TECHNICAL APPENDIX 4.1: LEGISLATION, POLICY AND GUIDANCE

Balmeanach Wind Farm

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BASIS OF REPORT

CONTENTS

1.0 Introduction

This Technical Appendix supports **Chapter 4: Policy Context** of the EIA Report by outlining the wider climate change and renewable energy policy context and a summary of specific relevant legislation, policy and guidance for each technical discipline considered in the EIA Report, as follows:

- Climate Change and Renewable Energy Policy;
- EIA;
- Landscape and Visual Amenity;
- Ecology;
- Ornithology;
- Hydrology, Hydrogeology and Soils;
- Cultural Heritage and Archaeology;
- Access, Traffic and Transport;
- Noise;
- Socio-economics and Land Use; and
- Other Considerations.

2.0 Climate Change and Renewable Energy

The UK and Scottish Governments have made a number of international and domestic commitments in respect of reducing emissions of greenhouse gas to combat climate change. The key agreements in this regard are outlined below.

2.1 International Context

United Nations Framework Convention on Climate Change

The United Nations Framework Convention on Climate Change (UNFCCC) came into force on 21 March 1994 and sought to stabilise the atmospheric concentrations of greenhouse gases at *"safe levels"*. The Convention provides an overall framework for international government efforts to address the challenge posed by climate change. Currently there are 197 parties signed up to the Convention. The Convention embodies a series of review mechanisms. The first of these, the Kyoto Protocol was adopted in December 1997, binding governments across the globe to emission reduction targets.

Yearly Conference of the Parties (COP) meetings take place to discuss and agree to any new international targets.

COP21 which was held in Paris in December 2015 resulting in a legally binding global climate change target agreed by all member parties with the aim of capping climate change well below 2°C of warming, the '2015 Paris Agreement'.

COP26 took place in Glasgow in November 2021 and all attending member parties revisited the climate pledges made under the '2015 Paris Agreement'. COP26 concluded with 197 countries agreeing to a new climate deal called the 'Glasgow Climate Pact' which strives to keep cutting emissions until they reach net-zero by 2050.

All countries agreed to speeding up the pace of climate action this decade and to revisit and strengthen their current emissions targets to 2030.

COP27 took place in Egypt in November 2022 and restated the global commitment to ensuring a strong stance in tackling climate change, especially framed within the context of the current energy crisis. COP27 produced further global commitments to further tackling climate change.

Intergovernmental Panel on Climate Change

The most recently published advisory report of relevance to the Proposed Development is the Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report (AR6) (comprising four reports: the Physical Science Basis in August 2021, Impacts, Adaptation and Vulnerability in February 2022, Mitigation of Climate Change in April 2022; and the Synthesis Report in March 2023). AR6 explains in no uncertain terms the challenge that the world faces in addressing climate change and the stark reality of needing to reach net-zero, with real and significant progress by 2030.

2.2 UK Context

Net Zero: The UK's Contribution to Stopping Global Warming (2019)

At COP21, the IPCC was invited to publish a Special Report on the impacts of global warming of 1.5°C and associated greenhouse gas emissions pathways. The IPCC released this Special Report on 08 October 2018. In response to the IPCC's Special Report, the UK Government requested advice from the Committee on Climate Change (a non-departmental public body that advises the Government on the climate) on the implications of the Paris Agreement. This included requesting advice on what further action was needed to meet the goals of the Paris Agreement.

On 02 May 2019 the Committee on Climate Change published their advice in '*Net Zero: the UK's Contribution to Stopping Global Warming*'. The report made the following recommendations:

- UK overall: a new tougher emissions target of net zero greenhouse gases by 2050, ending the UK's contribution to global warming within 30 years. This would replace the previous target of an 80% reduction by 2050 from a 1990 baseline.
- Scotland: a target of net zero greenhouse gases economy by 2045, reflecting Scotland's greater relative capacity to remove emissions than the UK as whole.
- A net zero greenhouse gases target for 2050 would deliver on the commitment that the UK made by signing the Paris Agreement.

The UK targets in the report have since been given legal effect through the Climate Change Act 2008 (2050 Target Amendment) Order 2019, which came into force on 27 June 2019. Prior to this, the UK was committed under the Climate Change Act 2008 to reducing net greenhouse gas emissions by at least 80% of their 1990 levels by 2050. As discussed later in this chapter, the Scottish net-zero targets in the report have also since been given legal effect.

In terms of the new net-zero targets, the report makes it clear for both the UK and Scotland that "*this is only possible if clear, stable and well-designed policies to reduce emissions further are introduced across the economy without delay*." It continues that "*current policy is insufficient for even the existing targets.*"

The Committee on Climate Change report sets out various scenarios for UK net-zero greenhouse gases in 2050. These include one of extensive electrification, particularly of transport and heating. Page 23 of the Executive Summary states that this would need to be "*supported by major expansion of renewable and other low carbon*

power generation. The scenarios involve around a doubling of electricity demand, with all power produced from low carbon sources (compared to 50% today).”

The Committee on Climate Change scenarios for electricity generation estimate that to keep the UK on track to meet is net-zero target, that renewable energy deployment will require a fourfold increase across the UK from current levels. It identifies that this quadrupling of renewable energy will require approximately 22 to 29 gigawatts (GW) of onshore wind capacity by 2030 and solar capacity increased to 23 to 43 GW.

The technical annex to the report specifically addresses integrating variable renewables into the UK electricity system. The annex makes it clear that variable renewable electricity such as large-scale onshore wind energy is now the cheapest form of electricity generation in the UK and can be deployed at scale to meet UK electricity demands.

The report’s ‘further ambition scenario’ for the power sector aims to see low-carbon sources providing 100% of power generation in 2050, with variable renewable sources (including onshore wind) anticipated to contribute some 57% of this total low carbon power generation.

The Sixth Carbon Budget (2020)

In December 2020 the Committee on Climate Change published ‘The Sixth Carbon Budget’, describing what the potential path options to net zero by 2050 look like and detailing the steps that must be taken to achieve this.

A key recommendation of the report is that the UK Government requires a reduction in UK territorial greenhouse gases of 78% by 2035 relative to 1990 level. The report advises that this can be done through the following four steps:

- take up of low carbon solutions;
- expansion of low carbon energy supplies including onshore wind;
- reducing demand for carbon intensive activities; and
- land and greenhouse gas removals.

Key benefits for the UK are seen as including the opportunity for low carbon investment, recognised at a time when it is needed to support the UK’s economic recovery from the COVID-19 health crisis.

Page 23 refers to the devolved nations and sets out that “*UK climate targets cannot be met without strong policy action across Scotland, Wales and Northern Ireland*” and recognises that although the main policy levers are held by the UK Government, that Scotland can take action through complementary measures at the devolved level including supporting policies such as “*planning and consenting”.*

Carbon Budget Delivery Plan 2023

The Carbon Budget Delivery Plan was published in March 2023 and provides detail on the current package of proposals and policies prepared by the Secretary of State (as of March 2023) to enable the delivery of Carbon Budgets 4, 5 and 6.

The Carbon Budget Delivery Plan highlights how crucial renewable energy development is to meeting the Carbon budgets 4, 5 and 6, stating: “*Delivering deep decarbonisation of power is key both to delivering sector carbon*

savings and unlocking the path to net zero across transport, industry, and heating buildings. Meeting growing demand while achieving the goal of decarbonising the power system by 2035 subject to security of supply needs substantial expansion of renewable low carbon generation”.

The UK Energy White Paper, Powering our Net-Zero Future

The UK Government published its Energy White Paper *'Powering our Net-Zero Future'* in December 2020. The White Paper sets out the UK Government's current thinking on the way in which the UK should work towards meeting its net zero targets. It advises that although retiring capacity will need to be replaced, that modelling suggests overall that the demand for electricity could double as transport and heat switch from petrol/diesel and gas respectively to electricity. It notes that this will require a fourfold increase in low-carbon generation by 2030 if the increased demand and net-zero targets are to be met.

The various actions set out in the White Paper are described as "*a strong signal to project developers and the wider investor community about the government's commitment to deliver clean electricity."* In the section 'Our Key Commitments', the White Paper states that "*onshore wind and solar will be the key building blocks for the future generation mix*."

Net Zero Strategy: Build Back Greener 2021

Net Zero Strategy: Build Back Greener was published on 19 October 2021 and sets out how the UK will deliver on its commitments to meet net zero carbon emissions by 2050. The document brings forward the UK government's intention to fully decarbonise the UK electricity system by 2035 and makes it clear that renewables will be a key focus including the creation of more onshore wind energy supplies.

The government also commits to ending the sale of new petrol and diesel cars and vans by 2030 – declaring that by this point all new cars must be fully zero emissions capable.

British Energy Security Strategy 2022

On 07 April 2022 the UK Government released their 'British Energy Security Strategy' focusing on how the Government plans to provide the UK with energy security and increased independence from a volatile international market. Whilst not specifically pushing a boost to onshore wind, the Strategy does note: *"The growing proportion of our electricity coming from renewables reduces our exposure to volatile fossil fuel markets. Indeed, without the renewables we are putting on the grid today, and the green levies that support them, energy bills would be higher than they are now. But now we need to be bolder in removing the red tape that holds back new clean energy developments and exploit the potential of all renewable technologies".*

Powering up Britain (2023)

The latest UK Government's statement on 'Powering Up Britain' is to be the blueprint for the future of energy in the UK. It brings together the Energy Security Plan and Net Zero Growth Plan, and explains how the UK will diversify, decarbonise and domesticate energy production by investing in renewables and nuclear, to power Britain from Britain.

Climate Change Committee Progress Report to Parliament (2023)

The most recent Climate Change Committee's progress reports to Parliament 'Progress in reducing emissions' was published in June 2023. As with previous reports, it restates the need for renewable energy and stronger actions on reducing emissions. The report advises that "Renewable electricity capacity increased in 2022, but not at the rate required to meet the Government's stretching targets. Given short lead-times, rapid deployment of onshore wind and solar could have helped to mitigate dependence on imported gas during the fossil fuel crisis.".

With regards the speed of onshore wind deployment and constraints to increasing this, the report states "*Both onshore wind and solar deployment are progressing more slowly than offshore wind, in part due to barriers in the planning system, despite being among the cheapest forms of electricity generation*".

The report also speaks positively regarding the trends seen with renewable energy and the UK's historic leadership role stating "*The UK has had an impressive history of climate leadership. However, a muted response*

to the energy crisis, support for new fossil fuel production and a retreat from public leadership within the COP process all pose risks to the UK's international reputation. These must all be addressed to reinstate the UK as a credible, impactful climate leader on the international stage".

2.3 Scottish Context

The Scottish Government has continually adopted more ambitious climate change and renewable energy policy and targets than that of the UK Government.

The recently adopted NPF4 (2023) and the Government's Onshore Wind Policy Statement (2022), and the draft Energy and Just Transition Plan (2023) are the key drivers for renewable energy policy in Scotland at this time. These are covered in full in **Chapter 4: Policy Context** and not repeated here.

Scotland's key targets, and the strategies and policies which have been delivering them over the past few years, are outlined below.

The Climate Change (Scotland) Act 2009

The Climate Change (Scotland) Act 2009 initially established long term statutory targets for Scotland of reducing greenhouse gas emissions by at least 80% of 1990 levels by 2050, with an interim target of reducing emissions by at least 42% by 2020. The Act also placed climate change duties on Scottish public bodies and included provisions on climate change including adaption, forestry, energy efficiency and waste reduction.

The Climate Emergency Declaration

At the SNP Conference in April 2019, Scotland's First Minister declared a climate emergency: "*As First Minister of Scotland, I am declaring that there is a climate emergency. And Scotland will live up to our responsibility to tackle it*."

In May 2019 the Scottish Government formally declared a climate emergency. In a speech to the Scottish Parliament, the Climate Change Secretary stated: "*There is a global emergency. The evidence is irrefutable. The science is clear. And people have been clear: they expect action*."

The Climate Change (Emissions Reduction Targets) (Scotland) Act 2019

The Climate Change (Emissions Reduction Targets) (Scotland) Act 2019 came into force on 23 March 2020. The 2019 Act responds to the Paris Agreement and the declaration of a 'climate emergency' in Scotland. It amends the Climate Change (Scotland) Act 2009 and commits Scotland to a new target of net zero emissions of all greenhouse gases by 2045, with interim targets for reductions of at least 56% against 1990 levels by 2020, 75% by 2030 and 90% by 2040. These new greenhouse emissions targets represent a substantial increase over the targets set in the 2009 Act.

Part 4 of the 2009 Act places climate change duties on Scottish public bodies. Section 44(1) states that a "*public body must, in exercising its functions, act: in the way best calculated to contribute to the delivery of* [Scotland's climate change] *targets; in the way best calculated to help deliver any* [Scottish Climate Change Adaptation Programme]*; and in way that it considers most sustainable*". This means that all public sector organisations, including local authorities, are obliged in exercising their functions to do so in a manner which is consistent with meeting the net zero climate change target.

To help ensure delivery of the long-term targets, the 2019 Act includes statutory annual targets working towards net-zero by 2045.

Update to the Climate Change Plan (2020)

The Scottish Government published its most recent Climate Change Plan in December 2020 'Update to the

Climate Change Plan 2018 – 2032: Securing a Green Recovery on a Path to Net Zero'. The Climate Change Plan Update responds to the declared climate emergency and considers what policies and proposals are necessary to deliver against the new targets set under the Climate Change (Emissions Reduction Targets) (Scotland) Act 2019.

The Climate Change Plan Update states that it is essential that a recovery from the COVID-19 pandemic "*responds to the climate emergency*" and "*continues the rapid growth in renewables over the past 20 years, moving from a low to a zero-carbon electricity system*".

Looking specifically at seeking to achieve Scotland's emissions targets out to 2032, the Climate Change Plan Update states that there will need to a be "*a substantial increase in renewable generation, particularly through new offshore and onshore wind capacity*." It seeks to quantify this by identifying that it expects between 11 to 16 GW of new renewable capacity will need to be developed during this period.

A stronger and more resilient Scotland: Programme for Government 2022-23 (2022)

The Programme for Government is published every year at the beginning of September and sets out the actions that the Scottish Government will take in the coming year and beyond.

The Scottish Government's '*A stronger and more resilient Scotland*' was published in September 2022. This document reaffirms the Scottish Government's commitment to targets set out in prior programmes by confirming that these commitments *"remain in place and our ambition to deliver them is undiminished: the more so since we are clear that much of the answer to the current cost crisis and the poverty it will cause lies in our journey to net zero, investment in a strong economy, and in building a fairer society."*

Page 11 notes that *"Scotland has the potential to become a global green energy powerhouse, for Europe and beyond. Scotland's vast potential for renewable energy generation opens up opportunities for exporting electricity and green hydrogen, and attracting energy intensive industries."*

Scottish Energy Strategy (2017)

The Scottish Energy Strategy (SES) was published in 2017 and was therefore also prepared in the context of the lower greenhouse gas emissions targets set initially under the Climate Change (Scotland) Act 2009. The SES sets out the Scottish Government vision for the future energy system in Scotland for the period through to 2050. The Strategy identifies that Scotland's long-term climate change targets will require the near complete decarbonisation of our energy system by 2050, with renewable energy meeting a significant share of our needs.

The SES set a target for the equivalent of 50% of the energy for Scotland's heat, transport and electricity consumption to be supplied from renewable sources by 2030. This 50% target roughly equates to 17GW of installed capacity by 2030. The latest figures on the Scottish Government's Energy Statistics Hub (Scottish Government, last updated 29 June 2023) identify that in 2021 24% of total Scottish energy consumption came from renewable sources.

The SES also set a second target for an increase by 30% in energy productivity by 2030 across the Scottish economy from a baseline of 2015. The latest figures on the Scottish Government's Energy Statistics Hub (Scottish Government, last updated 29 June 2023) estimate that energy productivity in Scotland in 2021 was 5.4% above the 2015 baseline.

Alongside these energy targets, the SES also set out six strategic priorities which included:

"*System security and flexibility – we should have the capacity, the connections, the flexibility and resilience necessary to maintain secure and reliable supplies of energy to all of Scotland's homes and businesses as our energy transition takes place.*

Renewable and low carbon solutions – we will continue to champion and explore the potential of Scotland's huge renewable energy resource, and its ability to meet our local and national heat, transport and electricity needs – helping to achieve our ambitious emissions reduction targets."

The SES advises that onshore wind energy development is essential to Scotland's transformation to a fully decarbonised energy system by 2050 and brings opportunities which underpin our vision to grow a low carbon economy and build a fairer society.

The SES notes that the Scottish Government want to "*see a significant increase in shared ownership of renewable energy projects in Scotland – putting energy into the hands of local communities and delivering a lasting economic asset to communities across Scotland*". The ambition is for at least half of newly consented renewable energy projects by 2020 to have an element of shared ownership. The Scottish Government believe that "*Shared ownership will play a key part in helping to meet our targets of 1 GW of community and locally-owned energy by 2020 and 2GW by 2030*." The Scottish Government "*expect community involvement in onshore wind developments to continue to play a vital role in reaching these targets*."

Other National Planning Policy and Guidance

Other guidance documents relevant to the Proposed Development include the following documents:

- Onshore Wind Turbines Specific Advice Sheet (last updated May 2014);
- PAN 1/2011 Planning and Noise (March 2011);
- PAN 2/2011 Planning and Archaeology (July 2011);
- PAN 1/2013 Environmental Impact Assessment (August 2013);
- PAN 51 Planning, Environmental Protection and Regulation (October 2006);
- PAN 60 Planning for Natural Heritage (January 2008);
- PAN 69 Planning and Building Standards Advice on Flooding (August 2004);
- PAN 75 Planning for Transport (August 2005); and
- PAN 79 Water and Drainage (September 2006).

Scottish Government's Policy on Control of Woodland Removal: Implementation Guide

The Scottish Government's Policy on Control of Woodland Removal was published in 2009 with its implementation guide published in 2019. The guide provides the principles that should be met in order for woodland removal to be appropriate. The fact that there is nowhere identified to be suitable within the main developable area of the site for blanket bog habitat restoration, combined with the peaty nature of the soil under the area of woodland (77.75ha) proposed to be felled, means that the test for woodland removal detailed in the Control of Woodland Removal Policy is met.

Shared Ownership

The Scottish Government supports the principle of shared ownership as part of renewable energy developments. Good Practice Principles for Shared Ownership of Onshore Renewable Energy Developments (2019) advises that:

"The Scottish Government would like to see shared ownership projects being considered, explored, and offered as standard on all new renewable energy projects including, repowering and extensions to existing projects."

A Low Carbon Place sets out considerations which are to be taken into account when considering proposals for energy infrastructure development including wind farms – these include economic benefits and the scale of the contribution to renewable targets.

Details in relation to the applicants plans for shared ownership are provided in the Planning Statement which accompanies this EIA Report, and also provided in **Chapter 3: Description of the Development** and **Chapter 14:**

Socio-economics and Land Use of this EIA Report.

3.0 EIA

3.1 Legislation

The relevant EIA legislation is set out in **Chapter 5: Environmental Impact Assessment** of the EIA Report and is not repeated here.

3.2 Guidance

This EIA is carried out in accordance with the principles contained within the following documents (but is not exhaustive):

- Scottish Government Web Based Guidance Onshore wind turbines (First published in February 2011 and last updated in May 2014);
- Planning Advice Note (PAN) 1/2013 Environmental Impact Assessment (2013);
- Planning Circular 1/2017: Environmental Impact Assessment Regulations 2017;
- Institute of Environmental Management and Assessment (2004) Guidelines for Environmental Impact Assessment; and
- NatureScot (2018) Environmental Impact Assessment Handbook: Guidance for Competent Authorities, Consultation bodies and others involved in the Environmental Impact Assessment Process in Scotland (5th Edition).

4.0 Landscape and Visual Amenity

4.1 Policy

NPF4 (2023)

One of the key messages of Policy 11: Energy in NPF4 is that:

- *"significant landscape and visual impacts…are to be expected for some forms of renewable energy. Where impacts are localised and/or appropriate design mitigation has been applied, they will generally be considered to be acceptable".*

It is also noted that project design and mitigation should demonstrate how "*impacts on communities and individual dwellings, including, residential amenity, visual impact, noise, shadow flicker…and cumulative impacts".*

HwLDP (2012)

The following HwLDP policies are considered to be particularly relevant to the LVIA:.

- Policy 51: Trees and Development - the Council will "*support development which promotes significant protection to existing hedges, trees and woodlands on and around development sites" and "will secure additional tree/hedge planting within a tree planting or landscape plan to compensate removal and to enhance the setting of any new development*."

- Policy 57: Natural, Built and Cultural Heritage - states that the impact on all natural, built and cultural heritage features must be addressed when considering and assessing development proposals.
- Policy 61: Landscape – "*New developments should be designed to reflect the landscape characteristics and special qualities identified in the Landscape Character Assessment of the area in which they are proposed*." The Council will consider available Landscape Character Assessments, Landscape Capacity Studies and its supplementary guidance on Siting and Design and Sustainable Design when assessing new developments.
- Policy 67: Renewable Energy Developments - states that proposals for renewable energy development will be supported "*where it is satisfied that they are located, sited and designed such that they will not be significantly detrimental overall, either individually or cumulatively with other developments.*" Landscape and visual impacts are referred to as key considerations in the Council's judgement on this matter.

Onshore Wind Energy Supplementary Guidance (2016)

Landscape and Visual Effects are discussed in the OWESG as follows:

- Para 4.10 onwards - This section states that "*all proposals should seek to avoid significant adverse landscape and visual effects individually and cumulatively, taking into account other built and permitted proposals as well as valid planning applications not yet determined (the weight apportioned to each will reflect their position in the planning process)*";
- Para 4.11 - The following key aspects should be considered in the assessment: "*National Parks, National Scenic Areas and mapped wild land areas; Special Landscape Areas (including their citations); The capacity of the local landscape character (as defined within a Landscape Character Assessment) to accommodate the proposal; 2km from residential buildings and boundaries of settlements (mapped, where relevant); Important public views (this includes considering impacts to popular viewpoints, the adopted road network, key and designated tourist routes, public footpaths, core paths and other recognised visitor locations)*";
- Para 4.14 - "*Where effects are unavoidable, appropriate mitigation will be required to overcome or otherwise minimise impacts*";
- Para 4.15 - The Council has visualisation standards for wind energy developments;
- Para 4.16 and 4.17 - This section defines criteria which set out key landscape and visual aspects that the Council will use as a framework and focus for assessing proposals; and
- Para 4.18 to 4.21 - This section includes reference to Residential Visual Amenity (RVA) and specifically states that where larger scale developments are proposed within 2km of residential buildings and settlements, applicants will be expected to clearly demonstrate how potential impacts on amenity have been avoided or mitigated, including: "*All proposals should seek to avoid or mitigate impacts on landscape and visual amenity*."

WestPlan (2019)

The West Highlands and Islands Development Plan (THC, Adopted September 2019) also sets out planning policy that is relevant to the Isle of Skye. However, the focus of this is on community and settlement related development and the Highland-wide Local Development Plan referred to in the table above is more relevant to the LVIA and the Proposed Development. The Council's vision for the West Highland and Islands area recognises the importance of high quality places and the need to celebrate and safeguard the environment and natural, built and cultural heritage. Section 1.4, Environment and Heritage, recognises the importance of Special

Landscape Areas and National Scenic Areas. However, the key issues and the protection of the landscape is covered by the Highland-wide Local Development Plan.

4.2 Guidance

The landscape and visual assessment is carried out in accordance with the principles contained within the following documents:

- Landscape Institute (2011) Photography and photomontage in landscape and visual impact assessment. Advice Note 01/11. London, Landscape Institute.
- Landscape Institute (2017) Visual representation of development proposals. Technical Guidance Note 02/17. London, Landscape Institute.
- Landscape Institute and Institute of Environmental Management and Assessment (IEMA) (2013) Guidelines for Landscape and Visual Impact Assessment 3. Third Edition.
- NatureScot (2003) Wildness in Scotland's Countryside, Policy Statement No 02/03.
- NatureScot (2007) Assessing the impacts on wild land interim guidance note (NatureScot, 2007).
- NatureScot (2010) The Special Qualities of the National Scenic Areas. Commissioned Report No. 374.
- NatureScot (2012) Assessing the cumulative impact of Onshore Wind Energy developments.
- NatureScot (2015) Guidance on constructed tracks in the Scottish uplands.
- NatureScot (2017a) Assessing the impact on wild land. Technical note consultation draft.
- NatureScot (2017b) Visual Representation of Wind Farms. Version 2.2.
- THC (2011) Assessment of Highland Special Landscape Areas.
- THC (2016) Onshore wind energy supplementary guidance.
- University of Sheffield and Land Use Consultants (2002) Landscape Character Assessment guidance for England and Scotland. The Countryside Agency and NatureScot.

5.0 Ecology

5.1 Legislation

The ecological assessment has been undertaken with reference to the following legislation:

- The EC Habitats Directive (Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora);
- The Wildlife and Countryside Act 1981 (as amended);
- The Wildlife and Natural Environment (Scotland) Act 2011;
- The Nature Conservation (Scotland) Act 2004;
- The Conservation (Natural Habitats, &c.) Regulations 1994 (the Habitats Regulations) (as amended
- The Protection of Badgers Act 1992 (as amended by the Nature Conservation (Scotland) Act 2004); and
- The Salmon and Freshwater Fisheries (Consolidation) (Scotland) Act 2003.

5.2 Policy

NPF4 (2023)

The strategy and policies of NPF4 support development that helps to secure positive effects for biodiversity. NPF4 emphasises the importance of protecting biodiversity and contributing to the enhancement of biodiversity, including by *"restoring degraded habitats and building and strengthening nature networks"* (Scottish Government, 2023).

A number of the Policies are relevant to Biodiversity including:

- Policy 1: Tackling the climate and nature crises – which gives significant weight to the nature crisis to ensure that it is recognised as a priority in all plans and decisions.
- Policy 2: Climate mitigation and adaptation - encourage, promote and facilitate development that minimises emissions and adapts to the current and future impacts of climate change;
- Policy 3: Biodiversity - plays a critical role in ensuring that development will secure positive effects for biodiversity. It rebalances the planning system in favour of conserving, restoring and enhancing biodiversity and promotes investment in nature-based solutions, benefiting people and nature. The policy ensures that LDPs protect, conserve, restore and enhance biodiversity and promote nature recovery and nature restoration. The policy notes that:

  "b) Development proposals for national or major development, or for development that requires an Environmental Impact Assessment will only be supported where it can be demonstrated that the proposal will conserve, restore and enhance biodiversity, including nature networks so they are in a demonstrably better state than without intervention. This will include future management. To inform this, best practice assessment methods should be used. Proposals within these categories will demonstrate how they have met all of the following criteria:

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

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

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

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

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

  d) any potential adverse impacts, including cumulative impacts, of development proposals on biodiversity, nature networks and the natural environment will be minimised through careful planning and design. This will take into account the need to reverse biodiversity loss, safeguard the ecosystem services that the natural environment provides, and build resilience by enhancing nature networks and maximising the potential for restoration";

- Policy 4: Natural Places - protects and enhances natural heritage, and this is further supported by Policy 5 on soils and Policy 6 on forests, woodland and trees;

- Policy 5: Soils – which seeks to protect carbon-rich soils, restore peatlands and minimise disturbance to soils from development;
- Policy 6: Forestry, woodland and trees - aims to protect and expand forests, woodland and trees; and
- Policy 20: Blue and Green Infrastructure - seeks to promote the expansion and connectivity of blue and green infrastructure.

Scottish Biodiversity Strategy to 2045

The 'Scottish Biodiversity Strategy to 2045: Tackling the Nature Energy in Scotland' was published by the Scottish Government on 13 December 2022 (Scottish Government, 2022), and sets out "*a clear ambition for Scotland to be Nature Positive by 2030, and to have restored and regenerated biodiversity across the country by 2045".* Renewable energy is recognised as key to tackling climate change and achieving net zero, particularly in upland and marine environments.

HwLDP (2012)

The HwLDP (2012) contains a number of policies relating to development and land use in The Highlands. Those relevant to non-avian ecology are:

- Policy 51 – Trees and Development;
- Policy 52 – Principle of Development in Woodland;
- Policy 57 – Natural, Built and Cultural Heritage;
- Policy 58 – Protected Species;
- Policy 59 – Other Important Species;
- Policy 60 – Other Important Habitats and Article 10 Features; and
- Policy 63 – Water Environment.

Other Relevant Policy

Planning Advice Note (PAN) 60: Planning for Natural Heritage (Scottish Government, 2008) provides details on how development and the planning system can contribute to the conservation, enhancement, enjoyment and understanding of Scotland's natural environment and encourages developers and planning authorities to be positive and creative in addressing natural heritage issues.

5.3 Guidance

Other documents and guidance reviewed and applied in the ecological assessment are outlined below (see also 'References' Section at the end of the Ecology Chapter):

- The Scottish Biodiversity List (SBL) (Scottish Government, 2013): a list of animals, plants and habitats that the Scottish Ministers consider to be of principal importance for biodiversity conservation in Scotland. Both scientific and social criteria have been used to define the SBL. Scientific criteria include all Priority Species and Priority Habitats included in the now superseded UK Biodiversity Action Plan (BAP) (UK Biodiversity Partnership, 2007 et seq. (Joint Nature Conservation Committee (JNCC), 2016)), which occur in Scotland. Social criteria are based on the results of an omnibus survey of the Scottish public carried out in 2006, so it should therefore be noted that not all SBL species and habitats are necessarily rare or protected;
- The Skye and Lochalsh Biodiversity Action Plan (Skye and Lochalsh Biodiversity Group, 2003) lists local priority habitats and species. Local priority habitats of most relevance to the site include: acid grassland,

blanket bog, heath, upland streams and migratory fish routes. Local priority species of most relevance to the site include: bat species, pine marten (*Martes martes*), mountain hare (*Lepus timidus*), adder (*Vipera berus*), slow worm (*Anguis fragilis*), common lizard (*Zootoca vivipara*), brown trout (*Salmo trutta*) and Arctic bearberry (*Arctostaphylos alpinus)*;

- Highland Nature: Biodiversity Action Plan 2021 – 2026 (June 2021);
- Guidelines for Ecological Impact Assessment (EcIA) in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine (Chartered Institute of Ecology and Environmental Management (CIEEM) (CIEEM, 2018);
- NatureScot general pre-application/scoping advice to developers of onshore wind farms (NatureScot, 2018);
- Bats and onshore wind turbines: survey, assessment and mitigation (NatureScot et al., 2019);
- Planning for development: What to consider and include in deer assessments and management at development sites. Version 2 (NatureScot, 2016a);
- Guidance on Assessing the Impacts of Development Proposals on Groundwater Abstractions and Groundwater Dependent Terrestrial Ecosystems (GWDTEs) (Scottish Environment Protection Agency (SEPA), 2017); and
- Good Practice during Wind Farm Construction (NatureScot, 2019).

6.0 Ornithology

6.1 Legislation

The ornithology assessment has been undertaken in line with the following legislation:

- EU Exit: The Habitats Regulations in Scotland;
- Directive 2009/147/EC on the Conservation of Wild Birds ('Birds Directive');
- Directive 92/43/EEC on Conservation of Natural Habitats and of Wild Fauna and Flora (as amended) ('Habitats Directive');
- the Wildlife and Countryside Act 1981 (as amended);
- the Conservation (Natural Habitats &c.) Regulations 1994 (as amended in Scotland) (The Habitats Regulations) which transposes the Habitats Directive into UK law;
- the Nature Conservation (Scotland) Act 2004 (as amended); and
- The Wildlife and Natural Environment (Scotland) Act 2011.

6.2 Policy

NPF4 (2023)

NPF4 Policies relevant to the Proposed Development and ornithology are:

- Policy 3: Biodiversity, notes that "*any potential adverse impacts, including cumulative impacts, of development proposals on biodiversity, nature networks and the natural environment will be minimised through careful planning and design. This will take into account the need to reverse biodiversity loss, safeguard the ecosystem services that the natural environment provides, and build resilience by enhancing nature networks and maximising the potential for restoration"*.

- Policy 11: Energy, notes that project design and mitigation should demonstrate how biodiversity including impacts on birds are addressed.

HwLDP (2012)

The HwLDP (2012) has a number of policies relating to the natural and built environments with the aim of protecting habitats, species, and landscapes of international, national and local importance. Policies relevant to ornithology are as follows:

- Policy 57 – Natural, Built and Cultural heritage. All development proposals will be assessed taking into account the level of importance and type of heritage features, the form and scale of the development, and any impact on the feature and its setting, in the context of the policy framework.
- Policy 58 – Species and Habitats. Certain species are protected under European and/or UK law and their presence on or near a development site will require consideration to ensure no offence under the relevant legislation is committed and more generally that no adverse effect on population, including cumulatively, arises.
- Policy 59 – Other Important Species. Development that is likely to have an adverse effect, individually and/or cumulatively, on protected bird species will only be permitted where:
    - There is no other satisfactory solution; and
    - The development is required in the interests of public health or public safety.

This will include but is not limited to avoiding adverse effects, individually and/or cumulatively, on the populations of the following priority protected bird species:

- Species listed in Annex 1 of the EC Birds Directive;
- Regularly occurring migratory species listed in Annex II of the Birds Directive;
- Species listed in Schedule 1 of the Wildlife and Countryside Act 1981 as amended; and
- Birds of conservation concern.

6.3 Guidance

The ornithology assessment is carried out in accordance with the principles contained within the following documents:

- Band, Madders and Whitfield. (2007) Developing field and analytical methods to assess avian collision risk at wind farms;
- Chartered Institute of Ecology and Environmental Management (CIEEM) (2018). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine;
- Disturbance Distances Review: An updated literature review of disturbance distances of selected bird species (Goodship and Furness, 2022);
- Windfarms and birds: calculating a theoretical collision risk assuming no avoidance action (SNH, 2000);
- Assessing connectivity with Special Protection Areas (SPAs) (SNH, 2016);
- Recommended Bird Survey Methods to Inform Impact Assessment of Onshore Wind Farms (SNH, 2017);
- Assessing significance of impacts from onshore windfarms on birds outwith designated areas (SNH, 2018);
- Avoidance rates for the onshore NatureScot wind farm collision risk model (SNH, 2018);

- Assessing the cumulative impact of onshore wind energy developments (SNH, 2018);
- Scottish Renewables et al. (2019). Good Practice during Wind Farm Construction, Version 4;
- Bird Monitoring Methods (Gilbert *et al*., 1998);
- A method for censusing upland breeding waders (Brown & Shepherd, 1993);
- Raptors: A Field Guide to Survey and Monitoring (Hardey *et al*., 2013); and
- Scottish Biodiversity List (SBL) (Scottish Government, 2013).

7.0 Hydrology, Hydrogeology and Soils

7.1 Legislation

The hydrology assessment is carried out in accordance with the principles contained within the following legislation:

- EU Water Framework Directive (2000/60/EC);
- EU Drinking Water Directive (98/83/EC);
- The Environment Act 1995;
- Environmental Protection Act 1990;
- The Flood Risk Management (Scotland) Act 2009;
- Water Environment and Water Services (Scotland) Act 2003 (WEWS Act); and
- The Water Environment (Controlled Activities) (Scotland) Amendment Regulations (CAR) 2013 (CAR);
- The Water Supply (Water Quality) (Scotland) Regulations, 2001;
- Private Water Supplies (Scotland) Regulations 2006; and
- The Water Intended for Human Consumption (Private Supplies) (Scotland) Regulations 2017.

7.2 Policy

NPF4 (2023)

NPF4 Policies relevant to the Proposed Development and hydrology, hydrogeology and soils are:

- Policy 2 (Climate Mitigation and Adaptation);
- Policy 5: Soils, provides significant protection for peatland and carbon rich soils;
- Policy 11: Energy, notes that project design and mitigation should demonstrate how effects on hydrology, the water environment and flood risk are addressed;
- Policy 20 (Blue and Green Infrastructure); and
- Policy 22 (Flood Risk and Water Management).

HwLDP (2012)

The HwDP (2012) policies which are relevant to hydrology, hydrogeology and soils are:

- Policy 53 - Minerals;
- Policy 55 - Peat and Soils;
- Policy 60 - Other Important Habitats and Article 10 Features;
- Policy 62 - Geo-diversity;
- Policy 63 - Water Environment;
- Policy 64 - Flood Risk; and
- Policy 66 - Surface Water Drainage;
- Policy 67 - Renewable Energy Developments; and
- Policy 72 – Pollution.

7.3 Guidance

General Guidance

- Scottish Renewables and SEPA (2012). Developments on Peatland: Guidance on the Assessment of Peat Volumes, Reuse of Excavated Peat and the Minimisation of Waste.
- NatureScot (2013) Constructed Tracks in Scottish Uplands, 2nd Edition;
- Scottish Government (2017). Proposed electricity generation developments: peat landslide hazard best practice guide;
- A joint publication by Scottish Renewables, Scottish Natural Heritage (now NatureScot), Scottish Environment Protection Agency, Forestry Commission Scotland and Historic Environment Scotland, (2019) Good Practice during Windfarm Construction, Version 4; and

Planning Advice Notes (PAN)

- PAN 61 Planning and Sustainable Urban Drainage Systems; and
- PAN 69 Planning and Building Standards Advice on Flooding.

SEPA Pollution Prevention Guidance Note (PPG) and Guidance for Pollution Prevention (GPP)

- GPP01 Understanding your environmental responsibilities – good environmental practices;
- GPP02 Above Ground Oil Storage Tanks;
- GPP03 Use and Design of Oil Separators in Surface Water Drainage Systems;
- GPP05 Works and Maintenance in or near Water;
- PPG06 Working at Construction and Demolition Sites;
- PPG07 Safe Storage – The Safe Operation of Refuelling Facilities;
- GPP08 Safe Storage and Disposal of Used Oils;
- GPP13 Vehicle Washing and Cleaning;
- GPP21 Pollution Incident Response Planning; and
- GPP22 Dealing with Spills.

Construction Industry Research and Information Association (CIRIA) Publications

- C532 Control of Water Pollution From Construction Sites (2001);
- C741 Environmental Good Practice on Site (2015); and
- C753 The Sustainable Urban Drainage Systems (SUDS) Manual (2015).

SEPA Publications

- Groundwater Protection Policy for Scotland, Version 3 (2009);
- Engineering in the Water Environment: Good Practice Guide – Temporary Construction Methods (2009);
- Groundwater Protection Policy for Scotland, Version 3 (2009);
- Engineering in the Water Environment: Good Practice Guide – River Crossings (2010);
- Engineering in the Water Environment: Good Practice Guide – Sediment Management (2010);
- Regulatory Position Statement – Developments on Peat (2010);
- Position Statement – Culverting of Watercourses (2015);
- Land Use Planning System SEPA Guidance Note 2e, Version 1 (2015);
- Land Use Planning System SEPA Guidance Note 31, Version 3 (2017);
- Development on Peat and Off-site Uses of Waste Peat (2017);
- Land Use Planning System Guidance Note 4, Version 9 (2017); and
- Land Use Planning System SEPA Guidance Note 2a, Version 2 (2018).

7.3.1 Webservices

- OS 1:50,000 and 1:10,000 scale mapping data;
- Flood Estimation Handbook (FEH) web service (available online at https://fehweb.ceh.ac.uk/);
- British Geological Survey (BGS) Onshore Geoindex (available online at http://mapapps2.bgs.ac.uk/geoindex/home.html);
- BGS Hydrogeological Maps of Scotland (1:100,000 scale) (available online at https://www.bgs.ac.uk/datasets/hydrogeological-maps-of-scotland/);
- Scotland's Soils, National soil map of Scotland (1:250,000) (available online at http://soils.environment.gov.scot/maps/);
- SEPA flood maps (available online at https://www.sepa.org.uk/environment/water/flooding/flood-maps/ and http://map.sepa.org.uk/reservoirsfloodmap/Map.htm);
- SEPA Environmental Data (available online at https://www.sepa.org.uk/environment/environmental-data/);
- NatureScot Sitelink (available online at https://sitelink.nature.scot/home);
- Natural England Magic Map (available online at http://magic.defra.gov.uk/MagicMap.aspx);
- Data requests with SEPA regarding details of registered/licensed abstractions and discharges (December 2022); and
- Data requests with THC environmental health department regarding details of historic flooding records and private water abstractions (December 2022).e

8.0 Cultural Heritage and Archaeology

8.1 Legislation

The principal relevant legislation comprises:

- The Ancient Monuments and Archaeological Areas Act 1979;
- The Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997; and
- The Historic Environment (Amendment) (Scotland) Act 2011 (this includes amendments to the above).

8.2 Policy

NPF4 (2023)

NPF4 Policies relevant to the Proposed Development and heritage are:

- Policy 7: Historic Assets and Places, protects and enhances historic environment assets and places, and enables positive change as a catalyst for the regeneration of places; and
- Policy 11: Energy, notes that project design and mitigation should demonstrate how impacts on the historic environment are addressed.

HwLDP (2012)

The HwLDP has one policy statement in relation to cultural heritage assets of local/regional and national importance relevant to the assessment. Policy 57 states that:

"All development proposals will be assessed taking into account the level of importance and type of heritage features, the form and scale of the development, and any impact on the feature and its setting, in the context of the policy framework detailed in Appendix 2. The following criteria will also apply:

1. *For features of local/regional importance we will allow developments if it can be satisfactorily demonstrated that they will not have an unacceptable impact on the natural environment, amenity and heritage resource.*
2. *For features of national importance we will allow developments that can be shown not to compromise the natural environment, amenity and heritage resource. Where there may be any significant adverse effects, these must be clearly outweighed by social or economic benefits of national importance. It must also be shown that the development will support communities in fragile areas who are having difficulties in keeping their population and services."*

Scottish Government and Historic Environment Scotland

The Scottish Government and Historic Environment Scotland (HES) have issued several statements of policy with respect to dealing with the historic environment in the planning system:

- Planning Advice Note 2/2011: Planning and archaeology;
- Our Place in Time: The Historic Environment Strategy for Scotland (Scottish Government, 2014);
- Historic Environment Policy for Scotland (HEPS 2019); and
- Historic Environment Circular 1 (2019).

8.3 Guidance

Three relevant pieces of guidance have been published by HES, by HES in conjunction with NatureScot, and by the professional archaeological body the Chartered Institute for Archaeologists. These publications are:

- HES's Managing Change in the Historic Environment: Setting (2020);
- HES's Designation, Policy and Selection Guidance (2019);
- Environmental Impact Assessment Handbook (NatureScot and HES 2018);
- CIfA's Standard and Guidance for Historic Environment Desk Based Assessment (CIfA 2014a, updated 2017), which gives best practice for the execution of desk-based assessment;
- A Guide to Climate Change Impact: On Scotland's Historic Environment (2019); and
- CIfA's Code of Conduct (CIfA 2022).

9.0 Noise

9.1 Policy

NPF4 (2023)

NPF4 Policy 11: Energy, notes that project design and mitigation should demonstrate how "*impacts on communities and individual dwellings, including, residential amenity, visual impact, noise and shadow flicker".*

NPF4 Policy 23: Health and Safety notes that "*Development proposals that are likely to raise unacceptable noise issues will not be supported…. A Noise Impact Assessment may be required where the nature of the proposal or its location suggests that significant effects are likely."*

Onshore Wind Turbines Scottish Government Planning Advice

The web-based Scottish Government planning advice for onshore wind turbines (last updated 28 May 2014) also refers to the two sources of noise generated by wind turbines (as per PAN 1/2011) and states:

"The Report, 'The Assessment and Rating of Noise from Wind Turbines' (Final Report, Sept 1996, DTI) (ETSU-R-97) describes a framework for the measurement of wind farm noise, which should be followed by applicants and consultees, and used by planning authorities to assess and rate noise from wind energy developments, until such time as an update is available. This gives indicative noise levels thought to offer a reasonable degree of protection to wind farm neighbours, without placing unreasonable burden on wind farm developers, and suggest appropriate noise conditions".

The web-based guidance also refers to the Institute of Acoustics (IOA) 'Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise' (hereafter referred to as the IOA GPG), stating that "*the Scottish Government accepts that the guide represents current industry good practice*".

9.2 Guidance

Construction Noise Guidance

BS5228-1:2009+A1:2014

BS5228-1:2009+A1:2014 sets out a methodology for predicting noise levels arising from a wide variety of construction activities and it contains tables of sound power levels generated by mobile and fixed plant.

Annex E of BS5228-1:2009+A1:2014 gives several examples of acceptable limits for construction noise, the most simplistic being based upon the exceedance of fixed noise limits. In this respect, Section E.2 of the standard states: *"Noise from construction sites should not exceed the level at which conversation in the nearest building would be difficult with the windows shut"*.

The assessment of construction noise associated with the Proposed Development is based on the following fixed limit from BS5228-1:2009+A1:2014, which is applicable for rural areas away from main road traffic and industrial noise and outside living rooms during the daytime period:

- Noise levels, between 07.00 and 19.00 hours, outside the nearest window of the occupied room closest to the site boundary, should not exceed 70dB(A).

Construction Traffic Noise Guidance

Design Manual for Roads and Bridges

Noise generated by construction traffic is assessed following the guidance within Part 7 of DMRB. DMRB states that *"a change in noise level of 1dB is equivalent to a 25% increase or 20% decrease in traffic flows, assuming all other factors remain unchanged"*

DMRB also provides advice on the magnitude of effects associated with increases in total traffic flows and associated noise levels. Paragraph 3.37 of DMRB states that *"a change in road traffic of 1dB LA10,18h in the short term (e.g. when a project is opened) is the smallest that is considered perceptible"*.

Operational and Cumulative Noise Guidance

ETSU-R-97

ETSU-R-97 sets out the findings of the Working Group on Noise from Wind Turbines, which was set up in 1993 by the (former) Department of Trade and Industry (DTI) to consider the available methods of noise assessment for wind farms and to derive a method and criteria suitable for future assessments.

ETSU-R-97 recommends that acceptability of wind farm noise should be assessed relative to existing background noise levels, so that both the outdoor amenity and the sleep of local residents are protected. It suggests that noise from wind turbines should be limited to 5dB above the background noise (LA90) at all times. It does however also suggest absolute lower fixed limits of between 35 and 40dB LA90 for daytime (07.00 – 23.00) and 43dB LA90 for night-time (23.00 – 07.00). The absolute lower night-time fixed limit of 43dB LA90 is derived from the sleep disturbance criteria referred to in (the now superseded) PPG 24 (Department for Communities and Local Government, 1994), with an allowance of 10dB for attenuation through an open window and a 2dB correction to convert an LAeq value to LA90.

An increased noise limit of 45dB LA90 (or background noise plus 5dB) is suggested for both daytime and night-time periods for properties where the occupier has financial involvement in the wind farm.

The limits are derived by plotting a best fit line through a graph of the measured background noise levels and the corresponding average wind speeds. The ETSU-R-97 limits are then defined as 5dB above the average background noise level at each wind speed (as defined by the best fit line), or the absolute lower fixed limit, whichever is the highest.

An additional 'simplified' assessment is also presented within ETSU-R-97 (page 66), whereby if an appropriate fixed noise limit can be achieved regardless of the wind speed, then this is considered sufficient for the protection of residential amenity without the measurement of background noise levels. In this regard, ETSU-R-97 states the following:

"If the developer can demonstrate that noise conditions would be met even if there was no increase in background noise with speed until quite high wind speeds, then a simplified approach can be adopted. We are of the opinion that if the noise is limited to an LA90,10min of 35dB up to wind speeds of 10m/s at 10 height, then this condition

alone would offer sufficient protection of amenity and background noise surveys would be unnecessary. We feel that, even in sheltered areas when the wind speed exceeds 10m/s on the wind farm site, some additional background noise will be generated which will increase background noise levels at the property."

All noise limits in ETSU-R-97 are expressed in terms of a 10-minute LA90 noise level. This approach has been adopted to avoid extraneous transitory events unduly affecting the noise generated by wind farms when attempting to measure their noise emission level.

Institute of Acoustics' Good Practice Guide to ETSU-R-97

The Scottish Government has formally endorsed the IOA GPG and the current (web-based) Scottish planning advice recommends that it is used for the assessment of wind turbine noise.

The IOA GPG does not replace the limits within ETSU-R-97, but it does provide good practice guidance on the use of the ETSU document in relation to background noise surveys and on the prediction of wind turbine noise. This is on the proviso that the appropriate input parameters and correction factors are used for the prediction of wind turbine noise, as follows:

- Downwind propagation;
- A receptor height of 4m;
- Atmospheric conditions of 10°C and 70% humidity;
- A ground absorption factor of G = 0.5; and
- Turbine noise emission levels which include a margin for uncertainty.

ISO 9613-2:1996 Prediction Method

The noise generated by the operation of a wind farm is predicted in accordance with ISO 9613-2:1996 (International Organisation for Standardisation, 1996), as recommended by the IOA GPG and as shown below:

Predicted Octave Band Noise Level = Lw – Ageo – Aatm – Agr – Abar – Amisc

(Where Lw is the octave band Sound Power Level (SWL) in decibels (dB) and A represents the various attenuation factors, also in dB)

The attenuation factors indicated in the above formula are detailed as follows:

Ageo is the attenuation due to geometric divergence. This is the reduction in noise levels caused by the spherical spreading of the noise over distance from the point source. The attenuation factor, therefore, increases as the distance from the noise source increases.

Aatm is the absorption of the noise by the atmosphere as sound energy is converted to heat. The level of absorption varies depending on the distance from the source and the atmospheric conditions (temperature and humidity). ISO 9613-1:1993 (International Organisation for Standardisation, 1993) provides appropriate air attenuation factors for differing atmospheric conditions. In line with the IOA GPG, atmospheric conditions of 10°C and 70% humidity are used within the propagation model "to represent a reasonably low level of air absorption".

Agr is the ground factor and represents the reduction in noise levels due to the absorption of sound energy by ground cover. The level of reduction will vary significantly depending on the absorptive qualities of the ground cover. ISO 9613-1:1993 provides advice on appropriate attenuation factors based on a range of cover from hard ground (G = 0) to soft absorbent ground (G = 1). A ground factor of 0.5 is assumed in the predictions of operational wind turbine noise. This is in accordance with the IOA GPG (paragraph 4.3.4), which recommends that a ground factor of 0.5 is used for turbines with warranted Sound Power Levels (SWLs) or with emission levels which include a margin for uncertainty.

Abar relates to the attenuation due to the screening and reflection effects provided by obstacles between the source and receiver. The level of attenuation will vary depending on the degree by which the line of sight between source and receiver is affected and the frequency considered. In relation to wind farms, local topography would provide the largest influence on barrier effects; however, within the operational noise model, attenuation attributable to local topography is not included.

The predicted (LAeq) noise levels for all turbines are totalled to provide an overall A-weighted noise level. A further correction of 2dB is subtracted to convert the LAeq level to the LA90 as required for the ETSU-R-97 assessment. This is reiterated in the IOA GPG (at paragraph 4.25) which states:

> *"To obtain the LA90 parameter required by ETSU-R-97, it is necessary to apply a correction to the prediction results. Based on recent research, the assumption described in ETSU-R-97 in this regard continues to remain valid. A correction of -2dB is commonly applied."*

The Highland Council – Onshore Wind Energy Supplementary Guidance

The Highland Council's 'Onshore Wind Energy Supplementary Guidance' (2016) details how onshore wind energy development proposals would be managed. The guidance has a section that sets out the assessment methods and key guiding principles that should form the basis of the noise assessment. The guidance states that a noise assessment for a proposed large-scale wind turbine development should be undertaken in accordance with ETSU-R-97 and the IOA GPG.

The guidance goes on to state that due to the undeveloped nature of the Highlands, proposals should aim to achieve noise limits at the lower end of ranges given in national guidance at sensitive locations.

With regard to the cumulative effects of noise from wind farms, THC states:

"Where noise from more than one wind turbine development may have a cumulative impact at any noise sensitive location, applicants must ensure this is adequately assessed in accordance with best practise, which includes consideration of both predicted and consented levels".

Institute for Environmental Management and Assessment (IEMA) Guidelines

The noise assessment in **Chapter 13** has also been undertaken with reference to the 'Guidelines for Environmental Noise Impact Assessment' (2014), produced by IEMA.

10.0 Site Access, Traffic and Transport

10.1 Legislation

- Road Vehicles (Authorisation of Special Types) (General) Order 2003; and
- The Roads (Scotland) Act 1984.

10.2 Policy

NPF4 (2023)

NPF4 Policy 11: Energy notes that project design and mitigation should demonstrate how impacts on road traffic and on adjacent trunk roads, including during construction are addressed.

HwLDP (2012)

The HwDP (2012) presents policies of which Policy 56 'Travel' is the most relevant to traffic and transport.

Planning Advice Note (PAN) 75 – Planning for Transport

PAN 75 refers to SPP for the requirement to prepare a Transport Assessment for significant travel generative developments. It also notes that:

"Development applications will therefore be assessed by relevant parties at levels of detail corresponding to their potential impact."

The Note seeks to influence travel behaviour of new developments to more sustainable modes, although there are only very limited opportunities to consider sustainable travel modes to the Proposed Development, given its remote location. It is noted that:

"The Transport Assessment process should then establish ways to accommodate or mitigate the impacts of less sustainable transport modes in order to meet the mode share targets."

Therefore, Chapter 12: Site Access, Traffic and Transport of the EIA Report confirms that construction staff, operational service staff and raw materials for construction would be sourced as locally as possible to reduce overall travel distances as far as practicable. Car sharing is also considered to be a viable solution for reducing overall vehicle trips from the Proposed Development during construction.

10.3 Guidance

- Transport Assessment and Implementation: A Guide (August 2005);
- Design Manual for Roads and Bridges (DMRB)
- Guidelines for the Environmental Assessment of Road Traffic (EART) (1993);
- Planning Advice Note 75: Transport and Planning (2005)
- Road Vehicles (Authorisation of Special Types) (General) Order 2003;
- the Roads (Scotland) Act 1984; and
- National Road Traffic Forecasts (Great Britain) 1997.

11.0 Socio-Economics, Tourism, Recreation and Land Use

11.1 Policy

NPF4 (2023)

NPF4 Policy 11: Energy, notes that *"Development proposals will only be supported where they maximise net economic impact, including local and community socio-economic benefits such as employment, associated business and supply chain opportunities"; a*nd project design and mitigation should demonstrate "*public access, including impact on long distance walking and cycling routes and scenic routes"*.

HwLDP (2012)

The HwLDP (2012) Policy most relevant to the Proposed Development is Policy 67 – Renewable Energy Developments, which sets out THC's support in principle for renewable energy developments. Policy 67 states that:

"the Council will support proposals where it is satisfied that they are located, sited and designed such that they will not be significantly detrimental overall, either individually or cumulatively with other developments, having regard in particular (among other topic areas) *to any significant effects on:*

- *amenity at sensitive locations, including residential properties, work places and recognised visitor sites (in or outwith a settlement boundary);*
- *the amenity of users of any Core Path or other established public access for walking, cycling or horse riding; and*
- *tourism and recreation interests;*

Onshore Wind Policy Statement 2022

Chapter 5: Onshore Wind and Benefits to Scotland of the OWPS is very relevant to the socio-economic assessment noting that:

"The socio-economic benefits of the onshore wind sector in Scotland are widespread, from investment and innovation to skills development and jobs. The latest statistics from the UK Government show that onshore wind in the UK generated £2.4 billion in turnover in 2020 alone."

Paragraphs 5.6.6 and 5.6.7 note that:

"Scotland's available land has a variety of demands that we need to balance if we are to meet our net zero targets. We consider the effect that onshore wind farms can have on local and national tourism as a significant opportunity to cultivate a 'people and place' approach and provide economic opportunities in areas that may otherwise be overlooked. The Scottish Government is keen to see more developments in Scotland with similar recreational or community-based provisions.

There are already many examples of renewable energy schemes boosting tourism across Scotland, be it Whitelee Wind Farm on the outskirts of Glasgow, providing additional outdoor recreational activities on over 130km of tracks; or the Soirbheas Community Group who reinvest revenue from renewable energy schemes into a range of projects to benefit their communities."

Core Paths Plans

THC has a duty under the Land Reform (Scotland) Act 2003 to identify Core Paths to satisfy the basic needs of local people and visitors for general access and recreation and provide links to the wider path network throughout the Highland region.

The West Highlands and Islands Core Path land review commenced in 2015 with a call for paths. The Draft Amended Plan was published in July 2019. The Draft Modified Amended Plan is currently sitting with Scottish Government DPEA, the Planning & Environment Appeals Division to assess a handful of unresolved objections, however it is noted that none of those are on Skye.

11.2 Guidance

NatureScot (2018) Environmental Impact Assessment Handbook

The NatureScot handbook on Environmental Impact Assessment states (at E.2.2) that *"the Environmental Statement may set out material considerations which could outweigh the [relevant planning] policies - such as economic benefits or benefits to other aspects of the environment that may be enhanced rather than harmed."*

Scottish Government (2019) Good Practice Principles for Community Benefits from Onshore Renewable Energy Developments

This guidance was updated in 2019 as a result of the Scottish Government's recognition at that time that the renewables industry was in a period of transition, following changes to UK Government support schemes. The revised guidance places a greater focus on achieving a lasting legacy for local communities underpinned by a well-developed community action plan. The guidance notes that within the previous 12 months (to 2019), 214 projects offered community benefits packages totalling over £15 million. The guidance is supportive of renewable energy businesses that seek to offer communities a flexible package of benefits that might not

necessarily be based on Scottish Government's recommended national rate of £5,000 per installed MW per year; such flexible packages of benefit should offer an element of additionality and go beyond the requirements of the planning process, and also recognise the ambition to offer the lowest cost energy for consumers. New models of community benefits, and new approaches, will be supported.

The package of benefits that a renewable energy business offers may vary in line with the priorities of community/communities involved, and the size and scope of the renewable energy project. However, community benefits should relate to the specific needs and aspirations of local people. The guidance advises that possession of a community action plan is key to delivering a community's aspirations and ambitions, and guidance is provided as to how this should be developed with a view to establishing a lasting legacy.

Scottish Government (2019) Good Practice Principles for Shared Ownership of Onshore Renewable Energy Developments

This document was intended to provide guidance on the Scottish Government's ambition to ensure that shared ownership forms a key part in helping to meet the targets of 2GW of community and locally owned energy by 2030 (previous target was 1GW by 2020) and community involvement in onshore wind development continues to play a vital role in reaching these targets. The document provides guidance on the process of a renewable energy business making an offer, and a community accepting that offer. The aim of the review was to ensure that Scottish communities continue to benefit from local projects in a manner that is appropriate for the current and future context in which renewable energy projects are developed, and advises on how local communities, renewable energy companies and local authorities can work together to achieve this.

Scottish Government (2016) Draft Advice on Net Economic Benefit and Planning

The draft advice on net economic benefit from the Scottish Government provides advice to developers on the methodology to be used when modelling economic benefits. The advice states the importance of using assumptions that are completely transparent, evidence-based and as accurate as possible. The assessment is expected to consider the net economic benefit by comparing the estimated economic position where the development proceeds with the position if the proposal does not go ahead.

NatureScot (2019) Good Practice During Wind Farm Construction

NatureScot Good Practice Guidance on windfarms contains advice on management measures to provide for continuing public access to core paths and rights of way. The Guidance advises that management measures should be flexible enough to take reasonable account of public access requirements. The Guidance emphasises the importance of effective communication.

Tourism Scotland 2020 and Yearly Review 2017

The Tourism Scotland 2020 document advises that tourism is one of Scotland's key economic contributors. It identifies four groups of assets that contribute to the tourist appeal of Scotland. These are:

- destination towns and cities;
- events and festivals; and
- business tourism.

The document set an aspiration to increase annual visitor spend in Scotland by £1 billion by 2020 from the baseline in 2011 (at 2011 prices).

The 2017 review showed an increase in total tourism turnover and tourism related jobs between 2011 and 2015 during which time the number of wind farms in Scotland did increase.

12.0 Shadow Flicker

12.1 Guidance

The Scottish Government's online information on onshore wind turbines, states that "*under certain conditions of geographical position, time of day and time of year, the sun may pass behind the rotor and cast a shadow on neighbouring properties. When the blades rotate, the shadow flicks on and off, the effect is known as "shadow flicker*". It occurs only within buildings where the flicker appears through a narrow window opening. The seasonal duration of this effect can be calculated from the geometry of the machine and the latitude of the potential site."

The Scottish Government's advice states that where shadow flicker could be a problem, "developers should provide calculations to quantify the effect. In most cases however, where separation is provided between wind turbines and nearby dwellings (as a general rule 10 rotor diameters) "shadow flicker" should not be a problem. However, there is scope to vary layout/reduce the height of turbines in extreme cases".

THC advises in their Supplementary Guidance that wind energy developments should be located a minimum distance of 11 times the blade diameter of the turbine(s) from any regularly occupied buildings not associated with the development. Within a distance less than 11 times the blade diameter, a shadow flicker assessment will be required. The Council may support a scheme that relies on mitigation, where it is deemed to be effective. In such instances turbine shutdown systems will be the required mitigation. The increase in distance from the widely accepted 10 times rotor diameter to 11 is to account for the northern latitudes of Highland- this is in line with the conclusions of the DECC Update of UK Shadow Flicker Evidence Base, 2011.

Planning guidance in the UK requires developers to investigate the impact of shadow flicker. This guidance does not specify how to assess the impact, or how to assess the significance of the impact. In Scotland current guidance is available in the Scottish Government Specific Renewables Advice Sheet on "Onshore Wind Turbines" (last updated May 2014) which replaced Planning Advice Note (PAN) 45, which is now revoked.

Onshore Wind Turbines (2014), states that:

"Under certain combinations of geographical position, time of day and time of year, the sun may pass behind the rotor and cast a shadow over neighbouring properties. When the blades rotate, the shadow flicks on and off; the effect is known as "shadow flicker". It occurs only within buildings where the flicker appears through a narrow window opening. The seasonal duration of this effect can be calculated from the geometry of the machine and the latitude of the potential site.

Where this could be a problem, developers should provide calculations to quantify the effect. In most cases however, where separation is provided between wind turbines and nearby dwellings (as a general rule 10 rotor diameters), "shadow flicker" should not be a problem. However, there is scope to vary layout / reduce the height of turbines in extreme cases".

In England, the National Planning Policy Framework (NPPF), Planning Practice Guidance identifies that: "Only properties within 130 degrees either side of north, relative to the turbines can be affected at these latitudes in the UK – turbines do not cast long shadows on their southern side."

Guidance from Northern Ireland in Best Practice Guidance to PPS18: Renewable Energy (Department for the Environment, 2009) states that:

"At distance, the blades do not cover the sun but only partly mask it, substantially weakening the shadow. This effect occurs first with the shadow from the blade tip, the tips being thinner in section than the rest of the blade. The shadows from the tips extend the furthest and so only a very weak effect is observed at distance from the turbines.

Problems caused by shadow flicker are rare. At distances greater than 10 rotor diameters from a turbine, the potential for shadow flicker is very low. The seasonal duration of this effect can be calculated from the geometry

of the machine and the latitude of the site. Where shadow flicker could be a problem, developers should provide calculations to quantify the effect and where appropriate take measures to prevent or ameliorate the potential effect, such as by turning off a particular turbine at certain times.

It is recommended that shadow flicker at neighbouring offices and dwellings within 500m should not exceed 30 hours per year or 30 minutes per day".

The above criteria are widely accepted in shadow flicker analysis for wind farms. Additionally, the 10 rotor diameter rule has been widely accepted across different European countries, and is deemed to be an appropriate assessment area, although there is potentially a need to take into consideration areas at different latitudes and therefore 11 rotor diameters is used for the Highlands.

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