

- Scotland’s Energy Strategy¹⁴⁸;
- Onshore Wind Sector Deal for Scotland¹⁴⁹
- Onshore Wind Policy Statement 2022¹⁵⁰;
- Scottish Tourism Alliance (2021), Scotland Outlook 2030¹⁵¹; and
- South Lanarkshire Economic Strategy 2022-2027¹⁵².

The report will also consider whether the Proposed Development maximises net economic benefit, in the context of NPF4 Policy 11(c) which states 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*”. The analysis will reach the conclusion on whether the project maximises the net economic impact in the context of this NPF4 Policy 11(c).

Whilst NPF4 includes no requirement to consider tourism when considering net economic impact or in the project design and mitigation process, relevant employment statistics show that in Clydesdale East the employment in the sustainable tourism sector accounts for a higher percentage of total employment in the area (8.8%) compared to Scotland (8%). This indicates the importance of tourism in the local area surrounding the Proposed Development and it is recognised that local stakeholders may be interested in the potential impact. Thus, a tourism assessment will be included in the socio-economic report.

The potential socio-economic effects that will be considered are:

- temporary effects on the identified Study Areas due to expenditure during the construction phase;
- permanent effects on the identified Study Areas due to expenditure associated with the on-going operation and maintenance of the Proposed Development;
- permanent effects on the local economy as a result of any additional public expenditure that could be supported by the additional tax revenue that would be generated by the Proposed Development during the operational phase; and
- permanent effects on the local economy that could be supported by any community funding that might be provided by the Applicant during the operational phase.

This assessment will also consider the potential effects that the development could have on tourism following a more focused approach on impacts related to key tourist attractions and recreation assets.

¹⁴⁸ Scottish Government (2023) Draft Energy Strategy and Just Transition Plan. Available at: <https://www.gov.scot/binaries/content/documents/govscot/publications/strategy-plan/2023/01/draft-energy-strategy-transition-plan/documents/draft-energy-strategy-transition-plan/draft-energy-strategy-transition-plan/govscot%3Adocument/draft-energy-strategy-transition-plan.pdf> [Accessed January 2025]

¹⁴⁹ Scottish government (2023) Available at: <https://www.gov.scot/publications/onshore-wind-sector-deal-scotland/documents/> [Accessed February 2025]

¹⁵⁰ Scottish Government (2022) Onshore Wind Policy Statement 2022. Available at: <https://www.gov.scot/binaries/content/documents/govscot/publications/strategy-plan/2022/12/onshore-wind-policy-statement-2022/documents/onshore-wind-policy-statement-2022/onshore-wind-policy-statement-2022/govscot%3Adocument/onshore-wind-policy-statement-2022.pdf> [Accessed January 2025]

¹⁵¹ Scottish Tourism Alliance (2021), Scotland Outlook 2030. Available at: <https://scottishtourismalliance.co.uk/wp-content/uploads/2020/03/Scotland-Outlook-2030.pdf> [Accessed January 2025]

¹⁵² South Lanarkshire Council (2022) South Lanarkshire Economic strategy 2022 -2027. Available at: [\[Accessed February 2025\]](https://southlanarkshire.cmis.uk.com/southlanarkshire/Document.ashx?czJKcaeAi5tUFL1DTL2UE4zNRBcoShgo=Z9JpVXraH6xk60ouBdJyW2RQIL%2FeSc7xaqOUKjKnS41Aa7WVOh8oig==&rUzwRPf+Z3zd4E7Ikn3Lyw==&pwRE6AGJFLDNih225F5QMaQWctPhwdhUfCZ%2FLUQzgA2uL5jNRG4jdQ==&mCTIbCubSFFxsDGW9IXnlg==&hFfUdN3100=&kCx1AnS9%2FpWZQ40DXFvdEw==&hFfUdN3100=&uJovDxwdjMPoYv+AJvYtyA==&ctNJFF55vVA=&FgPIIEJYIotS+YGoBi5oIA==&NHdURQburHA=&d9Qjj0ag1Pd993jsyOJqFvmyB7X0CSQK=ctNJFF55vVA=&WGewmoAfeNR9xqBux0r1Q8Za60lavYmz=ctNJFF55vVA=&WGewmoAfeNQ16B2MHuCPMRKZMwaG1PaO=ctNJFF55vVA=)

There is no specific legislation or guidance available on the methods that should be used to assess the socio-economic impacts of the Proposed Development. The proposed method will however be based on established best practice, including that used in UK Government and industry reports on the sector. This assessment will draw from two studies by BiGGAR Economics on the UK onshore wind energy sector¹⁵³, a report published by RenewableUK and the Department for Energy and Climate Change (DECC) in 2012 on the direct and wider economic benefits of the onshore wind sector to the UK economy, as well as more recent industry data on the onshore wind sector and its supply chain, including evidence from South Lanarkshire.

There is also no formal legislation or guidance on the methods that should be used to assess the effects that wind farm development may have on tourism interests. The proposed method will consider specific attractions or tourism facilities to assess if there could be any effects from the Proposed Development.

The assessment will also consider the extent to which nearby wind farms may have cumulative socio-economic effects, for example increasing the capacity of the local supply chain or contributing to community development in the area.

It is anticipated that the contents of the socio-economic assessment chapter will include:

- introduction, including scope of assessment and methodology;
- economic development and tourism strategic context;
- baseline socio-economic context;
- baseline tourism and recreation context;
- socio-economic assessment;
- tourism and recreation impact assessment;
- proposed measures and actions to maximise local economic and community impacts;
- proposed measures and actions to mitigate any harmful effects (if required); and
- summary of findings and conclusion.

In order to assess the magnitude of socio-economic impacts, the level of activity/ employment supported during the construction and operation phases will be estimated.

Government and industry reports will be used to determine the expected capital and operational expenditure associated with the Proposed Development, as well as the breakdown of expenditure by different contracts (e.g. turbine, balance of plant). An assumption will then be made based on the share of each type of contract that can be secured regionally and nationally. This increase in turnover will then be used to estimate the economic impact associated with the Proposed Development.

The method to assess the socio-economic effects will be based on industry best practice and will consider the share of contracts that can be secured in each Study Area, and the level of employment that can be supported as a result.

In order to assess effects on tourism and recreation, the features that make the local area distinctive and attractive will be identified and the potential impact of the Proposed Development on those key features will then be assessed.

¹⁵³ BiGGAR Economics (2012) Onshore Wind: Direct & Wider Economic Impacts and BiGGAR Economics (2015) Onshore Wind: Direct and Wider Economic Benefits.

4.2 Population and Human Health

The EIA will consider human health in terms of amenity through the assessment of potential likely significant effects associated with water supplies, noise, traffic and visual amenity. No other sources or pathways for effects on human health have been identified.

The potential for any effects on “population” will be considered through the Socio-Economic and Tourism Report which will accompany the Application (as described above).

Appropriate control measures to ensure potential construction effects on air, noise and water quality are managed appropriately will be addressed through an outline CEMP which will be included as a technical appendix to the EIAR. A similar decommissioning management plan would be prepared for the decommissioning phase in line with the relevant guidance requirements at that time.

As such, it is proposed that a separate human health impact assessment chapter will therefore not be presented in the EIAR.

4.3 Risk of Major Accidents and/or Disasters

The construction, operation and decommissioning of the Proposed Development would be undertaken under relevant health and safety regulations including the requirements of the Construction (Design and Management) Regulations 2015¹⁵⁴. A risk assessment process will be followed by the Principal Designer during the design stage, which will ensure that all potential risks are identified at an early stage and appropriate mitigation is implemented.

The risk of a major accident or disaster occurring as a result of the Proposed Development is therefore considered to be low. During the operation, routine maintenance inspections would be completed in order to ensure compliance.

Accordingly, it is proposed to scope out an assessment of major accidents and disasters from the EIAR.

It should however be noted that, if required, a peat landslide risk assessment will be undertaken and included as a Technical Appendix to the EIAR.

4.4 Ice Throw and Ice Fall

Modern wind turbines are designed to operate such that either ice does not accumulate on blades (through heating of blades during periods of weather where ice accumulation is possible), or if there is ice accumulation the turbine will automatically shut down (sensors on the blades detect ice accumulation and trigger shutdown) and so potential for ice throw from blades is avoided by design. Ice fall from turbines may occur and physical and visual warnings for both site personnel and third parties are also used to alert people to the risk of ice fall in the immediate area under the turbines.

In line with current guidance a permanent warning sign at the Site entrance is proposed to alert the public to potential ice fall. No detailed assessment is proposed as part of the EIAR.

4.5 Air Quality

The Proposed Development is not considered likely to give rise to significant impacts on air quality. The main activities that could have potential impacts would be limited to construction works (e.g. dust from soil stripping and earthworks, from excavation, potentially including occasional blasting, and from vehicles running over unsurfaced ground) and exhaust emissions from fixed and mobile construction plant and construction vehicles.

¹⁵⁴ Available at: <https://www.legislation.gov.uk/uksi/2015/51/contents/made> [accessed January 2025].

Construction works would be localised, short term, intermittent and controllable through the application of good construction practice. Fixed and mobile plant would be limited in size and number and would operate for short periods. Measures to manage air quality during construction, such as dust management, will be included in the outline CEMP to be included as a technical appendix to the EIAR.

The contributions of exhaust emissions (NO₂ and PM₁₀) from construction vehicles would likely be low, and orders of magnitude below current UK Air Quality Strategy Objectives¹⁵⁵.

Once operational, the only source of emissions would be from occasional maintenance vehicles, and accordingly any impacts would be negligible.

Therefore, it is proposed that the EIA will not address air quality impacts.

4.6 Climate Change

4.6.1 Carbon Emissions

The Proposed Development itself will contribute positively to helping Scotland (and the UK) meet its target for carbon reduction through the production of low carbon renewable energy and replacement of generating capacity that would otherwise be delivered by more carbon intensive generation sources.

However, it is acknowledged that the Proposed Development will still give rise to carbon emissions associated with its construction. A transparent account of carbon emissions for the Proposed Development throughout its lifecycle will be provided in the form of a Carbon Balance assessment, which will be prepared and submitted as a Technical Appendix to the EIAR. The report will include a calculation of the expected carbon savings over the lifetime of the Proposed Development and will be presented using the latest version of the Scottish Government’s Carbon Calculator Tool¹⁵⁶. This remains the suitable standardised tool for use in relation to net carbon saving calculations for wind farm developments across the UK.

The assessment will be undertaken in accordance with the Scottish Government’s recommended methodology¹⁵⁷ and will present the carbon emissions associated with construction materials and the wind turbines themselves, including ground conditions, access preparations, foundation excavations, materials used on-site, the transportation of materials and components to Site, and any other carbon loss (e.g. through the degradation of peat / peaty soils).

4.6.2 Climate Resilience

The vulnerability of the Proposed Development to climate change will be considered as part of the detailed design process, which will consider the potential consequences of climate change (e.g. increased flood risk potential and more extreme weather conditions).

The Proposed Development’s response to climate resilience risks will be provided in the introductory chapters of the EIAR and description of the Proposed Development. Consideration will be given to proposed mitigation measures (both inherent and additional) to ensure the Proposed Development is resilient to a changing climate.

¹⁵⁵ Available at https://uk-air.defra.gov.uk/assets/documents/Air_Quality_Objectives_Update_20230403.pdf [Accessed January 2025]

¹⁵⁶ Available at <https://informatics.sepa.org.uk/CarbonCalculator/index.jsp> [Accessed January 2025]

¹⁵⁷ Nayak et. al., (2010) Scottish ‘Calculating Carbon Savings from Wind Farms on Scottish Peatlands – A New Approach’. Available at: <https://www.gov.scot/publications/calculating-carbon-savings-wind-farms-scottish-peat-lands-new-approach/> [accessed January 2025]

With adoption of a climate resilient design and the assessment of key environmental risks associated with climate change (e.g. flood risk) as an integral part of the 'scoped in' environmental topics, it is proposed to scope out an assessment of climate resilience from the EIAR.

4.7 Forestry

According to the Scottish Government's National Scale Land Capability for Forestry Map¹⁵⁸, much of the Site is located on areas classified as Forestry Land F6: *Land with very limited flexibility for the growth and management of tree crops*, with smaller sections located on areas classified as Forestry Land F5: *Land with limited flexibility for the growth and management of tree crops*. There is a small area of commercial forestry located in the northwest of the Site.

It is anticipated that no areas of sensitive woodland or commercial forestry plantation would be affected by the Proposed Development. Therefore, there will be no requirement for the development of forestry felling and re-stocking proposals in accordance with The Scottish Government's Control of Woodland Removal Policy¹⁵⁹. Any woodland re-planting on-site could be subject to future management control options (e.g. felling, coppicing, etc.) to prevent such woodland from affecting the performance of the Proposed Development.

4.8 Eskdalemuir Seismic Array

The Site is located between 30 km and 40 km northwest of the Eskdalemuir Seismic Array (EKA) and as such operation of the wind farm is anticipated to be subject to a Seismic Impact Limit (SIL).

The design of the Proposed Development will need to ensure that the SIL can be met.

Initial calculation of the anticipated likely seismic impact of a representative candidate turbine at an early layout has been undertaken. This has confirmed that it is anticipated that a wind farm can be delivered at the Site within an established SIL, on the assumption that an appropriate seismic budget allocation can be made available to the Proposed Development.

As such it is not anticipated that the Proposed Development would have a significant effect on the operation of the EKA and impacts on the EKA are proposed to be scoped out of the EIA.

It is proposed that a technical report demonstrating the anticipated performance of the Proposed Development in relation to the EKA will be provided as a technical appendix to the EIAR.

4.9 Telecommunications

Wind turbines can cause electromagnetic interference through physical and electrical interference which can affect television signals and communications equipment. Physical interference can cut across electromagnetic signals resulting in ghosting effect which largely affects television signals and radar. Electrical interference arises as a result of the operation of the generator within the nacelle of the turbine and can affect communication equipment in proximity to the turbines.

The Office of Communications (Ofcom) is responsible for the licencing of two-way radio transmitters and holds a register, the Spectrum Information Portal¹⁶⁰, of most microwave links. The Ofcom Spectrum Information Portal identifies a number of fixed telecommunication links within 3 km of the Site boundary, mainly focussed on Green Lowther hill, Abington (Craighead Hill) and Elvanfoot (Ladies Cairn), with some of these links running through the Site.

¹⁵⁸ Available at https://map.environment.gov.scot/Soil_maps [accessed January 2025]

¹⁵⁹ Available at <https://www.forestry.gov.scot/publications/285-the-scottish-government-s-policy-on-control-of-woodland-removal>

¹⁶⁰ Available at <https://www.ofcom.org.uk/spectrum/information/spectrum-information-system-sis/spectrum-information-portal>

Consultation with system operators, including Atkins, BT, EE, Joint Radio Company (JRC), O2 and Vodafone, will be undertaken in order to understand the Proposed Development's potential to cause electromagnetic interference with their assets.

Where possible, any potential effects on radio-communication links and television will be mitigated at the turbine layout design stage by the use of exclusion zones around any link paths. The paths of any links through the Site will be plotted and appropriate safeguarding buffers will be calculated. These buffers will be fed into the design process of the Proposed Development, with the primary aim of preventing effects by siting turbine infrastructure outwith the respective safeguarding areas. Should turbines be proposed to be sited within the identified safeguarding areas, a technical report would be prepared and included as a Technical Appendix to the EIAR, and mitigation measures would subsequently be agreed with the relevant operator(s).

4.10 Shadow Flicker

Under certain combinations of geographical position, times of day and year, the sun may pass behind a wind turbine rotor and cast a shadow over the windows of neighbouring buildings. When the blades rotate and the shadow passes a window, to a person within that room, the shadow appears to flick on and off; this effect is known as 'shadow flicker'. This effect occurs only within buildings where the flicker appears through a window aperture and in the UK typically occurs only in buildings within 130 degrees either side of north relative to a turbine.

Scottish Government Onshore Wind Turbines: Planning Advice¹⁶¹ states that "where separation is provided between wind turbines and nearby dwellings (as a general rule 10 rotor diameters), 'shadow flicker' should not be a problem." A desk-based analysis confirms that, based on the scoping layout, there are up to 17 dwellings located within 10 rotor diameters and 130 degrees either side of north of the Proposed Development.

No formal guidance is available regarding what levels of shadow flicker may be considered acceptable in the UK. However, guidance from Northern Ireland states that: "It is recommended that shadow flicker at neighbouring offices and dwellings within 500 m should not exceed 30 hours per year or 30 minutes per day".

As part of the EIA process, shadow flicker modelling will be undertaken to provide details on the predicted frequency of occurrence of shadow flicker at each window location at each of the residential properties identified within 10 rotor diameters of the turbine locations. At this stage, it is anticipated that, if required, mitigation solutions would be available such that no significant effects are considered likely. As such, it is proposed that this topic would be addressed via a technical report included as a Technical Appendix to the EIAR, which would set out details of the predicted shadow flicker effects at relevant properties and, where necessary, appropriate mitigation.

A review of cumulative developments will also be undertaken during the EIA process to identify any wind energy developments (either operational, consented or subject to a current planning application) with the potential for cumulative shadow flicker effects; any such developments would be assessed accordingly in line with the methodology set out above.

¹⁶¹ Scottish Government. Web Based Renewables Advice 'Onshore Wind Turbines'. Scottish Government. [Online] 2014. <https://www.gov.scot/publications/onshore-wind-turbines-planning-advice/> [accessed January 2025]

5. SUMMARY OF TOPICS SCOPED IN AND SCOPED OUT

As explained in Chapters 3 and 4 above, a number of topics are considered to be not significant, and it is proposed they will be scoped out from further consideration within the EIA process. Table 5.1 below lists each topic and the elements scoped in and out from further assessment.

Table 5.1: Summary of Topics and Elements / Features Scoped In and Scoped Out

Topic	Elements / Features	
	Scoped In	Scoped Out
Landscape and Visual Amenity	✓	• Effects on landscape character beyond approximately 15 km; • Effects on views from viewpoints beyond approximately 25 km, although there would be locations where the Proposed Development would be visible at greater distances; • Effects on views from routes beyond approximately 25 km; • Effects on views from local paths (Core Paths and locally promoted paths) beyond approximately 5 km; • Effects on views from settlements beyond approximately 10 km; • Effects on designated landscapes beyond approximately 25 km; • Cumulative effects with turbines of less than 50 m to blade tip; and • Decommissioning effects.
Cultural Heritage	✓	• Conservation Areas; • Listed Buildings; • Historic Battlefields; • Inventory Garden and Designed Landscape (GDL); and • Designated heritage assets that lie outside of the zone of theoretical visibility (ZTV) for the Proposed Development.
Ecology	✓	• Habitats not on Annex I to the Habitats Directive and species not on Annex II to the Habitats Directive and habitats or species not protected by other legislation (e.g., The Wildlife and Countryside Act 1981 (as amended), the Nature Conservation (Scotland) Act 2004 or The Protection of Badgers Act); • Wild deer population during operation; • Designated sites; • Migratory salmonids; and • Resident fish (operational stage)
Ornithology	✓	• Common and/or low conservation species not recognised in statute as requiring special conservation measures; • Common and/or low conservation species not included in non-statutory lists;

Topic	Elements / Features	
	Scoped In	Scoped Out
		• Passerine species, unless being particularly rare or vulnerable at a national level; • Subject to the results of the collision risk modelling, effects relating to any target species not identified to be breeding within the relevant Study Area t; • The following qualifying interests of the Muirkirk and North Lowther Uplands SPA: golden plover, hen harrier, peregrine falcon and short-eared owl; and • Impacts relating to turbine or infrastructure lighting.
Hydrology, Hydrogeology and Geology	✓	• Flood risk; • Detailed flow rate calculations; • Potential GWDTE habitats that are not supported by groundwater supplies; and • Geology during operation.
Traffic and Transport	✓	• Operational traffic • Decommissioning traffic
Noise and Vibration	✓	• Decommissioning noise • Operational stage vibration • Infrasound and low frequency noise • Noise from operational traffic
Aviation	✓	• Meteorological Office radars
Socio-Economics and Tourism	x	✓
Population and Human Health	x	✓
Risks of Major Accidents and/or Disasters	x	✓
Ice Throw and Ice Fall	x	✓
Air Quality	x	✓
Climate Change	x	✓
Forestry	x	✓
Eskdalemuir Seismic Array	x	✓
Telecommunications	x	✓
Shadow Flicker	x	✓

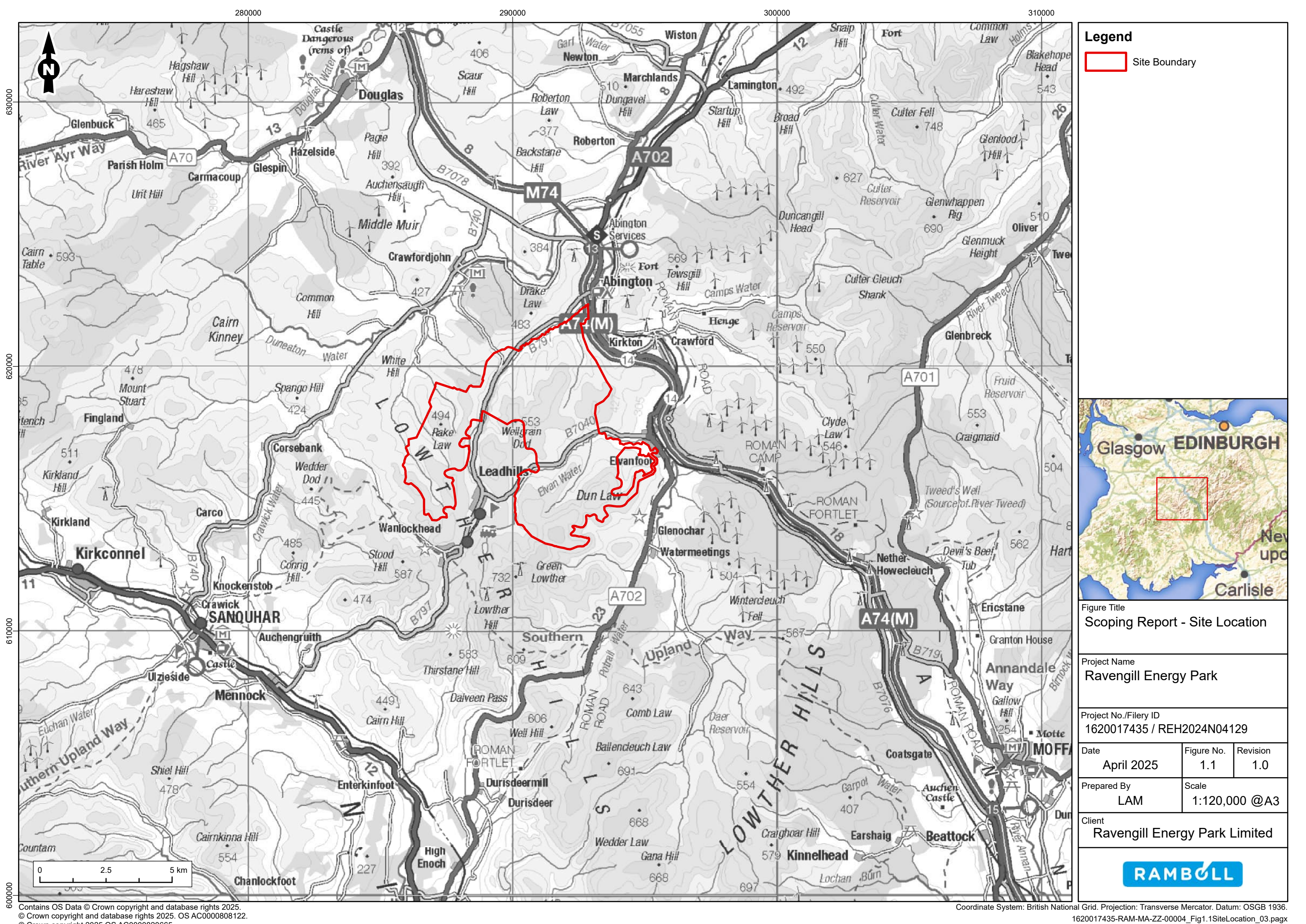
6. NEXT STEPS

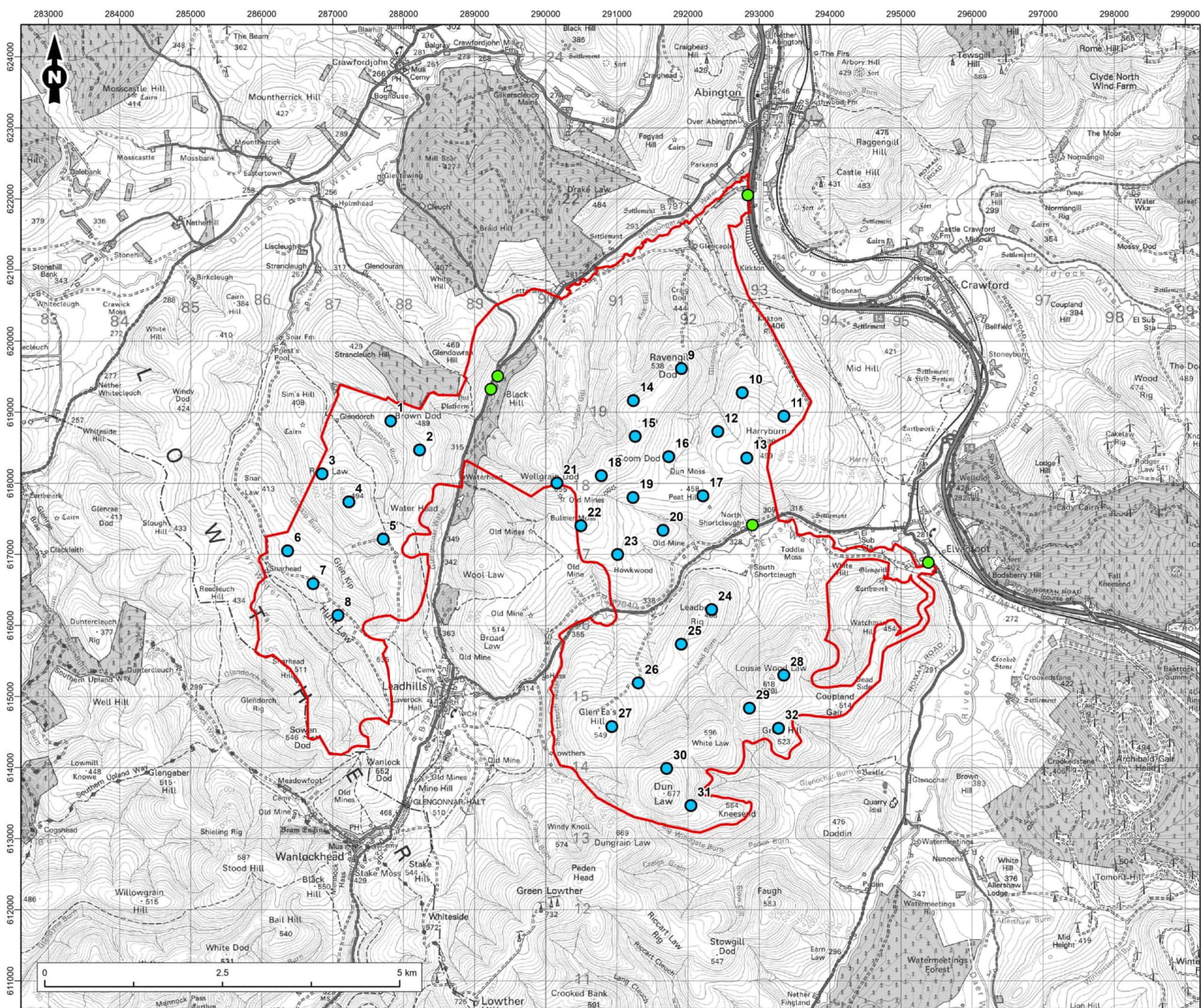
This report is provided to support a request under Regulation 12 of the EIA Regulations for a 'Scoping Opinion' regarding the information to be provided within the EIAR which will accompany the Application.

Informing its opinion, the Scottish Ministers will seek the views of statutory consultees and other public bodies with an interest in the Proposed Development, inviting comments on the proposed scope of and approach to the EIA proposed herein.

APPENDIX A
FIGURES

- Figure 1.1: Site Location
- Figure 1.2: Scoping Layout
- Figure 3.3.1: Zone of Theoretical Visibility to 45 km
- Figure 3.3.2: Zone of Theoretical Visibility to 45 km at 1:100,000 scale
- Figure 3.3.3a: Cumulative Wind Farms within 25 km
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- Figure 3.3.4: Zone of Theoretical Visibility with Landscape Character Types
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- Figure 3.4.1: Cultural Heritage – Inner Study Area
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- Figure 3.7.6: Carbon and Peatland Map
- Figure 3.7.7: Peat Depth Survey





Legend

- Site Boundary
- Proposed Turbine Location
- Indicative Access Point

Figure Title

Scoping Report - Scoping Layout

Project Name

Ravensgill Energy Park

Project No./Filey ID

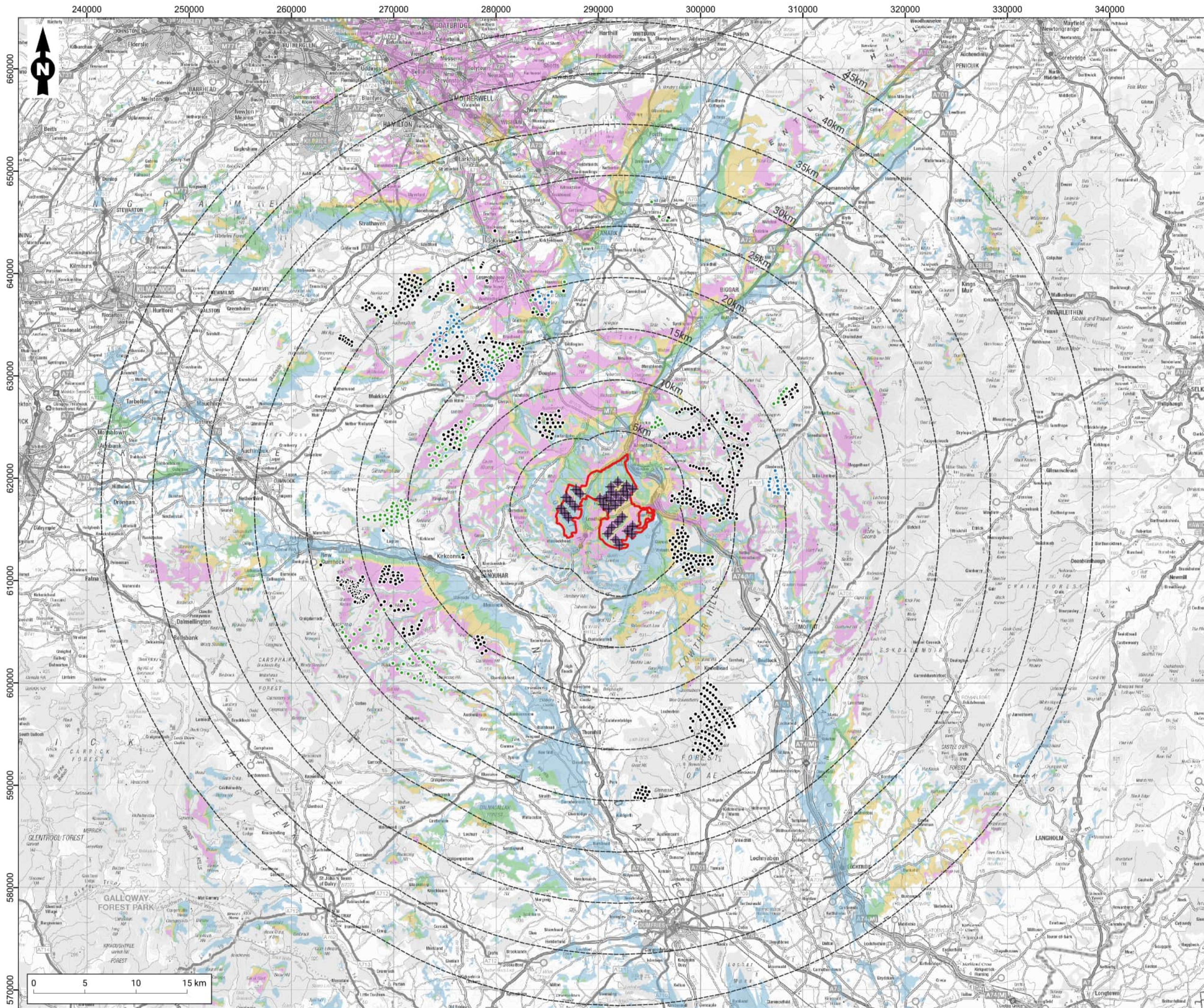
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Date May 2025	Figure No. 1.2	Revision 1.0
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Client

Ravensgill Energy Park Limited



Legend

- Turbine locations
- Distance to turbines (5km intervals)
- Site boundary

Other Wind Farms (within 25km)

- existing
- construction
- consented

Zone of Theoretical Visibility

- 1-8 turbines visible
- 9-16 turbines visible
- 17-24 turbines visible
- 25-32 turbines visible

Notes: The ZTV is calculated to turbine tip heights of up to 220m, from a height of 2m above ground level. The terrain model is bare ground derived from OS Terrain 50 height data. Earth curvature and atmospheric refraction have been taken into account.

Figure Title
Scoping Report - Zone of Theoretical Visibility to 45km

Project Name
Ravensgill Energy Park

Project Number
24002

Date
April 2025

Figure No.
3.3.1

Revision
r2

Prepared by
AS

Scale
1:350,000 @ A3

Client
Ravensgill Energy Park Limited

MVGLA
Landscape Architecture

RAMBOLL