scottish Wildlife Trust*	
Visit Scotland*	
West of Scotland Archaeology Service*	
Crosshill, Straiton & Kirkmichael Community Council	A73-A78
Dalmellington Community Council*	
Patna Community Council*	

Officials from Transport Scotland and Marine Science Scotland areas of the Scottish Government provided internal advice at A71 to A72, and A79 to A87 respectively.

*No consultee responses were received.

General Letter

Governance
Chief Governance Officer, Solicitor to the Council and Council Monitoring Officer: David Mitchell

Telephone: REDACTED Fax: 01563 576179
Email: david.mitchell@east-ayrshire.gov.uk

East Ayrshire Council
Comhairle Siorrachd Air an Ear

Our Ref: 21/0004/S36SCP

Date: 30th September 2021

Contact: Graham Mitchell

Scottish Government Energy Consents Unit
4th Floor
5 Atlantic Quay
150 Broomielaw
Glasgow
G2 8LU

Dear Sir/Madam

THE ELECTRICITY ACT 1989 SECTION 36
THE ELECTRICITY WORKS (ENVIRONMENTAL IMPACT ASSESSMENT) (SCOTLAND) REGULATIONS 2017

REQUEST FOR SCOPING OPINION FOR PROPOSED SECTION 36 APPLICATION FOR SCLENTEUCH WIND FARM

Site Address: Sclenteuch Wind Farm

I refer to your email dated 01 September 2021 requesting this Council's comments regarding the scoping report submitted by Natural Power on behalf of RES.

The purpose of this response is to provide advice and guidance based on the Planning Authority's knowledge of the site and the surrounding area, and has included any comments received from the limited consultation undertaken by the Planning Authority. This enables the Applicant to consider the issues that are identified and address these in the EIA process and EIA Report associated with the Section 36 application.

The Council has undertaken a limited consultation with internal departments though at the time of providing this response no responses have been received.

The Opera House
8 John Finnie Street
Kilmarnock, KA1 1DD
TEL: 01563 576790
FAX: 01563 554592
www.east-ayrshire.gov.uk

If responses are subsequently received they will be forwarded to you for your consideration. You should be aware that this consultation list is selective as the onus, in this case, is on the Energy Consents Unit to undertake statutory and non-statutory consultations. A list of further consultees that would be useful to engage with as part of this process is included as Appendix 1. Please be aware that any lack of inclusion on this list of a particular party or organisation in no way indicates that the Planning Authority considers that consultation would not be beneficial.

The sections below highlight the comments of the Planning Authority on a number of matters. Please note that comments of any consultees have not been fully replicated, therefore the content of any responses should be treated in the same manner and given the same consideration as the comments below.

Non-technical summary

This should be written in simple non-technical terms and should include a summary of the main issues of each chapter of the EIA Report, including the significant effects of the development and any mitigation measures to address these potential adverse impacts. A plan sufficient to identify the application site within the wider locality and a proposed site plan should be incorporated as a minimum.

Summary of Environmental Information

A summary of the environmental information assessed throughout the EIA Report shall be provided.

List of qualifications and evidence of competency

A list detailing the qualifications and evidence of relevant expertise / competency of each individual who has been involved in the production of the EIA Report, including those involved in the assessments which have been used to inform the various chapters of the EIA Report, shall be included.

Format of the EIA Report

Two full paper copies including appendices should be provided to the Planning Authority for internal use, although additional paper copies may be required depending on whether temporary restrictions / exemptions regarding copies for public inspection change.
A number of electronic copies should also be provided including at least one copy that is split into manageable sized files for uploading by the Applicant to the online viewing system of the Planning Authority. These files should be clearly named thus enabling easier public interpretation, consideration and navigation. An example would be splitting the EIA Report by chapter / topic. Any confidential

annex should be clearly marked and kept separate from the remainder of the EIA Report but should not contain any non-confidential information or, if it does, this should be replicated within the EIA Report.

Consideration of alternatives

Schedule 4, paragraph 2 of the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 requires that information on the reasonable alternatives (including design, technology, location, size and scale) considered and the main reasons for selecting the chosen option, including a comparison of the environmental effects be included within the EIA Report. Such consideration of alternatives should therefore be included within the EIA Report.

Baseline Information

The Council has published a State of the Environment Report on its website:
https://www.east-ayrshire.gov.uk/PlanningAndTheEnvironment/Development-plans/State-of-the-Environment-Report.aspx
This report collates up to date information on the environment within East Ayrshire and how it is changing. The information can be used to help inform applications. This may be of use when preparing your EIA Report.

EIA Assessment Methodology

There should be a degree of flexibility adopted within the EIA Report when reporting the significance of the impacts as moderate effects can be considered as significant in terms of the EIA Regulations and would be based on the assessor's judgement.

Planning Policy Context

The Council would advise that some policies contained within the East Ayrshire Minerals Local Development Plan could also be relevant to the proposed development (particularly given that borrow pits are being indicated as likely to be proposed at this time), and therefore this plan will also require consideration in addition to the East Ayrshire Local Development Plan 2017. The Council has nothing further to add in respect of this section, though would note that Scottish Ministers advised that SPP 2014 would remain in force rather than any amended 2020 version at this time.

Landscape and Visual

The Planning Authority agrees that a 45km study area and 60km cumulative study area are appropriate in this case given the scale of the proposed turbines. Based on the indicative ZTV (Figure 5.2) provided detailed study areas of 20km for the project-alone and 25km for cumulative landscape and visual impacts are considered reasonable.

The Applicant is advised to keep the cumulative situation under review during the preparation of the EIA Report as this is an evolving situation, particularly in this part of the district where there is considerable wind energy development pressure. In this respect, it is suggested that they make contact with any local authorities within the study area to obtain up to date information relating to wind energy development in their respective authority areas. With respect to Table 5.2 and the Overhill scheme mentioned, in addition to the current application for 10 x 180m high turbines (refused at Planning Committee on 24 September but still within the appeal period so should still be considered), there is also an existing consent on this site for 10 x 149.9m high turbines. So the assessment will need to consider both the consented scheme and proposed scheme. In terms of any Section 36 applications, you should keep these in review as some have changed such as North Kyle, with adjustments to turbine numbers.

In addition to the cumulative effects with other wind farms, the Applicant should give consideration to potential effects with other tall structures such as electricity pylons and any nearby mineral extraction sites (or former sites yet to be restored) which could contribute to cumulative landscape and visual impacts.

Regarding the proposed viewpoint locations as set out in Table 5.1, The Planning Authority would agree to these (although relevant neighbouring authorities may wish to clarify if locations in their areas are acceptable to them). A viewpoint from the core path which runs through the site would be requested in addition.

In terms of the night-time photomontage visualisations, the Planning Authority would agree with the viewpoints listed in section 5.3.22 of the Scoping Report. In addition we would also request Viewpoint 6 (Dalmellington) be included and some form of wireline or visual produced to evidence whether or not the turbines would be visible at hub height from the Scottish Dark Sky Observatory (currently damaged by fire but still worth considering in the event this tourist facility be rebuilt and reopened to the public). Lighting impacts on the Dark Sky Park will also need to be assessed, particularly given the close proximity to the boundaries of this designation, and the Planning Authority welcome any detailed consideration of aviation lighting impacts on this designation alongside consideration of Dark Sky Park Lighting Supplementary Guidance.

Any measures to reduce the number of lights required should be reported within the EIA Report alongside any details regarding any mitigation of the lighting where available.

No mention is made about cumulative lighting impacts. Given the increasing numbers of turbines operational / consented / proposed which have / will require visible aviation safety lighting then the night-time lighting assessment shall also include a cumulative night-time assessment taking into account other wind farms / turbines which have / will require visible aviation lighting and any other tall

structures which have visible aviation lighting on them.

The Planning authority welcomes the addition of a Residential Visual Amenity Assessment and would request that cumulative schemes are shown on separate wirelines to the project-alone wirelines. Additionally photomontages should be considered from some properties to assist the consideration and assessment of impacts from them where the turbines are more prominent.

The Council's East Ayrshire Landscape Wind Capacity Study should be considered when assessing landscape character and visual impacts rather than just those landscape character areas identified by NatureScot. The Council welcomes the inclusion of an assessment of the Sensitive Landscape Areas.

Cultural Heritage and Archaeology

Inner study area up to 500m for more direct impacts and outer study area of 10km for wider, setting impacts seems reasonable.

With respect to Gardens and Designed Landscapes (GDLs) those not on the inventory are also protected and consideration of impacts on any such non-inventory GDLs should also be assessed. Two closest non-inventory GDLs include Grimmet GDL and Keirs Castle GDL, the latter being located partly within the application site. The Planning Authority welcomes the assessment of impacts on Craigengillan inventory GDL. There should be some flexibility when considering viewpoints as some heritage assets may benefit from visualisations to aid the assessment of impacts on their setting. Comments from Historic Environment Scotland and West of Scotland Archaeology Service should be taken into account when finalising the assessment methodology in respect of Cultural Heritage and Archaeology.

Scheduled Monuments will require assessment, with Waterside having such designations around the settlement. Setting impacts on conservation areas will also require to be taken into account, with Waterside conservation area most likely to experience setting impacts.

Ecology

Local Nature Conservation Sites (LNCS) should be assessed alongside other ecological designations such as S.S.S.I.s. There are a number of LNCS within relatively close proximity to the application site including one within it (Wallace Moor / Keirs Hill LNCS). Impacts on Ancient Woodland will also need to be assessed with such ancient woodland already located within the proposed application site and others out with (though those out with the application site may be less likely to face impacts).

Consultation should also be undertaken with the River Doon Salmon Fisheries Board and Ayrshire Rivers Trust to agree on the appropriate methodologies and

scope of assessment in terms of fish and other species. The Planning Authority would suggest the Applicant ensure any requirements and advice from NatureScot, SEPA, RSPB and the Scottish Wildlife Trust be taken into account to inform the scope of the assessment, including any cumulative impact assessment, of such matters for reporting within the EIA Report.

Ornithology

The Planning Authority has no particular comments to make with regards to ornithological matters and would suggest the Applicant ensure the requirements and requests of NatureScot and RSPB and any other relevant body with information and records of relevant ornithological interests are taken into account to inform the assessment of these matters for reporting within the EIA Report.

Geology, Hydrology and Hydrogeology

In terms of flood risk, any potential for the release of water from peat excavation should be considered as a potential cause of flooding.

With regards to any Private Water Supplies (PWS), the EIA Report should risk assess any PWS potentially affected by the proposed development, and in assessing the risk, should not only consider the source, its catchment and the receptor, but also identify / map out and consider the pathway from the source to the receptor. Only through identifying the pathway is it possible to gain a full understanding of any potential impacts that infrastructure / construction activity might have on any PWS. Details of any mitigation and/or contingency measures that may be required should be detailed within the EIA Report. The Council's Environmental Health Service should be contacted to assist in the identification of any PWS in and around the site. It would also be appropriate to contact relevant neighbouring authorities with respect to any potential PWS in their area or sourced from within / with a pathway through the application site.

In terms of any borrow pits, if these are taken forward as part of the proposed development, the EIA Report should include information on the location, size and nature of these borrow pits, including details of the depth of the borrow pit floor and an indicative borrow pit final reinstated profile. The impact of such features (including dust, blasting and impacts on hydrology) should be appraised as part of the overall impact of the proposal. Information on the proposed depth of excavations compared to the actual topography, the proposed restoration profile, proposed drainage and settlement traps, turf and overburden removal and storage for reinstatement should be included within the EIA Report. The Council's Minerals Local Development Plan includes a policy on borrow pits and information to address the requirements set out within that policy should form part of the EIA Report.

The Council has also recently adopted new non-statutory guidance - Peat, excess soils and sewage sludge, which will be relevant to the proposed

development.

The relevant fisheries boards should be consulted to discuss their expectations and requirements regarding the extent of hydrological assessment required to inform the assessment of hydrological impacts, including water quality impacts, which also links to the potential ecological impacts on aquatic life.

The application site features areas identified as high risk on the Coal Authority Mining Risk Assessment and the Coal Authority should be consulted to ascertain the scope of methodology and assessment required to address any potential risks for reporting in the EIA Report. The Planning Authority would also rely on detailed comments on such matters from NatureScot, SEPA and the Scottish Government's advisors on peat, Ironside Farrar Ltd. These bodies would be able to advise further on the appropriateness of the methodologies reported.

Forestry

Details of any compensatory forestry planting should be detailed within the EIA Report and accompanied by relevant figures to demonstrate areas of loss and compensatory planting as relevant. Some details of species composition and design of any compensatory planting areas would be beneficial. It may be worth considering native broadleaf species if appropriate. Scottish Forestry would be able to advise in more detail as to the expectations of a forestry chapter or any relevant guidance. Any potential impacts on Ancient Woodland will also require to be considered.

Traffic and Transport

Early contact with the Ayrshire Roads Alliance (ARA) is advised. Should any comments be subsequently received from ARA in respect of the Scoping Report these will be sent on to the Energy Consents Unit.

The Planning Authority would advise that any assessment of traffic impacts should be based on a worst-case scenario which assumes 100% of construction materials such as stone requiring to be imported to site. Any expected reduction in stone importation due to the use of borrow pits can be reported within the EIA Report, along with the consequent effect this would have on traffic volumes. A worst-case scenario should nevertheless be presented in case any proposed borrow pits fail to provide the anticipated volume of stone to ensure a robust assessment of impacts.

The EIA Report should identify potential sources of materials (e.g. stone quarries) if these are off-site and consider the impacts of those routes to site, including communities along those routes. Such assessment should also include cumulative impacts with other developments. As highlighted within SPP, borrow pits should only be permitted where there are significant environmental or economic benefits compared to obtaining material from local quarries. As such,

should any borrow pits be proposed, appropriate environmental and/or supporting information should be submitted to justify the need for borrow pits. The Council's Minerals Local Development Plan Policy MIN SUP2 indicates the matters the Council would take into consideration, and supporting evidence Applicants should provide, in respect of borrow pits.

Any consented / under construction developments likely to generate large volumes of traffic should be taken into account in the cumulative traffic assessment and should not necessarily be limited to other wind farm developments.

Transport Scotland may provide advice in respect of the trunk road network. The EIA Report should detail the port of entry and the delivery route for turbine components to site.

Noise

Whilst consultation with the Council's Environmental Health Service will be useful and could assist with agreeing the noise methodology, the Council currently uses the services of an independent noise consultant to deal with wind farm noise matters and the Planning Authority would recommend that discussion is undertaken with the Council's noise consultant to agree the methodology for noise assessment. The Planning Authority would encourage the use of the lower end of the ETSU limits. Cumulative noise assessments with other wind farms is welcome although the Applicant should also consider other noise generating developments within the vicinity and consider the impacts these might have in addition to the proposed development.

The Planning Authority would agree that low frequency noise (or infrasound) can be scoped out of the assessment. The Council has experience of a wind turbine which was generating Amplitude Modulation such that it was deemed to be causing a statutory noise nuisance and a noise abatement notice was served on the operator. Nevertheless, the Planning Authority understands that until such time as the relevant guidance is updated, there is no formally adopted method for assessing Amplitude Modulation and the Planning Authority agrees that this can be scoped out of the assessment.

Safety and Other Issues

Safety:-
Provided the relevant chapters make it clear that public health has been addressed within where relevant, then a specific chapter on human health and public safety would not be necessary. A separate chapter could be used to cover off this requirement of the EIA Regulations if the Applicant wished to take such an approach. Measures to suppress dust in the interests of air quality should be set out within the EIA Report.

Major Accidents and/or Incidents:-
The Planning Authority consider it would be worthwhile to include a summary or table just to highlight each of the potential risks and provide a brief explanation as to why these are not deemed to be relevant or necessary of further detailed consideration within the EIA Report.

Public Access:-
The Applicant should summarise the measures taken to control public access during the construction period and during any operational period.

Aviation and Radar:-
The Planning Authority will required a detailed assessment of aviation impacts to accompany any application to ensure any potential impacts are fully assessed and any appropriate mitigation detailed. It would be beneficial if the continued requirement for visible aviation lighting is explored with the Civil Aviation Authority to understand if there is any scope or possibility that this requirement might change and the need for visible lighting could be reduced or eliminated entirely. Early engagement with all relevant aviation bodies is encouraged.

Television and Telecommunications:-
The Planning Authority considers that consultation with the relevant bodies should be undertaken to inform the assessment of impacts. It is expected that details of any correspondence to confirm the relevant system operators are satisfied that there will be no impacts is included within the EIA Report, alongside plans showing any relevant infrastructure or buffer areas to confirm that all proposed infrastructure is beyond the area of influence of such features. It remains the case that appropriate conditions are likely to be needed to ensure that if there are any impacts attributable to the proposed development, that these are mitigated.

Shadow Flicker:-
The Planning Authority is content that an assessment of shadow flicker is undertaken based on the location of turbines after the design freeze stage. It is worth noting that the 10 rotor diameters' distance is a guide and does not guarantee no effects will be experienced beyond that distance. The Planning Authority also has experience of a turbine within East Ayrshire which has been causing shadow flicker at a property which is beyond a distance of ten rotor diameters. As such, if there are properties beyond a distance of ten rotor diameters but not too distant, consideration should be given as to the potential effects on such properties. The Planning Authority notes that a distance of 2.5km is mentioned in the Scoping Report which should cover a distance of more than ten rotor diameters.

Potential Grid Connection

It seems appropriate if the grid connection route is known at the time of applying that this, and associated environmental impacts, can be reported and assessed

in detail within the EIA Report, though the Planning Authority notes that grid connections are often dealt with separately and is content with either approach.

Socio Economic

The EIA Report should consider any strategies for long-term public access to the site for recreational uses during its operational lifetime, including any options for connections to be made with surrounding land and uses, to maximise the public access benefits. Management of public access to the site during the construction period should also be detailed. It will be important to ensure that any recreational or tourist receptors which may face significant impacts as a result of landscape and visual impacts are considered. Whether this is fully addressed within an LVIA chapter or within the socio-economic chapter is not important, as long consideration of such impacts has been taken into account and reported.

The proposed approach set out in chapter 15 of the Scoping Report seems reasonable, with the inclusion of assessments of impacts on a range of recreational and tourist receptors proposed, including recreational routes (such as core paths) and other visitor attractions within the area. A core path exists through the proposed application site alongside a number of other core paths and rights of way on the eastern side of the Doon Valley where views towards the wind farm are likely. It is noted that the A713 forms the Galloway – Ayrshire Tourist Route and impacts on the qualities and experience of this route, predominantly by road users, should be assessed.

The EIA Report should also detail any proposed community benefits or shared ownership proposals.

Climate Impact Assessment

The full report generated from the Scottish Government's Carbon calculation, accounting for carbon emissions and losses through disturbance and loss of peatland and savings over the lifetime of the development, should be submitted as part of the EIA Report. The proposed methodology set out in the Scoping Report seems reasonable.

<u>Other Matters</u>

Waste

The Planning Authority consider that discussion should be made within the EIA Report of the potential sources of waste and how waste might be suitably dealt with (for example forestry waste used for brash matting, etc.), although these matters might be able to be addressed in each relevant chapter instead of a specific section.

Decommissioning and Restoration

Although not a specific topic, an assessment of the likely impacts of decommissioning of the proposed development on all of the environmental topics shall form part of the EIA Report (though it is noted for some topics this could be scoped out). This will ensure a reasonable idea as to what those impacts may be and what possible mitigation would be required. Mention is made of the development being considered in perpetuity. The application shall be accompanied by a decommissioning report which sets out a costed breakdown of the decommissioning, restoration and aftercare works likely on site, based on the observations made within the EIA Report regarding decommissioning.

The decommissioning report will require to be reviewed by the Council's independent consultants to inform the expected financial guarantee quantum which the Council would seek to secure via a Section 75 legal agreement. The Applicant should advise what mechanism they intend to secure this, such as a bond. These matters would inform the Council's assessment of the application.
The complete removal of the development, including access tracks and ancillary infrastructure, as part of the decommissioning and restoration process is the preferred approach of this Council unless a better alternative (taking account of all relevant environmental, social and economic issues) can otherwise be demonstrated by the Applicant. Although potentially seeking a permanent consent, the Planning Authority still consider a financial guarantee would be necessary to secure decommissioning, restoration and aftercare on the site should the Applicant / Developer fail to do so and the environmental risks to the site if a development of such a nature is left on site.

Planning Monitoring Officer

The Council promotes the use of a Planning Monitoring Officer (PMO) on all major infrastructure developments. The PMO is appointed by the Council to assist in the assessment of detailed environmental planning conditions and to monitor and report on the construction works. The Council asks that developers fund the cost of the PMO and that this is secured by a Section 75 legal agreement. The benefits of the PMO use include more robust discharge of planning conditions, communities having greater certainty that proper monitoring is taking place and the developer is doing what they said they would do, and ultimately it provides an independent overview that can be relied upon during the construction phase and afterwards by the Council and the developer.

The use of the PMO need not necessarily be an integral part of the EIA Report, however, the Council's approach should be given consideration as part of the wider suite of monitoring and environmental best practice considered by the EIA Report.

Closing Comments

The Planning Authority note that much reference to Kiers Hill wind farm is made and there does appear to be a desire to link into, and attempt to address the issues raised in the decision by Scottish Ministers in that case. Whilst it would be reasonable to discuss / demonstrate how the Applicant has sought to overcome the previous issues associated with the previously proposed Kiers Hill wind farm, the Planning Authority would caution against too much emphasis on the previous scheme. Any new proposed scheme is a different development and impacts found in respect of the previous, different development, would not necessarily be similar to issues which could arise in respect of any new proposed development. The new application would be assessed based on its merits and the environmental impacts associated with that development irrespective of the findings of a previous assessment of a different development.

The Applicant is advised to ensure that all the requirements of the up to date regulations and guidance documentation is complied with in undertaking the EIA and subsequent compilation and submission of the EIA Report. The Applicant is advised to contact the relevant consultees to seek their views/input into the various chapters to ensure all matters raised are adequately dealt with and based on as up to date a position as possible.

Yours faithfully

Graham Mitchell
Interim Team Leader

Appendix 1 – suggested additional consultees

East Ayrshire Council Access Officer;

Scottish Power Energy Networks;

Scotland Gas Networks;

The Coal Authority;

Ayrshire Roads Alliance;

River Ayr District Salmon Fishery Board;

River Doon Salmon Fisheries Board;

Ayrshire Rivers Trust;

Scottish Wildlife Trust, and

Local Community Councils.

Place Directorate

Assistant Director: Louise Reid
Planning Service, County Buildings, Wellington Square, Ayr, KA7 1DR
Tel: REDACTED
Email: alastair.mcgibbon@south-ayrshire.gov.uk
Our Ref: Sclenteuch
Your Ref: ECU00003318
Date: 8 October 2021

Carolanne Brown
Energy Consents Unit
5 Atlantic Quay
150 Broomielaw
Glasgow
G2 8LU
By email

Dear Carolanne,

	The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 EIA Scoping Report (August 2021)
SITE ADDRESS	**Proposed Sclenteuch Wind Farm, located north east of Straiton, South Ayrshire and west of Waterside, East Ayrshire**
PROPOSAL:	**Construction and operation of Sclenteuch Windfarm comprising approximately 9 wind turbines to tip height of 200m (Application to be submitted to ECU under S36 of the Electricity Act 1989)**

Thank you for your email of 1st September 2021 inviting South Ayrshire Council's response as a consultee to the scoping opinion received by Scottish Ministers from Natural Power on behalf of RES. I acknowledge with gratitude your agreement to extend the period for issuing our Opinion. In keeping with the breadth of environmental topics acknowledged within the applicant's Scoping Report, South Ayrshire Council has consulted internally with various departments whose respective remits pertain to those topics. The various responses to that intra council consultation are contained in the enclosed Annex and to avoid duplication their collective content forms an integral part of South Ayrshire Council's consultation response. Responses have yet to be received from the Ayrshire Roads Alliance, West of Scotland Archaeology Service (WoSAS) and the Council's Biodiversity Officer; however, I can confirm that these shall be forwarded on if/when available.

In addition to the observations and suggestions regarding scope and methodology contained in the Annex, South Ayrshire Council would particularly like to bring to the applicant and ECU's attention the publication of the revised South Ayrshire Landscape Wind Capacity Study. The updated version is dated August 2018 and is available on the Council's website. Accordingly, we would request that the assessment within the LVIA chapter of the EIA Report addresses and references the relevant findings of the 2018 Study amongst the sources it draws from, and that any mitigation/design response to the same is clearly articulated.

I trust the feedback to be of assistance and note that notwithstanding the foregoing and attached, South Ayrshire Council's response at this juncture is confined to the technical parameters of the sufficiency of scope as regards EIA – and is strictly without prejudice to the authority's future partial consideration as to the actual merits of the proposal of the proposal upon its anticipated consultation, in due course, at S36 application stage.

Yours faithfully

Mr Alastair McGibbon
Supervisory Planner, Priority Projects

ANNEX

Carol Anderson Landscape Consultant – Landscape and Visual for the Council

The Scoping Report dated 24th August 2021 sets out the methodology and scope of the Landscape and Visual Impact Assessment (LVIA). We are in agreement with the methodology to be adopted for the LVIA and with the Study Area being defined as 45km from the proposal.

The proposed development site largely lies in an area of forest. Detailed consideration should be given to the landscape and visual effects of felling and restocking proposals (both adverse and beneficial) in the LVIA and mitigation and landscape enhancement should be optimised in the design of any Wind Farm Forest Plan and/or compensatory planting. Proposed forest felling areas should be shown in relevant visualisations from nearby LVIA viewpoints.

In respect of valued landscapes, we have the following comments:

- The Water of Girvan Valley Local Landscape Area (LLA) will replace the Scenic Area designation in South Ayrshire and effects on the character and qualities of this designated area should be assessed in the LVIA.

- We disagree that the Merrick Wild Land Area (WLA) should be scoped out of the assessment (Scoping Report, paragraph 5.4.8). While the proposal would be seen further away than the operational Dersalloch wind farm, the turbines would be substantially larger and lit at night. An assessment should be undertaken using the NatureScot *Assessing Impacts on Wild Land Areas – Technical Guidance* (October 2020). Particular focus should be on the potential effects of turbine lighting on the WLA and we would wish to see a night-time visualisation from Viewpoint 14 from Cornish Hill, with the cumulative effects of lighting associated with the Clauchrie, Craiginmoddie and Carrick wind farms also considered.

- We note that no conclusion is reached in paragraph 5.4.10 of the Scoping Report as to whether, or how, potential effects on the Galloway Dark Sky Park will be assessment in the LVIA. Confirmation on the proposed approach is required from the applicant.

A detailed ZTV should be provided in the EIA-R based on an OS 1:50,000 scale map base within 15km of the proposal to allow more accurate appraisal of potential visibility. The representative viewpoints listed in Table 5.1 are acceptable to the Council.

We agree with the proposed approach to focus the cumulative landscape and visual assessment (CLVIA) on wind farms lying within 25km of the proposal. The list of wind farms set out in Table 5.2 appears to be up to date (we note that Table 3.1 omits Craiginmoddie and is not up to date in the status of other wind farms). We would wish to see the Carrick wind farm proposal included in the CLVIA as it is imminently due to be submitted as an application. Other proposed wind farm developments to be considered in the cumulative LVIA should be confirmed with South Ayrshire Council once an assessment cut-off date has been established.

ACCON UK Ltd Noise Consultants

ACCON have reviewed the noise section of the scoping report. The proposed methodology is in line with what ACCON would expect from the noise consultants. ETSU-R-97 and IOA Good Practice guide are referenced in relation to operational wind turbine noise. Various aspects of the proposed assessment have been set out, such as how baseline noise data will be obtained and how the operational/construction phases will be assessed. More detail is provided below.

12.1 Introduction
Paragraph 12.1.1 provides a brief explanation that the noise assessment will assess construction noise and operational noise from the Proposed Development.

12.2 Legislation, Policy and Guidance
Paragraph 12.2.1 identifies ETSU-R-97 and the IOA Good Practice Guide (IOA GPG) as the main guidance for assessing operational noise from the Proposed Development. Planning Advice Noise 1/2011 is also mentioned.

Paragraph 12.2 identifies BS 5228-1:2009 Code of Practice for Noise and Vibration Control on Construction sites – Part-1: Noise for the assessment of construction noise.

Paragraph 12.3 identifies BS 5228-2:2009 Code of Practice for Noise and Vibration Control on Construction sites – Part-2: Vibration for the assessment of construction vibration.

Section 12.2 identifies the appropriate guidance for assessment purposes. However, it should include 'Wind Turbine Development: Submission Guidance Note' (SGN) issued by South Ayrshire Council Environmental Health should also be considered in relation to the operational noise assessment in the Environmental Statement.

12.3 Proposed Scope of Assessment

Paragraph 12.3.1 states that '*the assessment will consider the potential effects associated with construction and the operation of the Proposed Development*'**.**

Section 12.3 states that the operational noise assessment will be carried out using broadband noise levels with penalties applied for tonality. The reason for this approach is not described in the scoping report, however it is mentioned that further reasoning for this approach will be provided as part of the EIA.

Paragraph 12.3.3 states that cumulative operational noise will be considered. The Proposed Development will be assessed in combination with the nearby operational Dersalloch Wind Farm. As Dersalloch Wind Farm is currently operational it could in theory be permitted to generate noise immissions equal to its consented noise limits, at noise sensitive receptors. In reality the windfarm may not have the capacity to generate noise up to its consented limits. Therefore, it is explained that a scaling factor will be applied to noise immissions from Dersalloch Wind Farm. The scaling factor will be a correction added to the predicted noise levels from Dersalloch. A correction of +3 dB is suggested, which should be agreed with the Local Planning Authority before the assessment is undertaken.

Paragraph 12.3.4 states that '*noise limits for use in the cumulative assessment shall be based on baseline data measured by RES in 2012, except where the noise levels assumed for the operational Dersalloch Wind Farm alone would exceed these limits*'. Otherwise, conditioned noise limits will be used, or an increased lower ETSU-R-97 limit. It is suggested that upper '*daytime lower limit of 40 dB(A) is used where necessary in the cumulative assessment due to increased planning merit of the cumulative development'*

Paragraph 12.3.5 states that construction noise including construction traffic effects will be assessed at the nearest residential properties. Vibration will also be assessed.

The proposed scope sets out an appropriate approach. It also correctly highlights the requirements for discussion with the LPA regarding a correction margin for Dersalloch predicted noise levels when considering the cumulative effects of operational noise.

Section 12.4 discusses baseline conditions. Noise survey results from 2012 will be utilised. Paragraph 12.4.2 states that '*results of this survey provide a comprehensive description of the existing baseline conditions'.* Paragraph 12.4.3 states that the area has not changed since 2012 therefore it is not proposed to undertake another noise survey.

Section 12.5 discusses potential mitigation. Paragraphs 12.5.1 to 12.5.4 set out the standard approach to mitigation for wind turbine developments as suggested in ETSU-R-97 and IOA GPG.

12.5 Focussed Questions

Q1: Do the consultees agree with the proposed assessment methodology? Yes.

Q2: Do the consultees agree with the use of the baseline noise data gathered in 2012, and that it is not necessary to undertake a further survey? Although the previous noise survey was undertaken in 2012 it is unlikely that baseline noise conditions would have changed significantly to warrant a further noise survey. However, before we can agree to use of the 2012 data, the applicant should explain clear how they will ensure wind shear effects are taken into account when deriving the noise limits given the requirement to relate background noise measurement to hub height wind speeds. Proposed tip heights for Sclenteuch are up to 200 m, whereas Dersalloch tip heights are 115 m to 125 m.

Q3: Do the consultees agree that, where significant headroom exists between the predicted noise levels and conditioned noise limits for Dersalloch Wind Farm, a margin of 3dB is appropriate? A margin of +3 dB is appropriate. This would ensure uncertainty in the noise predictions are taken into account for the cumulative assessment.

Q4: Do the consultees agree with the use of conditioned noise limits for Dersalloch Wind Farm as the cumulative noise limit where necessary in the cumulative assessment? Yes, we would prefer to see cumulative limits based on the conditioned noise limits for Dersalloch Wind Farm.

Q5: Do the consultees agree that a higher lower limit can be used where necessary in the cumulative assessment due to the increased planning merit of the cumulative development? A higher lower limit of up to 40 dB(A) may be justifiable based on increased cumulative generating capacity. However, South Ayrshire Council would request that they are consulted further before agreeing to an increased limit, should the applicant consider the possibility of an increased limit necessary.

South Ayrshire Council Environmental Health

It is noted that the Scoping Report - Sclenteuch Wind Farm, RES of 24 August 2021 has no section dealing with Private Water Supplies.

There are some Private Water Supplies (PWS) in the area, out with the marked boundary, but which take their abstractions from catchment areas, within the marked boundary. Glenhead Cottage takes private water supply from the Sclenteuch Farm supply SAY380, Sclenteuch and Hazel Lodge are on mains feed.

Gass Farm, Gass Farm Cottage and Glentaggan Bungalow are on PWS but are not hydrologically connected as the catchment is on the other side of the road from the proposed development.

South Ayrshire Council Access Officer

Having read through the Sclenteuch Wind Farm scoping report, I'm rather disappointed at the low level of content relating to public access.

South Ayrshire, especially in rural areas, is an important tourist and holiday destination. It is very popular for walking, cycling and horse riding; with the countryside around Straiton especially attractive.The financial contribution these visitors bring to the areas is a great support to the fragile rural economies.

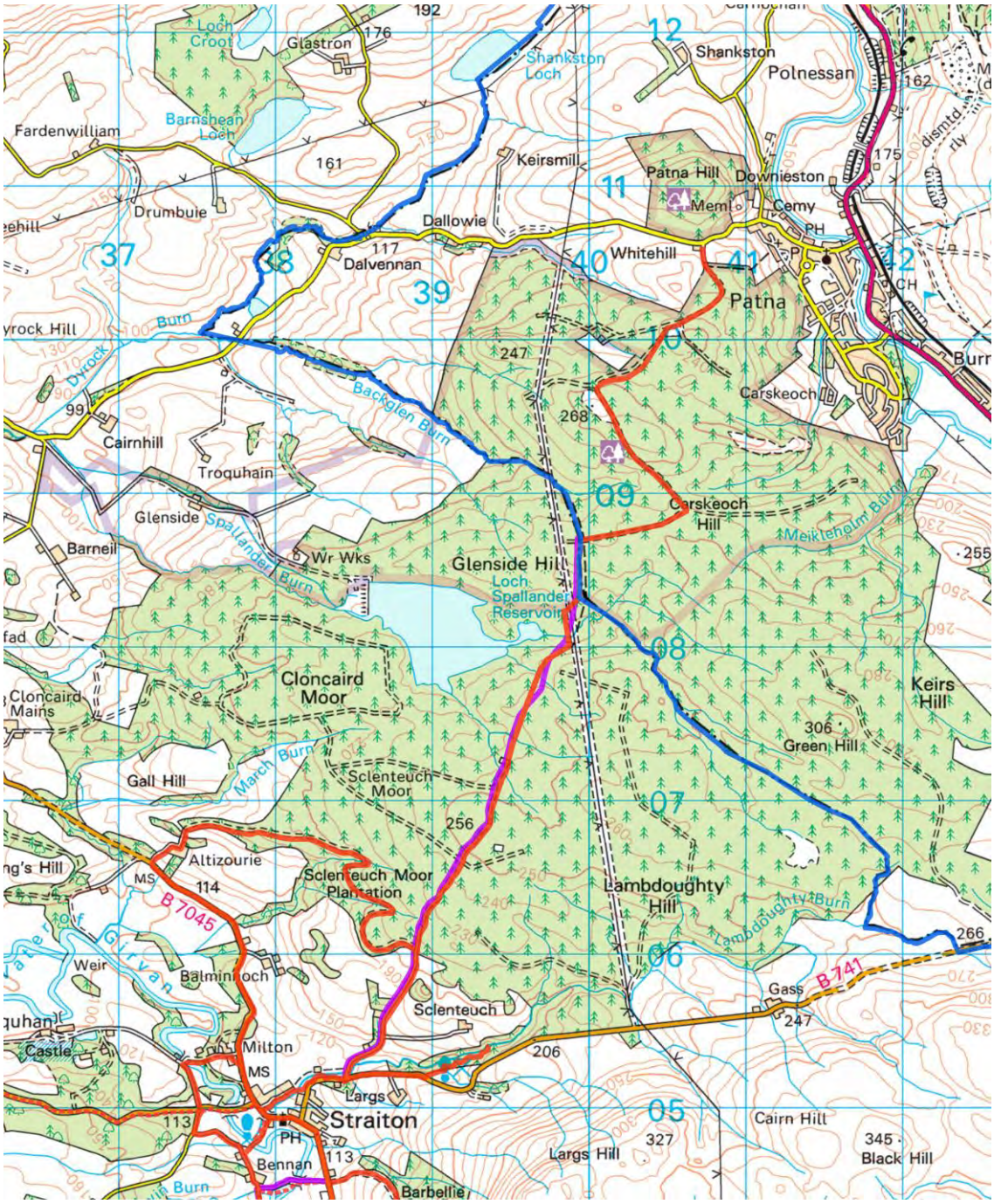
In the Socio-Economic section of the report, it asks the question: Do you agree that the proposed approach with respect to the socio-economic assessment is appropriate?
My answer is: No, there should be much more weight given to acknowledging the great opportunity that the windfarm could offer to tourism, by improving/ increasing the off-road recreational facilities for walking, cycling and horse riding. Actions to incorporate public access into the site should be included.

The Traffic and Transport section of the report states that, once operational, there will be minimal vehicular traffic within the site. Therefore, the site is suitable for public access.

The area around Straiton has several core paths and rights of way (see plan, below – rights of way indicated with purple line/ core paths & local paths with a red line)), to which the windfarm site could be linked to extend this network of public routes.

There is a right of way (ref. SKC11)/ local path which runs through the western corner of the site. There is an ideal opportunity to connect the tracks/ access routes which may be constructed within the site to this route and the wider paths network.

It would be greatly appreciated if the developer would give full consideration to my above comments.



South Ayrshire Council Heritage Officer

I am fairly content with the scope of the EIA and the methodology. However, an additional viewpoint from within Straiton Conservation Area would assist in understanding the full extent of the impact of the proposed wind farm on this area of historic importance.

Ayrshire Rivers Trust
working to improve Ayrshire's rivers and lochs

Carolanne Brown
Energy Consents
Scottish Government
4th Floor
5 Atlantic Quay
150 Broomielaw
Glasgow G28LU

Ayrshire Rivers Trust
Braeside
Burnbrae Lodge
Mauchline
KA5 5HE

22nd September 2021

Dear Carolanne,

Re: ECU00003318 Sclenteuch Windfarm Scoping Report Response

On behalf of the Ayrshire Rivers Trust (ART), the River Doon District Salmon Fishery Board and the River Girvan District Salmon Fishery Board we would like to make the following comments on the above Scoping Report. Our comments relate only to impacts on the water environment and riparian habitat and take no account of other potential impacts. The proposed wind farm development has the potential to impact on the water environment due to its close proximity to the River Doon and River Girvan. We therefore ask you consider the following comments.

In general, the proposed development should have the appropriate risk assessments, relevant monitoring programmes and a suitable mitigation strategy in place to protect fish and fisheries before any onsite work commences.

We request the impact assessment should assess the following potential effects from the site preparation and construction and operational activities on watercourses and fish populations:

- Watercourse crossing installation/upgrading
- Obstruction to fish migration
- Road Construction/upgrading
- Forest Felling and subsequent effects of this activity e.g. acidification of watercourses, rates of surface drainage run-off, sediment-laden surface drainage water, input of hydrocarbons
- Construction/operation activities - increased silt loading to watercourses. Potential impacts from soil stripping, track construction and vehicle/plant movements, dewatering on receptor watercourses
- abstraction of water from watercourses, cable laying, hydrological regime changes, excavation of borrow pits and turbine foundations

Consequently, it is important to undertake baseline fish population, macroinvertebrate and Freshwater Pearl Mussel surveys to inform the EIA. Fish habitat surveys alone do not detail what fish species are present or at what density. To fully understand the impacts the development may potentially have on the ecology of the receptor watercourses and present a contemporary reflection of the current species, a full electrofishing survey should be undertaken in order to detail the distribution and abundance of the fish populations within and downstream of the development. Only this would provide a robust baseline to inform the EIA. Surveys should be undertaken to Scottish Fisheries Co-Ordination Centre (SFCC) standards and designed in accordance with Marine Scotland Science guidance. https://www.gov.scot/publications/monitoring-watercourses-in-relation-to-onshore-wind-farm-developments-generic-monitoring-programme/

We note fish and FWPM surveys are planned but no mention of macroinvertebrate surveys – these should be added for the ecological assessment as per the Marine Scotland Science guidance noted above.

ART would welcome the opportunity to provide comments and assist with the proposed baseline survey methodology and survey site locations for fish, macroinvertebrates and FWPM's.

Do consultees agree with the list of receptors and impacts to be included within the EIA Report?

We note water voles have been scoped out as no signs of water vole were found within the watercourse study area. ART occasionally encounter live water voles within the watercourse study area whilst undertaking fish surveys. We therefore request water voles are not scoped out as precaution due to their rarity within the area.

Forestry

The felling of forestry plantation and ground preparation phase has the potential to severely degrade or destroy watercourses. We also have concerns with nutrient input and acidification of watercourses as a result of these activities. Therefore, we stress that adequate robust planning and mitigation measures are produced which protect all watercourse and fish populations including the small burns within the site and the larger receptor watercourses downstream. We would be happy to comment on the CEMP and proposed site-specific measures. We would also be happy to comment on replanting schemes that affect watercourses as the correct riparian buffer strips with broadleaf planting are essential to protect future fish populations in light of future climate change predictions and increasing river temperatures. The opportunity to enhance these important headwaters with riparian woodland should not be missed.

Finally, we refer you to Fisheries Management Scotland advice on terrestrial windfarms issued to District Salmon Fishery Boards and Fishery Trusts and request you fully consider the guidelines in relation to this development and add it to the Legislation, Policy and Guidance section. http://fms.scot/wp-content/uploads/2012/04/Advice-on-Terrestrial-Windfarm-Planning-Process.pdf

We hope these comments are helpful. Should you require further information or clarification of any points, please don't hesitate to contact the undersigned.

Yours sincerely

REDACTED

Muir Glendinning
Fisheries Biologist

Patron Her Majesty The Queen

The British Horse Society Scotland
Suite A3
Stirling Agricultural Centre
Stirling FK9 4RN

Email Helene.Mauchlen@bhs.org.uk
Website www.bhs.org/scotland
Tel 02476 840727
Mob REDACT

Fulfilling your passion for horses

Energy Consents Unit
Scottish Government
5 Atlantic Quay 150
Broomielaw
Glasgow G2 8LU

By email to:
Econsents_admin@gov.scot
Carolanne.Brown@gov.scot

06 September 2021

Dear Sir/Madam

ELECTRICITY ACT 1989
THE ELECTRICITY WORKS (ENVIRONMENTAL IMPACT ASSESSMENT) (SCOTLAND) REGULATIONS 2017

REQUEST FOR SCOPING OPINION FOR PROPOSED SECTION 36 APPLICATION FOR SCLENTEUCH WIND FARM

I refer to the above scoping opinion request for the proposed Sclenteuch Wind Farm, in the planning authority areas of East Ayrshire Council and South Ayrshire Council.

The British Horse Society (BHS) is always pleased to be consulted on transport, planning and development matters and where possible or necessary we are able to engage local riders to get a locally based response. Thank you very much for consulting with us, horses are important and good for people so their safety and capacity to access safe off road hacking is a key consideration in terms of their welfare and the wellbeing of their riders and those who look after them.

A project, like the one you are carrying out is an excellent opportunity to improve connections in a community and hopefully resolve any problems in terms of countryside access, transport and travel.

The BHS is here to help, so please do not consider this response the final word, we hope to work with you on an on-going basis to ensure horses and horse riders get as good a deal as they can out of any proposed improvements, so please do not hesitate to contact us in the future.

The Importance of Off-Road Riding
Scotland's equestrian industry is important with the horse being a major rural economic driver, recent joint research between SRUC and BHS showed:

Current trends in the sector point to a continued increase in horse numbers and riding activity in all geographical areas of Scotland and across a wide cross section of society. The expenditure on direct upkeep averages £3,105 per horse per annum.

This report also showed:

A concern for all riders, including tourists, is diminishing access to safe off-road riding. Most riding accidents happen on minor roads in the countryside. With increasing numbers of horses and riders requiring access to the countryside, more formal access to off-road riding will be a priority in areas considered of higher risk.

The full report can be accessed at:
http://www.sruc.ac.uk/downloads/file/2391/2015_scoping_study_on_the_equine_industry_in_scotland

Scotland has a duty to get horse riders off busy roads; few riders access busy roads by choice (and the horse has as much right to be on the public highway as cars, bikes and pedestrians) - but they often have no choice as that is the only way they can access their safe off road hacking.

I can also refer you to:
http://www.rospa.com/road-safety/advice/horse-riders

Equestrian road users are vulnerable - that means they are more likely to be involved in a road accident and also more likely to suffer the worst consequences.

Horses and their riders (as well as carriage drivers) are vulnerable on the road network. A collision between a horse and a vehicle can have life threatening consequences for the horse, rider and those in a vehicle. There is evidence to suggest that the number of road traffic collisions involving horses is underreported in casualty data.

Horse riding is more prevalent (particularly on roads) in certain parts of the country. Rural areas have larger numbers of horse riders, who make a significant contribution to the rural economy. Yet according to Road Safety Scotland 70% of road accidents happen on country roads. (http://dontriskit.info/country-roads/view-the-campaign)

The BHS expects developers to work with representatives of the local horse riding community to understand their road safety and countryside access concerns and facilitate engagement with other partners and consider whether any road safety interventions should be introduced, where there are significant numbers of horse riders and/or road traffic collisions involving horses.

Under the Land Reform (Scotland) Act 2003, horse-riders and carriage drivers enjoy a right of access to most land in Scotland, provided that they behave responsibly. Land managers in turn are obliged to respect equestrian access rights and take proper account of the right of responsible access in managing their land. The Scottish Outdoor Access Code gives guidance on how the requirements to behave responsibly can be met. Please refer to:
www.outdooraccess-scotland.com

This access legislation, which is over a decade old now gives horse riders the same rights of responsible access as walkers and cyclists. It is vital that any off road tracks or non-motorised user's tracks or paths are multi-use catering for all including horse riders and carriage drivers.

Active Travel and Suitable infrastructure
Whilst the active travel movement does not consider equestrian travel to be a form of active travel there are many people for whom riding is an attractive mode of travel whether that be for travel purposes or leisure purposes, and the delivery of Active Travel should not discourage this, just as it should not discourage the use of micro-scooters, roller blades, skateboards and other similar modes of travel. In urban areas, many riding horses are kept within the 10 mile journey distance

and they must not be disadvantaged by new facilities that may be put in place for the cyclists. Level crossings which are currently used by equestrians should not be replaced by alternatives which would preclude the use by equestrians, for example, a footbridge. Similarly, other infrastructure like gates, bridges, cattle grids and slippery surfaces should all be installed with equestrians in mind. Access control must always be the least restrictive option.

The British Horse Society (BHS) represents the interests of the 3.4 million people in the UK who ride or who drive horse-drawn vehicles. With the membership of its Affiliated Riding Clubs and Bridleway Groups, the BHS is the largest and most influential equestrian charity in the UK. The BHS is committed to promoting the interests of all equestrians and the welfare of horses and ponies through education and training.

Please see attached an information sheet on equestrian access.

https://www.pathsforall.org.uk/resource/outdoor-access-design-guide

With over 70k equines in Scotland, equestrianism is worth £650 million to the Scottish economy annually with the Scottish Racing industry contributing £300 million and the rest of the industry generating £355 million according to recent research (Developing Benchmarks & Trends to Measure Equestrian Activity in Scotland - A report produced by the British Equestrian Trade Association August 2019 And Scottish Racing Annual Review and 2019 Outlook)

I trust that the above information is of assistance.

REDACTED

HELENE MAUCHLEN
SCOTTISH NATIONAL MANAGER
THE BRITISH HORSE SOCIETY

BT - Consultation Response

From: radionetworkprotection@bt.com
Sent: 21 September 2021 09:50
To: Econsents Admin; Brown C (Carolanne)
Cc: radionetworkprotection@bt.com
Subject: Request for Scoping Opinion for Sclenteuch Wind Farm - WID11636T1-T9 ECU00003318

OUR REF; WID11636T1-T9

Thank you for your email dated 01/09/21 Ref **ECU00003318**.

We have studied this Windfarm proposal with respect to EMC and related problems to BT point-to-point microwave radio links.
The conclusion is that the proposal for 9 Turbine Locations as per Figure 3.2 should not cause interference to BT's current and presently planned radio network.

Please direct all queries to radionetworkprotection@bt.com

Regards
RED
ACTE

Debra Baldwin
Radio Planner
Networks - Engineering Services Radio Planning

T: +44 331 6241096
M: REDACTED

BT BEYOND LIMITS

Defence Infrastructure Organisation

Teena Oulaghan
Ministry of Defence
Safeguarding Department
St George's House
DIO Headquarters
DMS Whittington
Lichfield
Staffordshire
WS14 9PY

Carolanne Brown
Energy Consents Unit,
Scottish Government,
4th Floor,
5 Atlantic Quay,
150 Broomielaw,
Glasgow.
G2 8LU

MOD Telephone: REDACTED
E-mail: teena.oulaghan100@mod.gov.uk

Application Ref: ECU00003318
Our Reference: DIO10050801

20 September 2021

Dear Carolanne,

Site Name Sclenteuch Wind Farm.

Site Address Nr Dalmellington, East Ayrshire, Scotland.

Proposal Electricity Act 1989 The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017. Request for Scoping Opinion for Proposed Section 36 Application for Sclenteuch Wind Farm.

Thank you for consulting the Ministry of Defence (MOD) on the above request for a Scoping Opinion for the proposed construction and operation of Bunloinn wind farm which was received by our office on 01st September 2021.

I am writing to inform you that the MOD has concerns about this proposed development.

We have assessed this proposal on the basis that there will be 9 turbines at 200.00 metres in height from ground level to blade tip and located at the grid references detailed in the table below:

Turbine	Easting	Northing
1	240576	606715
2	240428	607711
3	240944	607191
4	241423	606714
5	240821	608168
6	241267	607731
7	241702	607293
8	242048	606784
9	242596	607086

It has been identified that this development will have the following impacts upon defence operations:

Military Low Flying Training

The airspace over the UK land mass is used to provide the UK Military Low Flying System to deliver essential military low flying training. The proposed development will occupy Low Flying Area 14 within which military fixed wing aircraft are permitted to fly down to 250 feet (76.2 metres) above terrain features. The development proposed will cause a potential obstruction hazard to these military low flying training activities. To address this impact, it would be necessary for the development to be fitted with aviation safety lighting. Therefore, in the interests of air safety, the MOD would request that the development be fitted with MOD accredited aviation safety lighting in accordance with the requirements of the Air Navigation Order 2016.

MOD Safeguarding wishes to be consulted and notified about the progression of this proposal and any subsequent application(s)that may be submitted relating to it to verify that it will not adversely affect defence interests.

I trust this adequately explains our position on this matter. Further information about the effects of wind turbines on MOD interests can be obtained from the following website:

https://www.gov.uk/government/publications/wind-farms-ministry-of-defence-safeguarding

Yours sincerely

REDACTED

Teena Oulaghan
Safeguarding Manager

Edinburgh Airport - Consultation Response

From: Safe Guarding <safeguarding@edinburghairport.com>
Sent: 07 September 2021 15:10
To: Econsents Admin
Cc: Safe Guarding
Subject: Sclenteuch - ECU00003318

Good afternoon,

In respect of the above, I can confirm the location of this development falls out with our Aerodrome Safeguarding zone for Edinburgh Airport therefore we have no objection/comment.

With best regards,
RED
ACT

Claire Brown | Aerodrome Safeguarding & Compliance Officer

Edinburgh Airport
Where Scotland meets the world

Edge | Empower | Expertise | Energy | Execute | External focus
Edinburgh Airport Limited
Room 3/54 Terminal Building (2nd Floor)
Edinburgh
EH12 9DN Scotland

t: REDACTED m: REDACTED
w: edinburghairport.com t: twitter.com/edi_airport

GLASGOW AIRPORT
PROUD TO SERVE SCOTLAND

FAO Carolanne Brown
Energy Consents Unit
By Email

20th September 2021

Dear Carolanne Brown

Re: REQUEST FOR SCOPING OPINION FOR PROPOSED SECTION 36 APPLICATION FOR SCLENTEUCH WIND FARM
Our reference: GLA4039

I refer to your request for scoping opinion received in this office on 1st September 2021.

The scoping report submitted has been examined from an aerodrome safeguarding perspective and we would make the following observations:

- The site is located outwith obstacle limitation surfaces and radar consultation area for Glasgow Airport;
- It is within the Instrument Flight Procedure area for Glasgow Airport and may require detailed assessment at the planning stage.

Our position with regard to this proposal will only be confirmed once the turbine details are finalized and we have been consulted on a full planning application. At that time we will carry out a full radar impact assessment and will consider our position in light of, inter alia, operational impact and cumulative effects.

Yours sincerely
REDACTED

Kirsteen MacDonald

Safeguarding Manager
Glasgow Airport
REDACTED
Kirsteen.MacDonald@glasgowairport.com

Glasgow Prestwick Airport (GPA) Ltd - Consultation Response

From: Steve Thomson <sthomson@glasgowprestwick.com>
Sent: 17 September 2021 10:08
To: Econsents Admin; Brown C (Carolanne)
Cc: Windfarm; Safeguarding
Subject: Request for Scoping Opinion for Sclenteuch Wind Farm - formal response from Glasgow Prestwick Airport (GPA) Ltd - 17th Sept 2021

Follow Up Flag: Follow up
Flag Status: Flagged

Carolanne,

1. On behalf of Glasgow Prestwick Airport (GPA) Ltd – we have reviewed the scoping consultation documents available on the Energy Consents Unit portal for the proposed Sclenteuch Windfarm (**ECU00003318**).

2. GPA respond here to the Environmental Impact Assessment (EIA) Scoping Report purely on aviation matters.

3. The proposed scope of the Environmental Impact Assessment (EIA) and Aviation Assessment seems appropriate and GPA would welcome early engagement with the Developer to address the aviation matters detailed below.

4. GPA note there will be a detailed design to address the aviation warning obstruction lighting scheme as required by UK CAA for obstacles greater than 150m in height above local ground level in accordance with Article 222 of the UK Air Navigation Order (ANO) 2016 and in particular how the Developer will address aviation night lighting in the vicinity of a dark sky area.

   While solely a matter for the CAA to consider, should the final aviation lighting scheme consider the use of Aircraft Detection Lighting System (ADLS) dependent upon Electronic Conspicuity (EC) Equipment(s) and be part of any alternate proposed lighting scheme, GPA respectfully request to be consulted with.

5. Preliminary Radar Line of Sight (LOS) analysis at the proposed maximum turbine tip heights of 200m for the Sclenteuch Windfarm – indicates that there is the potential that all turbines would be visible to the GPA primary radars.

   It will be necessary for further detailed radar modelling assessments/flight trials be undertaken to confirm the exact number of turbines visible to GPA primary radars – and whether the clutter from the visible turbines can be mitigated for the lifetime of the windfarm via an appropriate radar technology solution and associated mitigation agreement.

6. Furthermore, given the proposed maximum tip height (200m) of the turbines, we also request that the Developer engages with GPA to establish fully if the proposed development is likely to have any impact on our published Instrument Flight Procedures (IFP's) – both conventional and RNAV/RNP published IFP's as published in the UK Aeronautical Information Publication (AIP) for GPA (EGPK).

7. A preliminary ATC Operational Assessment indicates that this proposed development lies on the edge of Prestwick Airport's Controlled Airspace and in an area where GPA provide an air traffic service, and as such if some (or all) of the turbines are confirmed visible to our primary radar then mitigation will be required.

8. In line with CAP764 – '*Policy & Guideline on Wind Farms*', GPA would welcome early dialogue and engagement with the Developer to address the aviation concerns raised above and to allow a full ATC Operational Impact Assessment to be conducted against the proposed development, together with a

Technical Safeguarding Assessment against all Communications, Navigation and Surveillance (CNS) equipment(s) installed at GPA.

9. Consequently should this proposal come forward as a full Section 36 Planning Application, it is likely that GPA would require to **object** to the development until such times as the aviation safety matters detailed above are appropriately addressed.

With Kind Regards

Steve Thomson

HISTORIC ENVIRONMENT SCOTLAND | ÀRAINNEACHD EACHDRAIDHEIL ALBA

By email: econsents_admin@gov.scot

Carolanne Brown
Case Officer - Energy Consents Unit
Energy Consents Unit

Longmore House
Salisbury Place
Edinburgh
EH9 1SH

Enquiry Line: 0131-668-8716
HMConsultations@hes.scot

Our case ID: 300053762
Your ref: ECU00003318
04 October 2021

Dear Carolanne Brown

The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017
Sclenteuch Wind Farm, East Ayrshire and South Ayrshire
Scoping Report

Thank you for your consultation which we received on 01 September 2021 about the above scoping report. We have reviewed the details in terms of our historic environment interests. This covers world heritage sites, scheduled monuments and their settings, category A-listed buildings and their settings, inventory gardens and designed landscapes, inventory battlefields and historic marine protected areas (HMPAs).

The relevant local authority archaeological and cultural heritage advisors will also be able to offer advice on the scope of the cultural heritage assessment. This may include heritage assets not covered by our interests, such as unscheduled archaeology, and category B- and C-listed buildings.

Proposed Development
We understand that the proposed development comprises up to nine three-bladed horizontal axis wind turbines of up to 200m tip height, located on land, in the area of both East Ayrshire and South Ayrshire councils, near Waterside.

In 2014, our predecessor body, Historic Scotland, commented on the Keirs Hill Wind Farm proposals, located in the same area. They identified a number of potential impacts but did not object to the scheme. The proposals were for 17 turbines with height to tip of 149.5m.

Scope of assessment
The proposed development is unlikely to have direct physical impacts on our interests, as set above. However, it has the potential to have significant adverse impacts on the setting of heritage assets in the vicinity.

The scoping report identifies a search area of 10km to identify impacts. Given the scale of the proposed development, we recommend that the area of search is not finalised until ZTV analysis has been undertaken. This should take into account impacts on heritage

assets inside and outside the ZTV. Assets outside the ZTV can still be affected by the proposed development if turbines appear in sensitive views of the asset itself.

We welcome the reference in the report to our Managing Change guidance note on Setting. Reference should also be made to the EIA Handbook, which sets out best practice guidance for assessing cultural heritage impacts, focussing on impacts on cultural significance.

Paragraph 6.3.8 states that impacts on cultural heritage will be assessed following design freeze. It is important that setting impacts are taken into account before this stage. The only effective mitigation of setting impacts is likely to be through design, so design freeze is often too late for effective mitigation to be identified.

For the earlier proposed schemes in this area, our key interests were on three scheduled monuments, three category A listed buildings, and two GDLs. Details of these are given below:

- Waterside, Dalmellington Ironworks (SM 4345)
- Waterside Bing, iron slag bing, Dalmellington Ironworks (SM 7544)
- Waterside, miners' villages & mineral railways N of (SM 7863)
- Craigengillan House (LB 18793)
- Craigengillan Stables (LB 18794)
- Blairquhan House (LB 19094)
- Craigengillan (GDL 00111)
- Blairquhan (GDL 00063)

It is likely that these assets will still be important considerations in the design process. Given the increase in height, we cannot rule out significant impacts on other assets, as well, so it is important that this list is not treated as exhaustive.

We recommend that the applicant undertakes an initial assessment of potential impacts at an early stage and consults us once this has been undertaken. This will allow us to agree the assets to be assessed, and the supporting information to be provided, including wirelines and photomontages.

Further information
Guidance about national policy can be found in our 'Managing Change in the Historic Environment' series available online at www.historicenvironment.scot/advice-and-support/planning-and-guidance/legislation-and-guidance/managing-change-in-the-historic-environment-guidance-notes. Technical advice is available on our Technical Conservation website at http://conservation.historic-scotland.gov.uk/.

HISTORIC ENVIRONMENT SCOTLAND | ÀRAINNEACHD EACHDRAIDHEIL ALBA

We hope this is helpful. Please contact us if you have any questions about this response. The officer managing this case is Ruth Cameron, who can be contacted by phone on REDACTED or by email on Ruth.Cameron@hes.scot.

Yours sincerely

Historic Environment Scotland

John Muir Trust - Consultation Response

From: Rosie Simpson <rosie.simpson@johnmuirtrust.org>
Sent: 17 September 2021 09:38
To: Brown C (Carolanne)
Cc: Cecilie Dohm
Subject: RE: Request for Scoping Opinion for Sclenteuch Wind Farm

Dear Carolanne,

Thank you for this reminder of the deadline for comments.

Our only comments on reviewing the Scoping Report and accompanying documents are to request that impacts on the Merrick Wild Land Area to be considered through a Wild Land Area Impact Assessment. The Merrick Wild Land Area is relatively small in scale compared to other Wild Land Areas. It is also isolated. Its smaller size and isolation from other Wild Land Areas mean that, although at approximately 12km away, the visibility extent in the northern part of this Wild Land Area could have a disproportionately bigger impact on the area. We recognise that Dersalloch wind farm is between the proposed development and the Merrick Wild Land Area but for that reason a cumulative impact assessment of both developments on the Wild Land Area (which would be part of the WLA Impact Assessment) seems prudent. We note that this proposal has taken into consideration the concerns raised in respect of the previous Keirs Hill Wind Farm application, for 17 wind turbines.

I hope this is a useful contribution to the Scoping Opinion process.

With best wishes,
Rosie

NATS Safeguarding - Consultation Response

From: NATS Safeguarding <NATSSafeguarding@nats.co.uk>
Sent: 07 September 2021 13:55
To: Econsents Admin
Cc: Brown C (Carolanne)
Subject: RE: Request for Scoping Opinion for Sclenteuch Wind Farm [SG31251]
Attachments: SG31251 Sclenteuch Wind Farm - TOPA (Issue 2).pdf

Our Ref: SG31251

Dear Sir/Madam

We refer to the application above. The proposed development has been examined by our technical safeguarding teams and conflicts with our safeguarding criteria.

Accordingly, NATS (En Route) plc **objects to the proposal**. The reasons for NATS's objection are outlined in the attached report TOPA SG31251.

We would like to take this opportunity to draw your attention to the legal obligation of local authorities to consult NATS before granting planning permission. The obligation to consult arises in respect of certain applications that would affect a technical site operated by or on behalf of NATS (such sites being identified by safeguarding plans that are issued to local planning authorities).

In the event that any recommendations made by NATS are not accepted, local authorities are obliged to follow the relevant directions within Planning Circular 2 2003 - Scottish Planning Series: Town and Country Planning (Safeguarded Aerodromes, Technical Sites and Military Explosives Storage Areas) (Scotland) Direction 2003 or Annex 1 - The Town And Country Planning (Safeguarded Aerodromes, Technical Sites And Military Explosives Storage Areas) Direction 2002.

These directions require that the planning authority notify both NATS and the Civil Aviation Authority ("CAA") of their intention. As this further notification is intended to allow the CAA to consider whether further scrutiny is required, the notification should be provided prior to any granting of permission.

It should also be noted that the failure to consult NATS, or to take into account NATS's comments when determining a planning application, could cause serious safety risks for air traffic.

Should you have any queries, please contact us using the details below.

Yours faithfully

NATS Safeguarding
E: natssafeguarding@nats.co.uk
4000 Parkway, Whiteley,
Fareham, Hants PO15 7FL
www.nats.co.uk

Prepared by:
NATS Safeguarding Office

Unmarked

Technical and Operational Assessment (TOPA)

For Sclenteuch

Wind Farm Development

NATS ref: SG31251

Issue 2

Contents

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Publication History

Issue	Month/Year	Change Requests and summary
1	March 2021	En-route pre-planning Assessment
2	September 2021	Full planning Assessment

Document Use

External use: Yes

Referenced Documents

1. Background

1.1. En-route Consultation

NATS en-route plc is responsible for the safe and expeditious movement in the en-route phase of flight for aircraft operating in controlled airspace in the UK. To undertake this responsibility it has a comprehensive infrastructure of RADAR's, communication systems and navigational aids throughout the UK, all of which could be compromised by the establishment of a wind farm.

In this respect NATS is responsible for safeguarding this infrastructure to ensure its integrity to provide the required services to Air Traffic Control (ATC).

In order to discharge this responsibility NATS is a statutory consultee for all wind farm applications, and as such assesses the potential impact of every proposed development in the UK.

The technical assessment sections of this document define the assessments carried out against the development proposed in section 3.

2. Scope

This report provides NATS En-Route plc's view on the proposed application in respect of the impact upon its own operations and in respect of the application details contained within this report.

Where an impact is also anticipated on users of a shared asset (e.g. a NATS RADAR used by airports or other customers), additional relevant information may be included for information only. While an endeavour is made to give an insight in respect of any impact on other aviation stakeholders, it should be noted that this is outside of NATS' statutory obligations and that any engagement in respect of planning objections or mitigation should be had with the relevant stakeholder, although NATS as the asset owner may assist where possible.

3. Application Details

Renewable Energy Systems Limited submitted a request for a NATS technical and operational assessment (TOPA) for the development at Sclenteuch Wind Farm. It will comprise turbines as detailed in Table 1 and contained within an area as shown in the diagrams contained in Appendix B.

Turbine	Lat	Long	East	North	Hub (m)	Tip (m)
1	55.3286	-4.5146	240576	606715	0	200
2	55.3375	-4.5175	240428	607711	0	200
3	55.3330	-4.5090	240944	607191	0	200
4	55.3288	-4.5012	241423	606714	0	200
5	55.3417	-4.5115	240821	608168	0	200
6	55.3379	-4.5043	241267	607731	0	200
7	55.3341	-4.4972	241702	607293	0	200
8	55.3297	-4.4914	242048	606784	0	200
9	55.3325	-4.4831	242586	607086	0	200

Table 1 – Turbine Details

4. Assessments Required

The proposed development falls within the assessment area of the following systems:

RADAR	Lat	Long	nm	km	Az (deg)	Type
Great Dun Fell Radar	54.6841	-2.4509	80.3	148.7	299.7	CMB
Lowther Hill Radar	55.3778	-3.7530	25.2	46.6	264.4	CMB
Perwinnes Radar	57.2123	-2.1309	137.7	255.0	216.1	CMB
Tiree Radar	56.4556	-6.9230	105.4	195.3	128.5	CMB
Nav	Lat	Long	nm	km	Az (deg)	Type
None						
Comms	Lat	Long	nm	km	Az (deg)	Type
None						

Table 2 – Impacted Infrastructure

4.1. En-route RADAR Technical Assessment

4.1.1. Predicted Impact on Lowther RADAR

Using the theory as described in Appendix A and development specific propagation profile it has been determined that the terrain screening available will not adequately attenuate the signal, and therefore this development is likely to cause false primary plots to be generated. A reduction in the RADAR's probability of detection, for real aircraft, is also anticipated.

4.1.2. En-route operational assessment of RADAR impact

Where an assessment reveals a technical impact on a specific NATS' RADAR, the users of that RADAR are consulted to ascertain whether the anticipated impact is acceptable to their operations or not.

Unit or role	Comment
Prestwick ATC	Unacceptable

Note: The technical impact, as detailed above, has also been passed to non-NATS users of the affected RADAR, this may have included other planning consultees such as the MOD or other airports. Should these users consider the impact to be unacceptable it is expected that they will contact the planning authority directly to raise their concerns.

4.2. En-route Navigational Aid Assessment

4.2.1. Predicted Impact on Navigation Aids

No impact is anticipated on NATS' navigation aids.

4.3. En-route Radio Communication Assessment

4.3.1. Predicted Impact on the Radio Communications Infrastructure

No impact is anticipated on NATS' radio communications infrastructure.

5. Conclusions

5.1. En-route Consultation

The proposed development has been examined by technical and operational safeguarding teams. A technical impact is anticipated, this has been deemed to be **unacceptable**.

Appendix A – Background RADAR Theory

Primary RADAR False Plots

When RADAR transmits a pulse of energy with a power of P_t the power density, P, at a range of r is given by the equation:

$$P = \frac{G_t P_t}{4\pi r^2}$$

Where G_t is the gain of the RADAR's antenna in the direction in question.

If an object at this point in space has a RADAR cross section of σ, this can be treated as if the object re-radiates the pulse with a gain of σ and therefore the power density of the reflected signal at the RADAR is given by the equation:

$$P_a = \frac{\sigma P}{4\pi r^2} = \frac{\sigma G_t P_t}{(4\pi)^2 r^4}$$

The RADAR's ability to collect this power and feed it to its receiver is a function of its antenna's effective area, A_e, and is given by the equation:

$$P_r = P_a A_e = \frac{P_a G_r \lambda^2}{4\pi} = \frac{\sigma G_t G_r \lambda^2 P_t}{(4\pi)^3 r^4}$$

Where G_t is the RADAR antenna's receive gain in the direction of the object and λ is the RADAR's wavelength.

In a real world environment this equation must be augmented to include losses due to a variety of factors both internal to the RADAR system as well as external losses due to terrain and atmospheric absorption.

For simplicity these losses are generally combined in a single variable L.

$$P_r = \frac{\sigma G_t G_r \lambda^2 P_t}{(4\pi)^3 r^4 L}$$

Secondary RADAR Reflections

When modelling the impact on SSR the probability that an indirect signal reflected from a wind turbine has the signal strength to be confused for a real interrogation or reply can determined from a similar equation:

$$P_r = \frac{\sigma G_t G_r \lambda^2 P_t}{(4\pi)^3 r_t^2 r_r^2 L}$$

Where r_t and r_r are the range from RADAR-to-turbine and turbine-to-aircraft respectively. This equation can be rearranged to give the radius from the turbine within which an aircraft must be for reflections to become a problem.

$$r_r = \sqrt{\frac{\lambda^2}{(4\pi)^3}} \sqrt{\frac{\sigma G_t G_r P_t}{r_t^2 P_r L}}$$

Shadowing

When turbines lie directly between a RADAR and an aircraft not only do they have the potential to absorb or deflect, enough power such that the signal is of insufficient level to be detected on arrival.

It is also possible that azimuth determination, whether this done via sliding window or monopulse, can be distorted giving rise to inaccurate position reporting.

Terrain and Propagation Modelling

All terrain and propagation modelling is carried out by a software tool called ICS Telecom (version 11.1.7). All calculations of propagation losses are carried out with ICS Telecom configured to use the ITU-R 526 propagation model.

Appendix B – Diagrams

Figure 1: Proposed development location shown on an airways chart

NatureScot
Scotland's Nature Agency
Buidheann Nàdair na h-Alba

Carolanne Brown
Energy Consents
Directorate for Energy and Climate Change
Scottish Government
5 Atlantic Quay, 150 Broomielaw, Glasgow, G2 8LU
By email: carolanne.brown@gov.scot

30 September 2021

Dear Carolanne,

REQUEST FOR SCOPING OPINION FOR PROPOSED SECTION 36 APPLICATION FOR SCLENTEUCH WIND FARM (YOUR REF: ECU00003318)

Thank you for your consultation dated 11 September 2020 on the scope of the Environmental Impact Assessment (EIA) for the proposed Sclenteuch Wind Farm, South and East Ayrshire.

1. Background

1.1 The proposed development would comprise up to 9 turbines, with tip heights of up to 200m, and associated infrastructure. The proposed application site lies within the South and East Ayrshire Council areas, approximately 2km from Waterside and Patna.

1.2 As referenced in section 8 of the Scoping Report, we have previously provided the applicant's consultants with advice related primarily to proposed approaches to ornithology in emails dated 11 May 2021, 21 May 2019 and 17 December 2018. A copy of the advice provided in May 2021 is included as Annex 2 to this response.

2. General scoping advice

2.1 The applicant should refer to our General pre-application and scoping advice for onshore wind farms. This provides guidance on the issues that developers and their consultants should consider for wind farm developments and includes information on recommended survey methods, sources of further information and guidance, and data presentation. Attention should be given to the full range of advice included in the guidance note. The checklist in Annex 1 of the guidance note sets out our expectations of what should be included in the EIA Report, while Annex 2 provides advice on assessing the effects of turbine lighting on landscape and visual interests and birds.

2.2 The guidance document will be updated over time to reflect any changes to available information and our guidance, so users should ensure they download the most up to date version before use.

2.3 The applicant should also refer to our general guidance on onshore wind farm development and ensure relevant guidance is fully considered when undertaking the EIA Report. All of our current standing advice for planners and developers is also listed here.

3. Key natural heritage interests of national importance

Landscape and Visual Amenity

Merrick Wild Land Area (WLA)

3.1 As recognised in the Scoping Report, the proposal has the potential to be visible from the Merrick Wild Land Area (WLA). The scoping report scopes out the effects on the WLA due to the proposal's location 'behind' Dersalloch wind farm.

3.3 The Zone of Theoretical Visibility (ZTV) provided with the Scoping Report indicates that the turbines would be visible from the northern hills of the WLA. We agree that their location behind Dersalloch wind farm would likely scope out the requirement for a day time WLA assessment. However, we would welcome sight of the photomontages / wirelines from Cornish Hill and other viewpoints to clarify and confirm this, as is it the overall context of the view that is relevant. The submitted ZTV is not clear enough to indicate the theoretical visibility from within the north eastern part of the WLA. This should also be clarified and, if necessary, a further viewpoint should be selected from within this interior. We would be happy to view indicative wirelines and advise further.

3.4 At 200m the turbines will require night time lighting. Lights would be seen at dusk and at night from Cornish Hill as well as from other elevated locations in the northern part of the WLA. Accordingly we advise that a night time WLA assessment is carried out for this proposal using Cornish Hill as a representative night time viewpoint. As above, the detailed ZTV for the north eastern interior and requested indicative wirelines will clarify whether an additional viewpoint should be used to assess night time lighting impacts on the wild land qualities of the WLA. Again, we would be happy to comment further.

Carbon-rich soils, deep peat and priority peatland habitat

3.5 Parts of the site are mapped as Class 1 peat on the Carbon & Peatland Map 2016. Class 1 areas are nationally important carbon-rich soils, deep peat and priority peatland habitat and are likely to be of high conservation value.

3.6 While Scottish Planning Policy identifies such areas as 'areas of significant protection', the location of a proposal in the mapped area does not, in itself, mean that the proposal is unacceptable, or that carbon rich soils, deep peat and priority peatland habitat will be

adversely affected. However, how any significant effects on the qualities of the area can be substantially overcome by siting, design or other mitigation must be demonstrated.

3.7 The Carbon and Peatland Map 2016 is a strategic tool based on historical habitat and peat depth information. It is for the applicant to carry out relevant surveys to provide contemporary, site-specific information on the location of the different peat classes to inform site management.

3.8 We therefore welcome the applicant's proposals to review existing peat depth data and to undertake peat probing to establish the presence and depth of peat within the site. While noting the existence of data for the Kiers Hill proposal, to inform the assessment of impacts and identification of appropriate mitigation we advise that detailed peat surveys of the site (including access routes where necessary), measuring the peat deposit to full depth, should be undertaken in accordance with the Scottish Government's updated 2017 guidance (see http://www.scotland.gov.uk/Topics/Business-Industry/Energy/Energy-sources/19185/17852-1/CSavings/PSG2011). The results should also be used to inform a peat slide assessment and peat management plan. We recommend early engagement with SEPA with regard to excavated peat reuse and disposal.

3.9 The final siting and design of the proposed development (notably turbines 4 and 9 of the current proposed layout) and how this may affect peatland must be fully described and assessed in the EIA Report. How significant effects will be mitigated must also be fully described.

Protected areas

3.10 The Scoping Report notes that the development lies within 10 km of six Sites of Special Scientific Interest.

3.11 As noted in the Scoping Report, the 5 sites designated for habitat features (Dalmellington Moss, Bogton Loch, Ness Glen, Auchalton and Martnaham Loch and Wood) are not hydrologically linked to the Proposed Development and are outwith the Zone of Influence for dust impacts, and are scoped out of the EIA Report. Our advice is that it is unlikely that the proposal will have a significant effect on any of the objectives of designation and the overall integrity of the qualifying interests of the SSSIs, either directly or indirectly.

3.12 As highlighted in the Scoping Report, the access track for the proposed development crosses the River Doon, which is connected to the Loch Doon SSSI. However, as the river crossing is downstream of Loch Doon, we are in agreement that there is unlikely to be any impact on the loch habitat and therefore the objectives of designation and the overall integrity of the area will not be compromised.

3.13 Bogton Loch SSSI lies within 5km of the proposed development site, and is designated for its breeding bird assemblage. As passerine birds form the primary component of the objectives of designation we are satisfied that the development will not have any significant effect on the qualifying interest of the SSSI.

4. Responses to specific questions detailed in the Scoping Report

4.1 Where not covered above, our responses to the specific questions included in the Scoping Report are given in Annex 1.

Concluding remarks

I hope that this response will assist you in your consideration of this scoping request. However, please contact me should you wish to discuss our advice. Please note that while we are supportive of the principle of renewable energy, our advice is given without prejudice to a full and detailed consideration of the impacts of the proposal if it is submitted as a formal application.

Finally, this advice is provided by NatureScot, the operating name of Scottish Natural Heritage.

Yours sincerely,
REDACTED

Siân Williams
Area Officer, Strathclyde & Ayrshire
sian.williams@nature.scot

Annex 1
Responses to specific questions included in the Scoping Report

Landscape and Visual Amenity

Considering the findings in the determination of Keirs Hill Wind Farm application, and the proposed changes to the scheme, do you agree with the overall methodology proposed to assess effects on landscape and visual receptors, including cumulative effects?

We recommend that the assessment also considers the advice and guidance given in the following:

- South Ayrshire Landscape Wind Capacity Study (August 2018)
- East Ayrshire Landscape Wind Capacity Study (June 2018)

For turbines of the height proposed, a 45km study area is appropriate. While we agree that a more detailed study area (anticipated to be within 15-20km of the site in the Scoping Report), will be appropriate in focussing the assessment on potentially significant effects, the applicant should ensure that the detailed study area contains all relevant sensitive receptors likely to have potential for significant effects.

We note that the assessment of landscape and visual effects, including cumulative effects, will be undertaken in accordance with the Guidelines For Landscape & Visual Impact Assessment: Third Edition' (Landscape Institute and IEMA, (2013) ('GLVIA3'), and also draw on other good practice guidance issued by the Landscape Institute and NatureScot. We consider this appropriate.

Do you agree that the proposed list of viewpoint locations is a representative selection of views from receptors most likely to experience significant effects?

The scoping report seems to provide a reasonable spread of viewpoints. However the final list of viewpoints is the responsibility of the applicant's landscape consultant and each should be micro-sited to show the worst case scenario. We reserve the option to request additional viewpoints as the application progresses should we consider it necessary.

We would welcome clear numbering of all turbines on at least one visualisation for each viewpoint. We also suggest that forestry felling is shown in any visualisation from a high level viewpoint that looks down into the site.

We also refer the applicant to our comments in our covering letter in respect of viewpoints and the Merrick WLA.

Do you agree that the wind farms listed in Table 5-2 and shown on Figure 5.5 comprise the cumulative baseline to inform the cumulative assessment?

We agree that the developments shown on Figure 5.5 and listed in Table 5.2 appears to be an accurate representation of existing, consented and application-stage developments within 25km

of the proposed development. However, the he relevant local authorities should be contacted to confirm that this is an up-to-date list of projects.

We note that schemes at scoping stage and which lie near to the Proposed Development, where there is potential for significant effects, will only be included in the cumulative assessment where it is deemed appropriate and when sufficient design information is available in the public domain. In this respect, we advise that Carrick Wind Farm currently at scoping should be included. We also advise that applicant includes any further relevant schemes that are scoped prior to the submission of Sclenteuch.

Do you agree that all relevant landscape or visual receptors have been identified (i.e. those where it is possible that significant effects may occur)?

Yes, on the basis of the information currently available in the Scoping Report.

Are there any other relevant consultees who should be consulted with respect to the LVIA?

Not that we are aware of.

Ecology

Do consultees agree that the EIA should concentrate on those receptors which may be subject to significant effects from the Proposed Development (either directly or indirectly)?
Yes.

Do consultees agree with the list of receptors and impacts to be included within the EIA Report?

While we consider the embedded mitigation measures identified in the Scoping Report to be appropriate, the applicant should also consider the direct and indirect impact any proposed forestry mitigation (as outlined in section 10.5.2 of the Scoping Report) may have for protected species prior to scoping these out of detailed assessment. Where particular species are scoped out of the assessment, this should be fully justified in the EIA Report.

Ornithology

Do consultees agree that the EIA should only concentrate on those features which may be subject to significant effects from the Proposed Development (either directly or indirectly)?
Yes.

Table 8.14 notes the features and potential impacts proposed to be included within the EIA. Do consultees agree with the list of features and impacts to be included within the EIA Report?

Yes, subject to consideration of the detailed information provided in the EIA Report.

Annex 2- previous advice provided re surveys

Claudia,

I have spoken to a couple of colleagues now, so this is a quick email to confirm that we have previously accepted that:

- Only one year of survey would be required if the survey work demonstrated that there has been no significant changes in flight activity levels since 2011/2012. This is most applicable to the breeding season, as the survey work outlined in the method statement means that you have 2 years of non-breeding survey data (non-breeding surveys having also been done in 2018/19 in addition to that done in 2020/21) and one year of breeding season data.
- The scope of survey work outlined at the time was appropriate, although any COVID restrictions may have meant that it would need be extended into 2021.

On examining the documents you have provided:

- The flight activity survey effort in June 2020 is lower than was proposed in the method statement, but other breeding season months meet or exceeded what was proposed.
- Flight activity appears to be low – 8 curlew flights, 2 red kite and 12 goshawk being the only target species flights recorded in the breeding season, and not all within the collision risk area (although we would like to query why the collision risk area has been identified as 275m rather than 500m as outlined in guidance?)
- Other bird surveys have been completed in line with the relevant guidance and we note you propose to repeat these in 2021.

On this basis, another year of breeding season flight survey isn't required.

I hope this is satisfactory. Please get in touch if you require further information.

Best wishes,

Siân

Siân Williams | Operations Officer

Nature Scot | 31 Miller Road, Ayr, KA7 2AX | 01292 294048 | **m:** REDACTED

nature.scot | @nature_scot | *Scotland's Nature Agency* | *Buidheann Nàdair na h-Alba*

RSPB Scotland - Consultation Response

From: Ed Tooth <Ed.Tooth@rspb.org.uk>
Sent: 08 October 2021 14:41
To: Econsents Admin
Subject: Request for Scoping Opinion for Sclenteuch Wind Farm

Dear Carolanne,
ELECTRICITY ACT 1989
THE ELECTRICITY WORKS (ENVIRONMENTAL IMPACT ASSESSMENT) (SCOTLAND) REGULATIONS 2017
REQUEST FOR SCOPING OPINION FOR PROPOSED SECTION 36 APPLICATION FOR SCLENTEUCH WIND FARM
I am just writing ton confirm that RSPB Scotland has no comments to make regarding the above-referenced scoping opinion.
All the best**,**

Ed Tooth
Conservation Officer – Scottish Lowlands and Southern Uplands (Dumfries & Galloway, East Ayrshire, Scottish Borders, South Ayrshire and South Lanarkshire)

Please note that I am currently working from home where mobile signal is very poor. Email is the best way to contact me at this time.

Dumfries and Galloway Office – RSPB, The Old Schoolhouse, Crossmichael, Castle Douglas, DG7 3AP
Mobile REDACTED
rspb.org.uk

SEPA
Scottish Environment Protection Agency
Buidheann Dìon Àrainneachd na h-Alba

Our ref: 2584
Your ref: ECU00003388

If telephoning ask for:
Julie Gerc

29 September 2021

Carolanne Brown
Energy Consents Directorate for Energy and Climate Change
Scottish Government
4th Floor, 5 Atlantic Quay,150 Broomielaw
Glasgow
G2 8LU

By email only to: Econsents_Admin@gov.scot

Dear Madam

Environmental Impact Assessment) (Scotland) Regulations 2017
Planning Application: Sclenteuch Wind farm, approximately 9 turbines and associated infrastructure.
Near Waterside, east of A713
SEPA Reference: 2584

Thank you for consulting SEPA on the scoping opinion for the above development proposal by your email received on 1 September 2021.

The issues set out in the appendix below are those which from experience often arise in windfarm projects. They will not all be relevant in a specific case. If an issue can be scoped out then, provided the evidence as to why it has been scoped out is provided in the subsequent Environmental Impact Assessment Report, you are encouraged to do so.

From SEPA's experience, the following key issues will usually need to be addressed. To **avoid delay and potential objection**, the information outlined below and relevant issues in the attached appendix must be submitted in support of the application.

a) Map and assessment of all engineering works within and near the water environment including buffers, details of any flood risk assessment and details of any related applications made under the Controlled Activities Regulations (CAR). With relation to flood risk, if, having considered the site and potential for flood risk, it appears that the only apparent issue could relate to design of watercourse crossing, then provided crossings are designed to accommodate the 1 in 200 year event and other infrastructure is located well away from watercourses it is unlikely that there will be a need for detailed information on flood risk

b) Map and assessment of impacts upon Groundwater Dependent Terrestrial Ecosystems and buffers. Where it is clear that much of the site is likely to be peatland and/or wetland, we suggest you may wish to go straight to carrying out NVC survey without carrying out Phase 1 and Sniffer assessments (see appendix for details).

Angus Smith Building
6 Parklands Avenue, Eurocentral,
Holytown, North Lanarkshire ML1 4WQ
tel 01698 839000 fax 01698 738155
www.sepa.org.uk • customer enquiries 03000 99 66 99

c) Map and assessment of impacts upon groundwater abstractions and buffers. Where there there are no abstractions within 250 m of excavations then this should be confirmed in the EIA Report.

d) Peat depth survey and table detailing re-use proposals. Where much of the site is on peat, we expect the application to be supported by a comprehensive site specific Peat Management Plan.

e) Map and table detailing forest removal if on afforested area. Note that habitat survey information is not required for areas which are heavily forested or recently felled.

f) Map and site layout of borrow pits.

g) Schedule of mitigation including pollution prevention measures.

h) Quarry or Borrow Pit Site Management Plan of pollution prevention measures.

i) Map of proposed waste water drainage layout.

j) Map of proposed surface water drainage layout.

k) Map of proposed water abstractions including details of the proposed operating regime.

l) Decommissioning statement.

Regulatory advice for the applicant

1.1. Engineering works within the water environment may require authorisation under The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended). Management of surplus peat or soils may require an exemption under The Waste Management Licensing (Scotland) Regulations 2011. Proposed crushing or screening will require a permit under The Pollution Prevention and Control (Scotland) Regulations 2012. Consider if other environmental licences may be required for any installations or processes.

1.2. Details of regulatory requirements and good practice advice for the applicant can be found on the Regulations section of our website.

If you have any queries relating to this letter, please contact me by e-mail at planning.sw@sepa.org.uk.

Yours faithfully

Julie Gerc
Senior Planning Officer
Planning Service

In line with government guidance a number of SEPA's SW planning service are now home working. Please do not leave telephone messages but email planning.sw@sepa.org.uk, not individual email addresses, and we will respond where possible by email.
Please note that due to revised working arrangements because of the Covid -19 (Corona virus) outbreak we may take longer to respond to your email than usual.

Appendix 1: Detailed scoping requirements

This appendix sets out our scoping information requirements. There may be opportunities to scope out some of the issues below depending on the site. Evidence must be provided in the submission to support why an issue is not relevant for this site in order **to avoid delay and potential objection.**

If there is a delay between scoping and the submission of the application then please refer to our website for our latest information requirements as they are regularly updated; current best practice must be followed.

We would welcome the opportunity to comment on the draft submission. As we can process files of a maximum size of only 25MB the submission must be divided into appropriately named sections of less than 25MB each.

1. Site layout

1.1. All maps must be based on an adequate scale with which to assess the information. This could range from OS 1: 10,000 to a more detailed scale in more sensitive locations. Each of the maps below must detail all proposed upgraded, temporary and permanent site infrastructure. This includes all tracks, excavations, buildings, borrow pits, pipelines, cabling, site compounds, laydown areas, storage areas and any other built elements. Existing built infrastructure must be re-used or upgraded wherever possible. The layout should be designed to minimise the extent of new works on previously undisturbed ground. For example, a layout which makes use of lots of spurs or loops is unlikely to be acceptable. Cabling must be laid in ground already disturbed such as verges. A comparison of the environmental effects of alternative locations of infrastructure elements, such as tracks, may be required.

2. Engineering activities which may have adverse effects on the water environment

2.1. The site layout must be designed to avoid impacts upon the water environment. Where activities such as watercourse crossings, watercourse diversions or other engineering activities in or impacting on the water environment cannot be avoided then the submission must include justification of this and a map showing:

a) All proposed temporary or permanent infrastructure overlain with all lochs and watercourses.

b) A minimum buffer of 50m around each loch or watercourse. If this minimum buffer cannot be achieved each breach must be numbered on a plan with an associated photograph of the location, dimensions of the loch or watercourse and drawings of what is proposed in terms of engineering works.

c) Detailed layout of all proposed mitigation including all cut off drains, location, number and size of settlement ponds.

2.2. If water abstractions or dewatering are proposed, a table of volumes and timings of groundwater abstractions and related mitigation measures must be provided.

2.3. Further advice and our best practice guidance are available within the water engineering section of our website. Guidance on the design of water crossings can be found in our Construction of River Crossings Good Practice Guide.

2.4. Refer to our flood risk Standing Advice for advice on flood risk. Watercourse crossings must be designed to accommodate the 0.5% Annual Exceedance Probability (AEP) flows, or information provided to justify smaller structures. If it is thought that the development could result in an increased risk of flooding to a nearby receptor then a Flood Risk Assessment must be submitted in support of the planning application. Our Technical flood risk guidance for stakeholders outlines the information we require to be submitted as part of a Flood Risk Assessment. Please also refer to Controlled Activities Regulations (CAR) Flood Risk Standing Advice for Engineering, Discharge and Impoundment Activities. The proposed simple screening of potential flooding sources (fluvial, coastal, pluvial, groundwater etc.) being presented in the EIA Report is considered acceptable

3. Disturbance and re-use of excavated peat and other carbon rich soils

3.1. Scottish Planning Policy states (Paragraph 205) that "Where peat and other carbon rich soils are present, applicants must assess the likely effects of development on carbon dioxide (CO_2) emissions. Where peatland is drained or otherwise disturbed, there is liable to be a release of CO_2 to the atmosphere. Developments must aim to minimise this release."

3.2. The planning submission must a) demonstrate how the layout has been designed to minimise disturbance of peat and consequential release of CO_2 and b) outline the preventative/mitigation measures to avoid significant drying or oxidation of peat through, for example, the construction of access tracks, drainage channels, cable trenches, or the storage and re-use of excavated peat. There is often less environmental impact from localised temporary storage and reuse rather than movement to large central peat storage areas.

3.3. The submission must include:

a) A detailed map of peat depths (this must be to full depth and follow the survey requirement of the Scottish Government's Guidance on Developments on Peatland - Peatland Survey (2017)) with all the built elements (including peat storage areas) overlain to demonstrate how the development avoids areas of deep peat and other sensitive receptors such as Groundwater Dependent Terrestrial Ecosystems.

b) A table which details the quantities of acrotelmic, catotelmic and amorphous peat which will be excavated for each element and where it will be re-used during reinstatement. Details of the proposed widths and depths of peat to be re-used and how it will be kept wet permanently must be included.

3.4. To avoid delay and potential objection proposals must be in accordance with Guidance on the Assessment of Peat Volumes, Reuse of Excavated Peat and Minimisation of Waste and our Developments on Peat and Off-Site uses of Waste Peat.

3.5. Dependent upon the volumes of peat likely to be encountered and the scale of the development, applicants must consider whether a full Peat Management Plan (as detailed in the above guidance) is required or whether the above information would be best submitted as part of the schedule of mitigation.

3.6. Please note we do not validate carbon balance assessments except where requested to by Scottish Government in exceptional circumstances. Our advice on the minimisation of peat disturbance and peatland restoration may need to be taken into account when you consider such assessments.

4. Disruption to Groundwater Dependent Terrestrial Ecosystems (GWDTE)

4.1. GWDTE are protected under the Water Framework Directive and therefore the layout and design of the development must avoid impact on such areas. The following information must be included in the submission:

a) A map demonstrating that all GWDTE are outwith a 100m radius of all excavations shallower than 1m and outwith 250m of all excavations deeper than 1m and proposed groundwater abstractions. If micro-siting is to be considered as a mitigation measure the distance of survey needs to be extended by the proposed maximum extent of micro-siting. The survey needs to extend beyond the site boundary where the distances require it.

b) If the minimum buffers above cannot be achieved, a detailed site specific qualitative and/or quantitative risk assessment will be required. We are likely to seek conditions securing appropriate mitigation for all GWDTE affected.

4.2. Please refer to Guidance on Assessing the Impacts of Development Proposals on Groundwater Abstractions and Groundwater Dependent Terrestrial Ecosystems for further advice and the minimum information we require to be submitted.

5. Existing groundwater abstractions

5.1. Excavations and other construction works can disrupt groundwater flow and impact on existing groundwater abstractions. The submission must include:

a) A map demonstrating that all existing groundwater abstractions are outwith a 100m radius of all excavations shallower than 1m and outwith 250m of all excavations deeper than 1m and proposed groundwater abstractions. If micro-siting is to be considered as a mitigation measure the distance of survey needs to be extended by the proposed maximum extent of micro-siting. The survey needs to extend beyond the site boundary where the distances require it.

b) If the minimum buffers above cannot be achieved, a detailed site specific qualitative and/or quantitative risk assessment will be required. We are likely to seek conditions securing appropriate mitigation for all existing groundwater abstractions affected.

5.2. Please refer to Guidance on Assessing the Impacts of Development Proposals on Groundwater Abstractions and Groundwater Dependent Terrestrial Ecosystems for further advice on the minimum information we require to be submitted.

6. Forest removal and forest waste

6.1. Key holing must be used wherever possible as large scale felling can result in large amounts of waste material and in a peak release of nutrients which can affect local water quality. The supporting information should refer to the current Forest Plan if one exists and measures should comply with the Plan where possible.

6.2. Clear felling may be acceptable only in cases where planting took place on deep peat and it is proposed through a Habitat Management Plan to reinstate peat-forming habitats. The submission must include:

a) A map demarcating the areas to be subject to different felling techniques.

b) Photography of general timber condition in each of these areas.

c) A table of approximate volumes of timber which will be removed from site and volumes, sizes of chips or brash and depths that will be re-used on site.

d) A plan showing how and where any timber residues will be re-used for ecological benefit within that area, supported by a Habitat Management Plan. Further guidance on this can be found in Use of Trees Cleared to Facilitate Development on Afforested Land – Joint Guidance from SEPA, SNH and FCS.

7. Borrow pits

7.1. Scottish Planning Policy states (Paragraph 243) that "Borrow pits should only be permitted if there are significant environmental or economic benefits compared to obtaining material from local quarries, they are time-limited; tied to a particular project and appropriate reclamation measures are in place." The submission must provide sufficient information to address this policy statement.

7.2. In accordance with Paragraphs 52 to 57 of Planning Advice Note 50 Controlling the Environmental Effects of Surface Mineral Workings (PAN 50) a Site Management Plan should be submitted in support of any application.

7.3. The following information should also be submitted for each borrow pit:

a) A map showing the location, size, depths and dimensions.

b) A map showing any stocks of rock, overburden, soils and temporary and permanent infrastructure including tracks, buildings, oil storage, pipes and drainage, overlain with all lochs and watercourses to a distance of 250 metres. You need to demonstrate that a site specific proportionate buffer can be achieved. On this map, a site-specific buffer must be drawn around each loch or watercourse proportionate to the depth of excavations and at least 10m from access tracks. If this minimum buffer cannot be achieved each breach must be numbered on a plan with an associated photograph of the location, dimensions of the loch or watercourse, drawings of what is proposed in terms of engineering works.

c) You need to provide a justification for the proposed location of borrow pits and evidence of the suitability of the material to be excavated for the proposed use, including any risk of pollution caused by degradation of the rock.

d) A ground investigation report giving existing seasonally highest water table including sections showing the maximum area, depth and profile of working in relation to the water table.

e) A site map showing cut-off drains, silt management devices and settlement lagoons to manage surface water and dewatering discharge. Cut-off drains must be installed to maximise diversion of water from entering quarry works.

f) A site map showing proposed water abstractions with details of the volumes and timings of abstractions.

g) A site map showing the location of pollution prevention measures such as spill kits, oil interceptors, drainage associated with welfare facilities, recycling and bin storage and vehicle washing areas. The drawing notes should include a commitment to check these daily.

h) A site map showing where soils and overburden will be stored including details of the heights and dimensions of each store, how long the material will be stored for and how soils will be kept fit for restoration purposes. Where the development will result in the disturbance of peat or other carbon rich soils then the submission must also include a detailed map of peat depths (this must be to full depth and follow the survey requirement of the Scottish Government's Guidance on Developments on Peatland - Peatland Survey (2017)) with all the built elements and excavation areas overlain so it can clearly be seen how the development minimises disturbance of peat and the consequential release of CO2.

i) Sections and plans detailing how restoration will be progressed including the phasing, profiles, depths and types of material to be used.

j) Details of how the rock will be processed in order to produce a grade of rock that will not cause siltation problems during its end use on tracks, trenches and other hardstanding.

8. Pollution prevention and environmental management

8.1. One of our key interests in relation to developments is pollution prevention measures during the periods of construction, operation, maintenance, demolition and restoration.

8.2. A schedule of mitigation supported by the above site specific maps and plans must be submitted. These must include reference to best practice pollution prevention and construction techniques (for example, limiting the maximum area to be stripped of soils at any one time) and regulatory requirements. They should set out the daily responsibilities of ECOWs, how site inspections will be recorded and acted upon and proposals for a planning monitoring enforcement officer. Please refer to Guidance for Pollution Prevention (GPPs).

9. Life extension, repowering and decommissioning

9.1. Proposals for life extension, repowering and/or decommissioning must demonstrate accordance with SEPA Guidance on the life extension and decommissioning of onshore wind farms. Table 1 of the guidance provides a hierarchical framework of environmental impact based upon the principles of sustainable resource use, effective mitigation of environmental risk (including climate change) and optimisation of long term ecological restoration. The submission must demonstrate how the hierarchy of environmental impact has been applied, within the context of latest knowledge and best practice, including justification for not selecting lower impact options when life extension is not proposed.

9.2. The submission needs to demonstrate that there will be no discarding of materials that are likely to be classified as waste as any such proposals would be unacceptable under waste management licensing. Further guidance on this may be found in the document Is it waste - Understanding the definition of waste.

ScotWays
Upholding public access

Econsents_Admin@gov.scot

Carolanne Brown
Energy Consents
Directorate for Energy and Climate Change
The Scottish Government
4th Floor, 5 Atlantic Quay
150 Broomielaw
Glasgow
G2 8LU

Our Ref: 04777
22/09/2021

Dear Ms Brown

ECU ref: ECU00003318
ELECTRICITY ACT 1989

THE ELECTRICITY WORKS (ENVIRONMENTAL IMPACT ASSESSMENT) (SCOTLAND) REGULATIONS 2017

REQUEST FOR SCOPING OPINION FOR PROPOSED SECTION 36 APPLICATION FOR SCLENTEUCH WIND FARM

Thank you for your email of 1 September 2021 seeking comments on the scoping report for the above proposal.

ScotWays records

The enclosed map shows that right of way SKC11 as recorded in the National Catalogue of Rights of Way (CROW) crosses or is close to the application site as shown on Figure 3.1 *Site Boundary*.

The enclosed map shows the Heritage Paths project promotes a route, *Old Road through Straiton*, for its historic interest. This old route crosses or is close to the application site as shown on Figure 3.1 *Site Boundary*.

The enclosed map shows that our book *Scottish Hill Tracks* describes a route 82 Barr to Straiton and Patna [HT385] which crosses or is close to the application site as shown on Figure 3.1 *Site Boundary*.

In searching our records at this scoping stage, we have focussed solely on the immediate area of the proposed application. If required by the applicant to inform their Environmental Impact Assessment (EIA), maps of a wider search area are available from the Society, alongside a more detailed response.

Other Access to Land

You should be aware that other forms of public access to land may affect the proposed application site. More detail about these other types of access is set out in the enclosed Catalogue of Rights of Way Guidance Notes.

Wind Farms and public access

It is our understanding that there is very little guidance regarding the siting of turbines in relation to established paths and rights of way, so we draw your attention to the following:

Extract from the Welsh Assembly Government's Technical Advice Note on Renewable Energy (TAN 8)
Proximity to Highways and Railways
2.25 It is advisable to set back all wind turbines a minimum distance, equivalent to the height of the blade tip, from the edge of any public highway (road or other public right of way) or railway line.

ScotWays considers the above Note sets out a reasonable principle for a recommended minimum separation distance. There could also be site specific factors which would lead us to prefer a larger minimum separation distance; these could include the affected route being one of Scotland's Great Trails or it being known for equestrian use, for example. ScotWays is likely to object to any proposal where the above principle is not followed, including where a micro-siting allowance could lead to turbine encroachment upon a route because it has been insufficiently buffered.

Recreational amenity

As well as direct impacts of development upon public access, ScotWays has an interest in impacts on recreational amenity, so this includes the impact of wind farm development on the wider landscape. We anticipate that the applicant will take into account both recreational amenity and landscape impacts in developing their proposals for this site. We will consider these issues further should this scoping stage lead to a planning application.

Comment

Under section 3 of the Land Reform (Scotland) Act 2003, there is a duty upon landowners to use and manage land responsibly in a way which respects public access rights. Under section 14 of the same Act, access authorities have a duty to uphold access rights. Accordingly, we suggest that the applicant may wish to approach the relevant authority's access team for their input when drawing up their Access Management Plan for their proposed development.

I hope the information provided is useful to you. Please do not hesitate to contact us if you have any further queries.

Yours sincerely,

REDACTED

Lynda Grant
Access Officer

Catalogue of Rights of Way
Scoping Comment Guidance Notes

These notes explain what is shown on the map(s) provided with scoping comments and provide information about the public right of access to land in Scotland. All maps are provided on a 1:50,000 scale base.

What is the Catalogue of Rights of Way (CROW)?

CROW was created by ScotWays in the early 1990s with the help of Scottish Natural Heritage (now NatureScot) and local authorities and is an amalgamation of rights of way information from a number of different sources. Mapped at 1:50,000 scale, the catalogue does not include all rights of way – many of these are known only to local people and come to ScotWays' notice only when a problem arises.

CROW is continually updated to take account of new information as it comes to ScotWays' attention.

Catalogue of Rights of Way maps

What is a Recorded Right of Way?

Any right of way that we record in the Catalogue of Rights of Way.

Where any Recorded Rights of Way pass through or close to the wind farm application site a map will be provided showing these.

What is an Other Route?

Any path that we record in the Catalogue of Rights of Way that does not appear to meet the criteria to be a right of way.

Where any Other Routes pass through or close to the wind farm application site a map will be provided showing these.

What is a Heritage Path?

These are historic routes that form part of the transport heritage of Scotland. They reflect our cultural and social development and include drove roads, military roads, Roman roads, pilgrim routes and trade routes.

These routes may or may not be rights of way, core paths or carry some other type of designation.

Find out more about the Heritage Paths project at http://www.heritagepaths.co.uk

Where any Heritage Paths pass through or close to the wind farm application site a map will be provided showing these.

What is a Scottish Hill Track route?

First published in 1924, our book *Scottish Hill Tracks* is a record of the network of paths, old roads and rights of way which criss-cross Scotland's hill country, from the Borders to Caithness.

These publicised routes may or may not be rights of way, core paths or carry some other type of designation.

Copies of our book *Scottish Hill Tracks* can be purchased from the ScotWays webshop: https://www.scotways.com/shop

Where any *Scottish Hill Tracks* routes pass through or close to the wind farm application site a map will be provided showing these.

Disclaimer

The routes shown on the CROW maps provided have been prepared from information contained in the records of ScotWays, local authorities, judicial and other records. The inclusion of a route in CROW is not in itself declarative of its legal status.

Other Public Access Information

Unrecorded Rights of Way

Our records only show the rights of way that we are aware of. Scots law does not require a right of way to be recorded in a specific document. Any route that meets the following criteria will be a right of way. This could include any paths, tracks or desire lines within your area of interest. A right of way:

1. Connects public places.
2. Has been used for at least 20 years.
3. Follows a more or less defined route.
4. Has been used by the public without judicial interruption or the landowner's permission.

Core Paths

The Land Reform (Scotland) Act 2003 requires all access authorities to create a system of routes within their area. These are known as core paths and are recorded in the authority's core paths plan. It is anticipated that applicants will have consulted the relevant access authority's core paths plan to check whether any core paths cross or are close to the wind farm application site, and will also have consulted the authority's access team.

The General Right of Access

Irrespective of the presence or absence of rights of way and core paths, the land in question may be subject to the access rights created by Section 1 of the Land Reform (Scotland) Act 2003. Unless the land falls into an excluded category in Section 6 of this Act then the public has a right of access to the land, and land owners/managers have a duty under the Act's Section 3 to consider this in any decisions made about the use/management of the land.

Other Promoted Routes

There may be part of a promoted route running through or close to any wind farm application site. These will usually be obviously signed with signposts or waymarking and

may feature in guidebooks, leaflets, on local information boards and on websites. The two main types of nationally promoted routes are:

Scotland's Great Trails: https://www.scotlandsgreattrails.com
National Cycle Network: https://www.sustrans.org.uk/map-ncn

Public and Private Roads

The Roads (Scotland) Act 1984 created the terms public road and private road. Public Roads are those roads which are on the List of Public Roads and, importantly, the roads authority is required to manage and maintain. Private Roads are those roads which are not on the List of Public Roads and thus there is no duty on the roads authority to manage or maintain them. There is a public right of passage over these roads and the owner(s) of a private road may not restrict or prevent the public's right of passage over the road.

If required, the local roads authority should be contacted by the applicant for more information on public and private roads that may cross or pass close to the application site.

More Information on Outdoor Access Law

If you would like to know more about outdoor access law, why not get a copy of our book *The ScotWays Guide to the Law of Access to Land in Scotland* by Malcolm Combe? Visit our website, https://www.scotways.com/shop for more information.

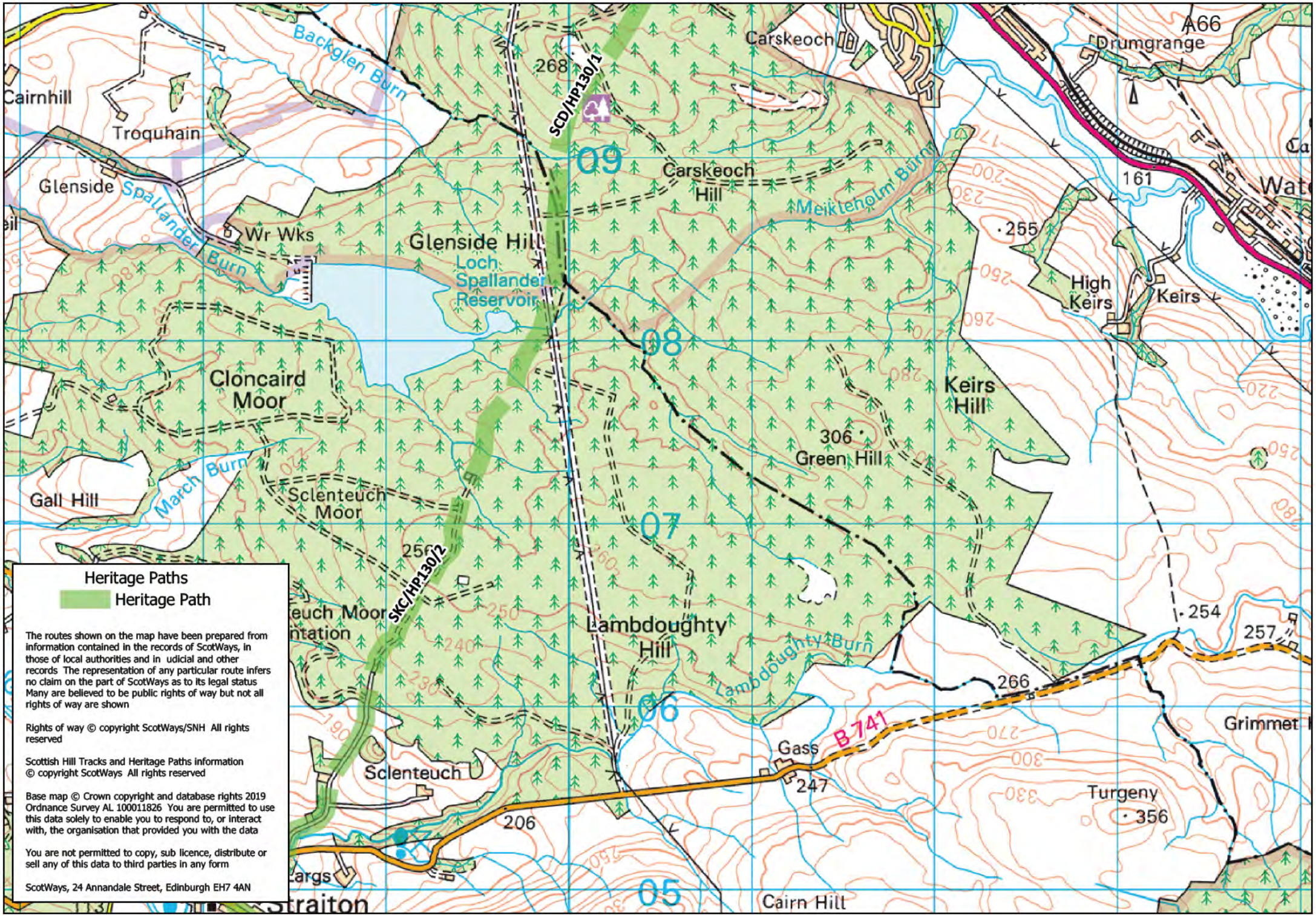
Development and Planning Applications

When proposing to develop a site, it is advisable that the applicant reviews the current amount and type of public access across it and presents this as an access management plan as part of their application. This should include rights of way, core paths, other paths and tracks, and take account of how the statutory right of access currently affects the site.

The plan should then consider the effect that the proposed works, during construction and upon completion, would have on any patterns of public access identified. Any good practice guidance associated with the proposed type of development should be considered, e.g. for windfarms the Welsh Assembly Government's Technical Advice Note on Renewable Energy (TAN 8) Proximity to Highways and Railways paragraph 2.25 and the policies contained within any local statutory plans.

Depending upon the proposals there may be specific legal processes that are required to be followed to divert any paths or tracks either temporarily or permanently. These will be in addition to getting planning consent for the proposal. We recommend that applicants contact the access team at the relevant access authority for advice in this regard.

Published October 2019, updated March 2021


Heritage Paths
Heritage Path
The routes shown on the map have been prepared from information contained in the records of ScotWays, in those of local authorities and in udicial and other records The representation of any particular route infers no claim on the part of ScotWays as to its legal status Many are believed to be public rights of way but not all rights of way are shown
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Backglen Burn
Cairnhill
Troquhain
Glenside
Spallander Burn
Wr Wks
Glenside Hill
Loch Spallander Reservoir
Carskeoch
268
SCD/HP130/1
09
Carskeoch Hill
Meikleholm Burn
A66
Drumgrange
161
255
High Keirs
Keirs
Keirs Hill
08
Cloncaird Moor
306
Green Hill
March Burn
Gall Hill
Sclenteuch Moor
07
256
SKC/HP130/2
Lambdoughty Hill
Lambdoughty Burn
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Cairn Hill
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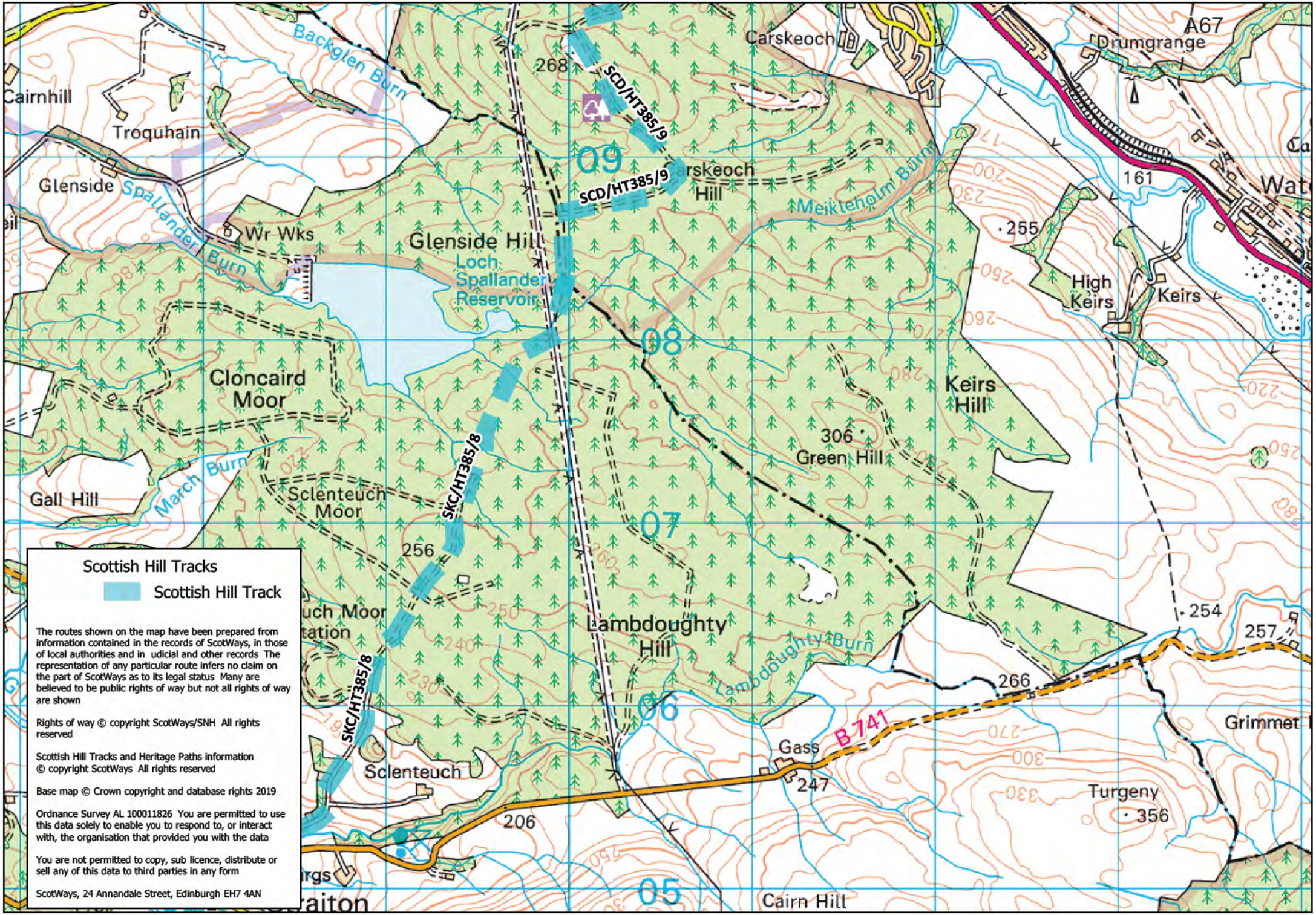

Scottish Hill Tracks

Scottish Hill Track

The routes shown on the map have been prepared from information contained in the records of ScotWays, in those of local authorities and in udicial and other records The representation of any particular route infers no claim on the part of ScotWays as to its legal status Many are believed to be public rights of way but not all rights of way are shown

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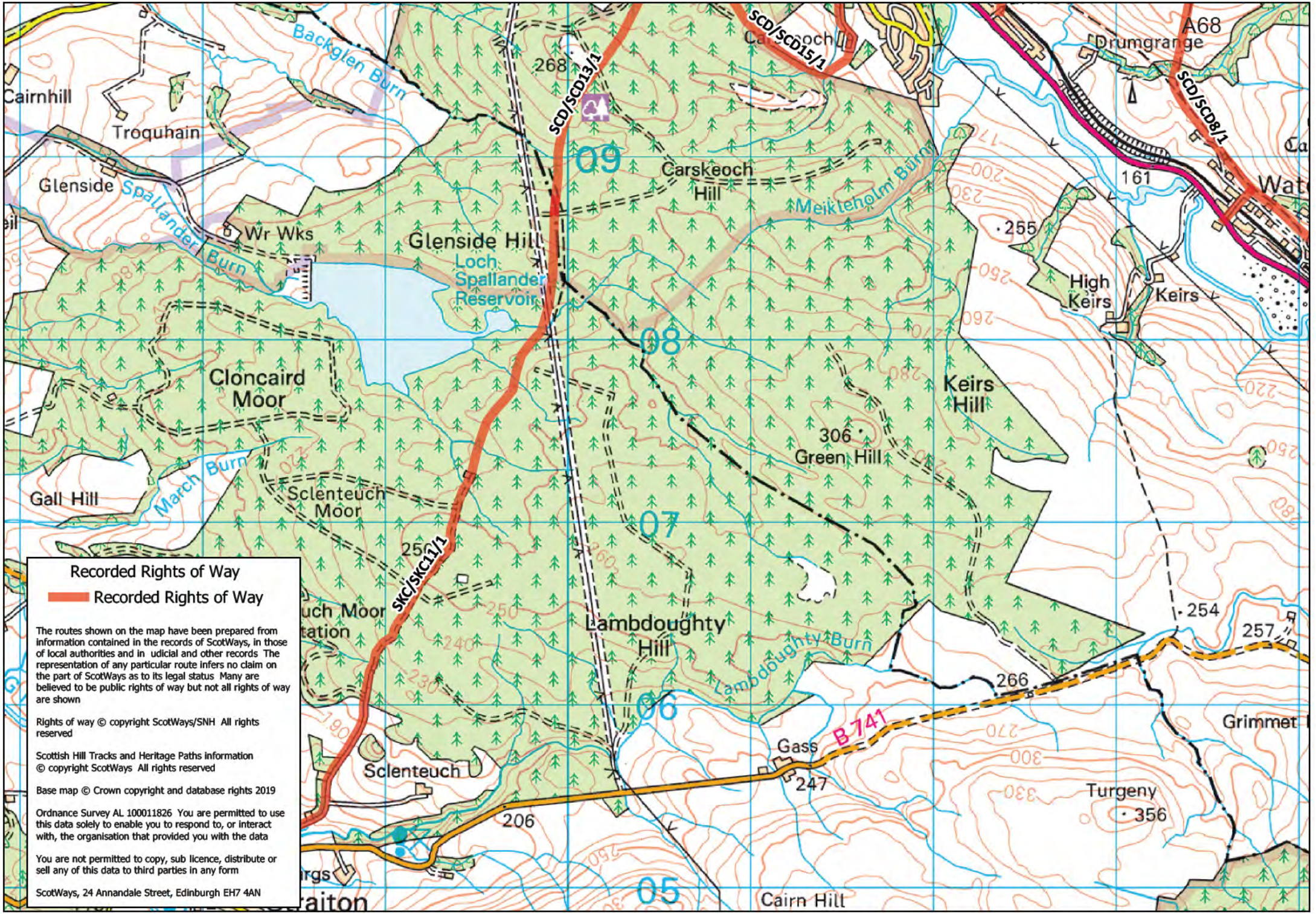
Recorded Rights of Way
Recorded Rights of Way
The routes shown on the map have been prepared from information contained in the records of ScotWays, in those of local authorities and in udicial and other records The representation of any particular route infers no claim on the part of ScotWays as to its legal status Many are believed to be public rights of way but not all rights of way are shown
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Wr Wks
Glenside Hill
Loch Spallander Reservoir
Carskeoch Hill
Meikteholm Burn
Cloncaird Moor
Gall Hill
March Burn
Sclenteuch Moor
Sclenteuch
Lambdoughty Hill
Lambdoughty Burn
Keirs Hill
306
Green Hill
High Keirs
Keirs
Drumgrange
A68
B741
Gass
Turgeny
Cairn Hill
Grimmet
SCD/SCD13/1
SCD/SCD15/1
SCD/SCD8/1
SKC/SKC11/1
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Thursday, 02 September 2021

Local Planner
Energy Consents Unit
5 Atlantic Quay
Glasgow
G2 8LU

Development Operations
The Bridge
Buchanan Gate Business Park
Cumbernauld Road
Stepps
Glasgow
G33 6FB

Development Operations
Freephone Number - 0800 3890379
E-Mail - DevelopmentOperations@scottishwater.co.uk
www.scottishwater.co.uk
Follow Us

Dear Customer,

Sclenteuch Wind Farm, Patna, KA6 7EZ
Planning Ref: ECU00003318
Our Ref: DSCAS-0047783-9P7
Proposal: Wind Farm (Generating station of >50 < 100 MW Capacity)

Please quote our reference in all future correspondence

Audit of Proposal

Scottish Water has no objection to this planning application; however, the applicant should be aware that this does not confirm that the proposed development can currently be serviced and would advise the following:

Drinking Water Protected Areas

A review of our records indicates that there are no Scottish Water drinking water catchments or water abstraction sources, which are designated as Drinking Water Protected Areas under the Water Framework Directive, in the area that may be affected by the proposed activity.

Surface Water

For reasons of sustainability and to protect our customers from potential future sewer flooding, Scottish Water will not accept any surface water connections into our combined sewer system.

There may be limited exceptional circumstances where we would allow such a connection for brownfield sites only, however this will require significant justification from the customer taking account of various factors including legal, physical, and technical challenges.

In order to avoid costs and delays where a surface water discharge to our combined sewer system is anticipated, the developer should contact Scottish Water at the earliest opportunity with strong evidence to support the intended drainage plan prior to making a connection request. We will assess this evidence in a robust manner and provide a decision that reflects the best option from environmental and customer perspectives.

General notes:

- Scottish Water asset plans can be obtained from our appointed asset plan providers:
    - Site Investigation Services (UK) Ltd
    - Tel: 0333 123 1223
    - Email: sw@sisplan.co.uk
    - www.sisplan.co.uk

I trust the above is acceptable however if you require any further information regarding this matter please contact me on **0800 389 0379** or via the e-mail address below or at planningconsultations@scottishwater.co.uk.

Yours sincerely,

Angela Allison
Development Operations Analyst
developmentoperations@scottishwater.co.uk

Scottish Water Disclaimer:

"It is important to note that the information on any such plan provided on Scottish Water's infrastructure, is for indicative purposes only and its accuracy cannot be relied upon. When the exact location and the nature of the infrastructure on the plan is a material requirement then you should undertake an appropriate site investigation to confirm its actual position in the ground and to determine if it is suitable for its intended purpose. By using the plan you agree that Scottish Water will not be liable for any loss, damage or costs caused by relying upon it or from carrying out any such site investigation."

Development Management and Strategic Road Safety
Roads Directorate

Buchanan House, 58 Port Dundas Road, Glasgow G4 0HF
Direct Line: REDACTED , Fax: 0141 272 7350
lain.clement@transport.gov.scot

A71

TRANSPORT SCOTLAND
CÒMHDHAIL ALBA

Carolanne Brown
Energy Consents Unit
The Scottish Government
5 Atlantic Quay
150 Broomielaw
Glasgow
G2 8LU

econsents_admin@gov.scot

Your ref:
ECU00003318

Our ref:
GB01T19K05

Date:
21/09/2021

Dear Sirs,

ELECTRICITY ACT 1989

THE ELECTRICITY (APPLICATIONS FOR CONSENT) REGULATIONS 2017

REQUEST FOR SCOPING OPINION FOR PROPOSED SECTION 36 APPLICATION FOR SCLENTEUCH WIND FARM

With reference to your recent correspondence on the above development, we acknowledge receipt of the Scoping Report (SR) prepared by Renewable Energy Systems Ltd (RES) in support of the above development.

This information has been passed to SYSTRA Limited for review in their capacity as Term Consultants to Transport Scotland – Roads Directorate. Based on the review undertaken, we would provide the following comments.

Proposed Development

The proposed development comprises up to 9 turbines with a blade tip height of up to 200m on a site approximately 3km south of Patna in Ayrshire. The site will be accessed from the A713 at the east of the site, whilst the A77(T) lies approximately 12km to the west and the A76(T) approximately 12km due north.

Assessment of Environmental Impacts

Section 11 of the SR presents the proposed methodology for the assessment of Transport and Access issues associated with the construction of the development. This indicates that the study area for the assessment will include the A713 to the north and south of Patna, the A77(T), A70 and A76(T). We note that both Transport Assessment Guidance (Transport Scotland, 2012) and the Guidelines for the Environmental Assessment of Road Traffic (Institute of Environmental Assessment (IEMA), 1993) will be used to inform the EIA Report Chapter.

We note that baseline traffic data for the A77(T) and A76(T) will be obtained from UK Government Department for Transport (DfT) traffic count data or the Traffic Scotland database. National Road Traffic Forecast (NRTF) Low Growth factors will be used to provide a future year baseline. Transport Scotland is satisfied with this approach.

The SR states that potential trunk road related environmental impacts such as driver delay, pedestrian amenity, severance, safety etc will be considered and assessed where appropriate (i.e. where IEMA Guidelines for further assessment are breached). These specify that road links should be taken forward for further detailed assessment if:

- Traffic flows will increase by more than 30%, or
- The number of HGVs will increase by more than 30%, or
- Traffic flows will increase by 10% or more in sensitive areas.

This approach is considered acceptable and we are content that no further trunk road assessment is required if the above thresholds are not exceeded.

It is noted that any impacts associated with the operational phase of the development are to be scoped out of the EIAR. We would consider this to be acceptable in this instance.

Abnormal Loads Assessment

The SR states that the Traffic and Transport EIA Report Chapter will be supported by an Abnormal Load Route Survey. In addition, detailed swept path analyses will be undertaken for the main constraint points on the route from the port of entry through to the site entrance to demonstrate that the turbine components can be delivered to site and to identify any temporary road works which may be necessary. Transport Scotland is satisfied with this approach but would add that any proposed changes to the trunk road network must be discussed and approved (via a technical approval process) by the appropriate Area Managers.

I trust that the above is satisfactory and should you wish to discuss any issues raised in greater detail, please do not hesitate to contact me or alternatively, Alan DeVenny at SYSTRA's Glasgow Office on REDACTED .

Yours faithfully

REDACTED

Iain Clement

Transport Scotland
Roads Directorate

cc Alan DeVenny – SYSTRA Ltd.

Crosshill, Straiton and Kirkmichael community council - Consultation Response

From: John Haston REDACTED
Sent: 08 October 2021 16:21
To: Brown C (Carolanne)
Subject: Re: Request for Scoping Opinion for Sclenteuch Wind Farm
Attachments: Sclenteuch scoping questions.docx

Follow Up Flag: Follow up
Flag Status: Flagged

Dear Carolanne

Attached is our community council's response to the scoping opinion.

Kind regards
John Haston
Secretary
Crosshill, Straiton and Kirkmichael community council

4.5 Questions

Do consultees agree with the extent of the planning policy and energy documents described above?

The documents referred to would seem to be appropriate.

Are there any additional planning and energy documents that consultees wish to be considered?

Cannot think of any.

5.6 Questions 5.6.1 Considering the findings in the determination of Keirs Hill Wind Farm application, and the proposed changes to the scheme, do you agree with the overall methodology proposed to assess effects on landscape and visual receptors, including cumulative effects?

Considering that one of the determining factors in the Keirs Hill Wind Farm PLI was the height of the turbines and that 149m high turbines could not be accommodated in the landscape, it beggars belief that you now are or the opinion that turbines up to 200m high could be acceptable.

5.6.2 Do you agree that the proposed list of viewpoint locations is a representative selection of views from receptors most likely to experience significant effects?

This selection of viewpoint locations will most certainly experience significant effects.

5.6.3 Do you agree that the wind farms listed in Table 5-2 and shown on Figure 5.5 comprise the cumulative baseline to inform the cumulative assessment?

You have missed out Carrick Wind Farm for which scoping has been done and also Knockcronal on the former Linfairn site for which scoping has also been done.

More significantly, Knockkippen has no mention although that is in scoping on the opposite side of the A713.

5.6.4 Do you agree that all relevant landscape or visual receptors have been identified (i.e. those where it is possible that significant effects may occur)?

Craigengillan House and estate has not been included.

5.6.5 Are there any other relevant consultees who should be consulted with respect to the LVIA

Galloway and Southern Ayrshire Biosphere

Dark Sky Park

Scottish Mountaineering

Ramblers' Association to mention just a few.

6.6 Questions

6.6.1 Do you agree the proposed study areas are sufficient to facilitate a robust assessment of potential impacts arising from the Proposed Development?

While the inner study area of 500 metres would seem to be acceptable, the 10 km is not. The very height of these turbines means that their significant impact will be much wider.

6.6.2 Do you agree the range of proposed sources is sufficient to enable a comprehensive baseline study to be undertaken?

While printed resources would seem to be adequate there is no mention of having local historians or archaeologists to assist with walkover. Local knowledge can be much more valuable than selections from printed matters.

6.6.3 Do you agree the selection criteria for identifying developments to be included in the cumulative assessment is appropriate to the scale of the Proposed Development?

As at 6.6.1 the outer study area is not wide enough, although there is enough evidence of the significant impact on the range of listed buildings, scheduled monuments, garden and designed landscapes and conservation areas to show that a wind farm in this location is not appropriate.

7.6 Questions

7.6.1 Do consultees agree that the EIA should concentrate on those receptors which may be subject to significant effects from the Proposed Development (either directly or indirectly)?

Since there are several surveys still to be completed and therefore the results are not yet available this would suggest that this scoping report is premature and incomplete.

7.6.2 Do consultees agree with the list of receptors and impacts to be included within the EIA Report

As 7.6.1

8.6 Questions

8.6.1 The questions below are for consultees regarding the information provided in this Scoping chapter, for which it would be useful to receive feedback. Not all questions will be relevant to all consultees, therefore the Applicant request that consultees provide feedback only on those questions appropriate to them. The questions should not be considered an exhaustive list, and consequently consultees are welcome to provide feedback on any issue they consider relevant to the Proposed Development. If consultees elect not to respond, the Applicant will assume that consultees are satisfied with the approach adopted/proposed.

8.6.2 Do consultees agree that the EIA should only concentrate on those features which may be subject to significant effects from the Proposed Development (either directly or indirectly)?

Not in agreement that kestrel and buzzard be scoped out. In common with other windfarm applicants the risk to birds and especially raptors is underplayed.

8.6.3 Table 8.14 notes the features and potential impacts proposed to be included within the EIA. Do consultees agree with the list of features and impacts to be included within the EIA

Agree with the ones listed but would say that others should also be included.

9.6 Questions

9.6.1 Published mapping confirms that most of Site is not identified as being at flood risk. It is proposed, therefore, that a simple screening of potential flooding sources (fluvial, coastal, pluvial, groundwater etc.) is presented in the EIA Report. Is this approach acceptable?

While **most** of the site is identified as not being at flood risk, what about the areas which are?

9.6.2 It is not proposed to prepare a detailed drainage design. Rather measures that would be used to control the rate and quality of runoff will be specified in the EIA Report. Again, is this acceptable?

The River Doon is important as a salmon river so runoff would not be acceptable as it could contain contaminants.

9.6.3 Site investigations, including detailed peat probing and private water survey as outlined in Section 9.3, will be undertaken as part of the proposed assessment. Should any additional investigation or data sources be considered when assessing baseline conditions?

Private water should be a priority. If homes lose their private water supply for any reason, or it becomes impotable, they become uninhabitable.

9.6.4 It is not proposed to undertake any water quality sampling, establish groundwater monitoring points, surface water monitoring points or undertake leachability trials of any rock in the proposed borrow pit as there is published data that can be used to characterise baseline conditions and complete the impact. Is this acceptable?

To what published data do you refer?

9.6.5 Please advise if there is any specific information or methodology that should be used / followed as part of the Private Water Supply risk assessment?

South Ayrshire Council and East Ayrshire Council should be the first ports of call as regards risk assessment for Private Water Supply.

9.6.6 Do you agree that the scope of the proposed assessment is appropriate?

No.

10.6 Questions

10.6.1 The following questions have been designed to ensure that the proposed methodologies and assessment are carried out in a robust manner and to the satisfaction of the determining authorities.
10.6.2 Are consultees content with the proposed methodology and scope for the forestry assessment?

There is too little information here on which to base an opinion, and there is nothing to suggest that assessment would be “robust”.

10.6.3 Do the consultees have any information, particularly with reference to new guidance, which should be taken into account?

Consult with the forest managers and/or Forestry and Land Scotland – they are the experts in this field.

11.6 Questions

11.6.1 Is the proposed methodology accepted?

11.6.2 Are the methods proposed for obtaining traffic flow data accepted?

11.6.3 It is accepted that traffic surveys can be undertaken on the local road network following the end of the 2021 summer holiday season (excluding a further national Covid 19 lockdown) and that such flows would be considered acceptable for use in the assessment?

11.6.4 Is the use of Low National Road Traffic Forecasts (NRTF) acceptable for the whole of the study?

11.6.5 What developments should be included as committed developments within the baseline traffic flows in the assessment, noting that these should have planning consent at the time of scoping?

11.6.6 Can consultees provide details of any upgrades or network changes that may be undertaken to the study area network within the next five years

These questions cannot be answered as the information given is thin and not helpful. There is no indication of where the traffic would originate or how it would access the site from the A713. There is certainly no suitable bridge crossing the River Doon which could be used. Much more information is required.

12.6 Questions

12.6.1 Do the consultees agree with the proposed assessment methodology?

12.6.2 Do the consultees agree with the use of the baseline noise data gathered in 2012, and that it is not necessary to undertake a further survey?

12.6.3 Do the consultees agree that, where significant headroom exists between the predicted noise levels and conditioned noise limits for Dersalloch Wind Farm, a margin of 3dB is appropriate?

12.6.4 Do the consultees agree with the use of conditioned noise limits for Dersalloch Wind Farm as the cumulative noise limit where necessary in the cumulative assessment

Again, the information is sparse and not helpful to give an understanding of what exactly will be done. I do not agree that low frequency noise is scoped out.

12.6.5 Do the consultees agree that a higher lower limit can be used where necessary in the cumulative assessment due to the increased planning merit of the cumulative development into account

No

13.6 Questions

13.6.1 Do you agree with the proposed approach to scope out an assessment of potential effects on television?

It seems appropriate.

13.6.2 Do you agree with the proposed approach to scope out an assessment of potential effects on broadcast radio?

Yes

13.6.3 Do you agree with the proposed approach to scope out an assessment of potential effects on ice throw

This should be a matter for health and safety and therefore should not be scoped out.

14.2 Questions

14.2.1 Do you agree that the proposed approach with respect to the potential grid connection is appropriate?

Grid connection will mean yet another set of industrial infrastructure in the rural landscape.

15.3 Questions

15.3.1 Do you agree that the proposed approach with respect to the socio-economic assessment is appropriate?

Data for tourists/visitors to the area should not include 2020 as numbers then would have been at an all-time low. Many people who visit this area come for the walking, hills, cycling etc and are put off by the proliferation of wind farms. These visitors appreciate the pastoral scene and do not want to have an industrialisation of the countryside.

It has always been stated by applicants for wind farms that there would be economic benefit to local businesses during construction but this has never come to fruition. Local jobs is another area which is never realised. E.g. The workforce for Dersalloch came from Ireland; accommodation was not local; the workforce was brought in by buses so local shops did not benefit from them either.

16.4 Questions

16.4.1 Do you agree that the proposed approach with respect to climate change assessment is appropriate?

I find it ironic that you talk about carbon reduction yet the very plants which store carbon –i.e. trees – will be taken out and therefore the carbon released.

It is also a matter of concern that, while climate change is being cited, there is no notice taken of the carbon footprint which is generated by the production and transportation of the turbines. The raw materials, too, pose a question. Is it really ok to destroy other environments in other countries just so that we can boast that we are carbon neutral?

16.4.2 Do you agree the climate vulnerability and risk assessment can be scoped out of further assessment

I do not like the format for your questions which are of a closed nature inviting a yes/no answer.

Marine Scotland Science advice on freshwater and diadromous fish and fisheries in relation to onshore wind farm developments.

July 2020

Marine Scotland Science (MSS) provides internal, non-statutory, advice in relation to freshwater and diadromous fish and fisheries to the Scottish Government's Energy Consents Unit (ECU) for onshore wind farm developments in Scotland.

Atlantic salmon (*Salmo salar*), sea trout and brown trout (*Salmo trutta*) are of high economic value and conservation interest in Scotland and for which MSS has in-house expertise. Onshore wind farms are often located in upland areas where salmon and trout spawning and rearing grounds may also be found. MSS aims, through our provision of advice to ECU, to ensure that the construction and operation of these onshore developments do not have a detrimental impact on the freshwater life stages of these fish populations.

The Electricity Works (Environmental Impact Assessment) (EIA) (Scotland) Regulations (2017) state that the EIA must assess the direct and indirect significant effects of the proposed development on water and biodiversity, and in particular species (such as Atlantic salmon) and habitats protected under the EU Habitats Directive. Salmon and trout are listed as priority species of high conservation interest in the Scottish Biodiversity Index and support valuable recreational fisheries.

A good working relationship has been developed over the years between ECU and MSS, which ensures that these fish species are considered by ECU during all stages of the application process of onshore wind farm developments and are similarly considered during the construction and operation of future onshore wind farms. It is important that matters relating to freshwater and diadromous fish and fisheries, particularly salmon and trout, continue to be considered during the construction and operation of future onshore wind farms.

In the current document, MSS sets out a revised, more efficient approach to the provision of our advice, which utilises our generic scoping and monitoring programme guidelines (https://www2.gov.scot/Topics/marine/Salmon-Trout-Coarse/Freshwater/Research/onshoreren). This standing advice provides regulators (e.g. ECU, local planning authorities), developers and consultants with the information required at all stages of the application process for onshore wind farm developments, such that matters relating to freshwater and diadromous fish and fisheries are addressed in the same rigorous manner as is currently being carried out and continue to be fully in line with EIA regulations. At the request of ECU, MSS will still be able to provide further and/or bespoke advice relevant to freshwater and diadromous fish and fisheries e.g. site specific advice, at any stage of the application process for a proposed development, particularly where a development may be considered sensitive or contentious in nature.

MSS will continue undertaking research, identifying additional research requirements, and keep up to date with the latest published knowledge relating to the impacts of onshore wind farms on freshwater and diadromous fish populations. This

will be used to ensure that our guidelines and standing advice are based on the best available evidence and also to continue the publication of the relevant findings and knowledge to all stakeholders including regulators, developers and consultants.

MSS provision of advice to ECU

- MSS should not be asked for advice on pre application and application consultations (including screening, scoping, gate checks and EIA applications). Instead, the MSS scoping guidelines and standing advice (outlined below) should be provided to the developer as they set out what information should be included in the EIA report;
- if new issues arise which are not dealt with in our guidance or in our previous responses relating to respective developments, MSS can be asked to provide advice in relation to proposed mitigation measures and monitoring programmes which should be outlined in the EIA Report (further details below);
- if new issues arise which are not dealt with in our guidance or in our previous responses, MSS can be asked to provide advice on suitable wording, within a planning condition, to secure proposed monitoring programmes, should the development be granted consent;
- MSS cannot provide advice to developers or consultants, our advice is to ECU and/or other regulatory bodies.
- if ECU has identified specific issues during any part of the application process that the standing advice does not address, MSS should be contacted.

MSS Standing Advice for each stage of the EIA process

Scoping

MSS issued generic scoping guidelines (https://www2.gov.scot/Topics/marine/Salmon-Trout-Coarse/Freshwater/Research/onshoreren) which outline how fish populations can be impacted during the construction, operation and decommissioning of a wind farm development and informs developers as to what should be considered, in relation to freshwater and diadromous fish and fisheries, during the EIA process.

In addition to identifying the main watercourses and waterbodies within and downstream of the proposed development area, developers should identify and consider, at this early stage, any areas of Special Areas of Conservation where fish are a qualifying feature and proposed felling operations particularly in acid sensitive areas.

If a developer identifies new issues or has a technical query in respect of MSS generic scoping guidelines then ECU should be informed who will then co-ordinate a response from MSS.

Gate check

The detail within the generic scoping guidelines already provides sufficient information relating to water quality and salmon and trout populations for developers at this stage of the application.

Developers will be required to provide a gate check checklist (annex 1) in advance of their application submission which should signpost ECU to where all matters relevant to freshwater and diadromous fish and fisheries have been presented in the EIA report. Where matters have not been addressed or a different approach, to that specified in the advice, has been adopted the developer will be required to set out why.

EIA Report

MSS will focus on those developments which may be more sensitive and/or where there are known existing pressures on fish populations (https://www2.gov.scot/Topics/marine/Salmon-Trout-Coarse/fishreform/licence/status/Pressures). The generic scoping guidelines should ensure that the developer has addressed all matters relevant to freshwater and diadromous fish and fisheries and presented them in the appropriate chapters of the EIA report. Use of the gate check checklist should ensure that the EIA report contains the required information; the absence of such information may necessitate requesting additional information which may delay the process:

Developers should specifically discuss and assess potential impacts and appropriate mitigation measures associated with the following:

- any designated area, for which fish is a qualifying feature, within and/or downstream of the proposed development area;
- the presence of a large density of watercourses;
- the presence of large areas of deep peat deposits;
- known acidification problems and/or other existing pressures on fish populations in the area; and
- proposed felling operations.

Post-Consent Monitoring

MSS recommends that a water quality and fish population monitoring programme is carried out to ensure that the proposed mitigation measures are effective. A robust, strategically designed and site specific monitoring programme conducted before, during and after construction can help to identify any changes, should they occur, and assist in implementing rapid remediation before long term ecological impacts occur.

MSS has published guidance on survey/monitoring programmes associated with onshore wind farm developments (https://www2.gov.scot/Topics/marine/Salmon-Trout-Coarse/Freshwater/Research/onshoreren) which developers should follow when drawing up survey and/or monitoring programmes.

If a developer considers that such a monitoring programme is not required then a clear justification should be provided.

Planning Conditions

MSS advises that planning conditions are drawn up to ensure appropriate provision for mitigation measures and monitoring programmes, should the development be given consent. We recommend, where required, that a Water Quality Monitoring Programme, Fisheries Monitoring Programme and the appointment of an Ecological Clerk of Works, specifically in overseeing the above monitoring programmes, is outlined within these conditions and that MSS is consulted on these programmes.

Wording suggested by MSS in relation to water quality, fish populations and fisheries for incorporation into planning consents:

1. No development shall commence unless a Water Quality and Fish Monitoring Plan (WQFMP) has been submitted to and approved in writing by the Planning Authority in consultation with Marine Scotland Science and any such other advisors or organisations.

2. The WQFMP must take account of the Scottish Government's Marine Scotland Science's guidelines and standing advice and shall include:

    a. water quality sampling should be carried out at least 12 months prior to construction commencing, during construction and for at least 12 months after construction is complete. The water quality monitoring plan should include key hydrochemical parameters, turbidity, and flow data, the identification of sampling locations (including control sites), frequency of sampling, sampling methodology, data analysis and reporting etc.;
    b. the fish monitoring plan should include fully quantitative electrofishing surveys at sites potentially impacted and at control sites for at least 12 months before construction commences, during construction and for at least 12 months after construction is completed to detect any changes in fish populations; and
    c. appropriate site specific mitigation measures detailed in the Environmental Impact Assessment and in agreement with the Planning Authority and Marine Scotland Science.

3. Thereafter, the WQFMP shall be implemented within the timescales set out to the satisfaction of the Planning Authority in consultation with Marine Scotland Science and the results of such monitoring shall be submitted to the Planning Authority on a 6 monthly basis or on request.

Reason: To ensure no deterioration of water quality and to protect fish populations within and downstream of the development area.

Sources of further information

Scottish Natural Heritage (SNH) guidance on wind farm developments - https://www.nature.scot/professional-advice/planning-and-development/advice-planners-and-developers/renewable-energy-development/onshore-wind-energy/advice-wind-farm

Scottish Environment Protection Agency (SEPA) guidance on wind farm developments – https://www.sepa.org.uk/environment/energy/renewable/#wind

A joint publication by Scottish Renewables, SNH, SEPA, Forestry Commission Scotland, Historic Environment Scotland, MSS and Association of Environmental and Ecological Clerks of Works (2019) Good Practice during Wind Farm Construction - https://www.nature.scot/guidance-good-practice-during-wind-farm-construction.

Marine Scotland Science advice on freshwater and diadromous fish and fisheries in relation to onshore wind farm developments.

July 2020

Annex 1

MSS – EIA Checklist

The generic scoping guidelines should ensure that all matters relevant to freshwater and diadromous fish and fisheries have been addressed and presented in the appropriate chapters of the EIA report. Use of the checklist below should ensure that the EIA report contains the following information; the absence of such information ***may necessitate requesting additional information*** which could delay the process:

MSS Standard EIA Report Requirements	Provided in application YES/NO	If YES – please signpost to relevant chapter of EIA Report	If not provided or provided different to MSS advice, please set out reasons.
1. A map outlining the proposed development area and the proposed location of: ○ the turbines, ○ associated crane hard standing areas, ○ borrow pits, ○ permanent meteorological masts, ○ access tracks including watercourse crossings, ○ all buildings including substation, battery storage;			

○ permanent and temporary construction compounds; ○ all watercourses; and ○ contour lines;			
2. A description and results of the site characterisation surveys for fish (including fully quantitative electrofishing surveys) and water quality including the location of the electrofishing and fish habitat survey sites and water quality sampling sites on the map outlining the proposed turbines and associated infrastructure;			
3. An outline of the potential impacts on fish populations and water quality within and downstream of the proposed development area;			
4. Any potential cumulative impacts on the water quality and fish populations associated with adjacent (operational and consented) developments including wind farms, hydro schemes, aquaculture and mining;			
5. Any proposed site specific mitigation measures as outlined in MSS generic scoping guidelines and the joint publication “Good Practice			

during Wind Farm Construction" (https://www.nature.scot/guidance-good-practice-during-wind-farm-construction);			
6. Full details of proposed monitoring programmes using guidelines issued by MSS and accompanied by a map outlining the proposed sampling and control sites in addition to the location of all turbines and associated infrastructure			
7. A decommissioning and restoration plan outlining proposed mitigation/monitoring for water quality and fish populations.			

Developers should specifically discuss and assess potential impacts and appropriate mitigation measures associated with the following:	Provided in application YES/NO	If YES – please signpost to relevant chapter of EIA Report	If not provided or provided different to MSS advice, please set out reasons.
1. Any designated area, for which fish is a qualifying feature, within and/or downstream of the proposed development area;			
2. The presence of a large density of watercourses;			
3. The presence of large areas of deep peat deposits;			

4. Known acidification problems and/or other existing pressures on fish populations in the area; and			
5. Proposed felling operations.			