



HOPE MOOR
Wind Farm

Environmental Impact Assessment

Scoping Report: Main Text

EN0110038

May 2026



Fred. Olsen Renewables

Revision Record

Document Reference				
414.063912.00001_HMWF_EIA_SCOPING				
Revision	Date	Prepared By	Checked By	Authorised By
FINAL	28 May 2026	SLR	TLT	FORL

Basis of Report

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Acronyms and Abbreviations

Acronyms and Abbreviations	Definition / Meaning
µg	Micrometres
AADT	Annual Average Daily Traffic
AD	Anaerobic Digestion
AILV	Abnormal Indivisible Load Vehicle
AIP	Aeronautical Information Publication
ALARP	As Low As Reasonably Practicable
ALC	Agricultural Land Classification
Ancient Woodland	Woodland that has existed continuously since at least 1600 AD; considered irreplaceable due to long ecological continuity.
Annex 1 bird species	Species listed on Annex 1 of the European Council (EC) Directive 2009/147/EEC (the 'Birds Directive').
Annex I Habitats	Habitats listed under Annex I of the Habitats Directive as being of European importance and requiring conservation.
ANO	The Air Navigation Order 2016
AOD	Above Ordnance Datum
AONB	Areas of Outstanding Natural Beauty
APIA	Air Pollution Information System
AQMA	Air Quality Management Area
AQO	Air Quality Objective
AQSR	The Air Quality Standards Regulations
ASR	Annual Status Report
ATC	Automatic Traffic Count
ATC	Air traffic control
Avoidance	Where a potential impact has been avoided through changes in scheme design.
AW	Ancient woodland
Badger Sett	Burrow network used by badgers and protected under the Protection of Badgers Act 1992.
BGS	British Geological Survey
Biodiversity Net Gain (BNG)	A requirement under the Environment Act (2021) that developments must deliver measurable biodiversity improvements.
Bird Disturbance Management Plan (BDMP)	A document that sets out measures to avoid, minimise or otherwise manage disturbance to bird species during construction works, ensuring legislative compliance and the protection of breeding, wintering or otherwise sensitive bird species.
BMV	Best and Most Versatile
BS	British Standard
BSI	British Standards Institute
CA	Conservation Area

Acronyms and Abbreviations	Definition / Meaning
CAA	Civil Aviation Authority
CD&E	Construction, Demolition and Excavation
CDM	Construction Design and Management
CEA	Cumulative Effects Assessment
CEH	Centre for Ecology and Hydrology
CEMP	Construction Environmental Management Plan
Characteristics	Elements, or combination of elements, which make a contribution to distinctive landscape character.
Chartered Institute of Ecology and Environmental Management (CIEEM)	CIEEM sets professional standards for ecologists and ecological assessment.
CIfA	Chartered Institute for Archaeologists
CIRIA	Construction Industry Research and Information Association
CLG	Community Liaison Group
CO ²	Carbon dioxide
Collision Risk Analysis Area (CRAA)	The area around proposed turbine locations within which “at collision risk” flight activity will be identified for use in the estimation of collision mortality risks.
Collision Risk Model (CRM)	A standardised model produced by NatureScot, used to estimate collision mortality risks for wind turbine developments, based on flight activity survey data, bird avoidance behaviour and turbine specifications.
COMAH	Control of Major Accident Hazards
Compensation	Measures taken to offset residual effects, that is, where mitigation in situ is not possible, for example, creation of new habitats to compensate for habitats lost or effectively lost due to displacement.
Construction Environmental Management Plan (CEMP)	A document outlining measures to manage and mitigate construction phase environmental impacts.
CoPA	Control of Pollution Act (1974)
Core Sustenance Zone (CSZ)	The area surrounding a communal bat roost that provides essential foraging and commuting habitat, directly impacting the colony's survival and conservation status.
CPP	Construction Phase Plan
CTA	Control Area
CTMP	Construction Traffic Management Plan
dB	Decibel
DCC	Durham County Council
DCO	Development Consent Order

Acronyms and Abbreviations	Definition / Meaning
DECC	Department for Energy and Climate Change
Decommissioning	The end-of-life phase involving removal of infrastructure.
DEFRA	Department for Environment, Food and Rural Affairs
Designated	Areas of landscape, identified as being of importance at international, national, regional or local levels, either defined by statute or identified in development plans or other documents.
Designated Site	Statutory and non-statutory protected areas such as Special Areas of Conservation (SAC), Sites of Special Scientific Interest (SSSI), Ramsar sites and Local Wildlife Sites (LWS).
Desk Study	Review of existing ecological records from publicly available sources.
DESNZ	Department for Energy Security and Net Zero
DfT	Department for Transport
DMRB	Design Manual for Roads and Bridges
DMT	Decision-Making Threshold
DNO	Distribution Network Operator
DP	Decommissioning Plan
DTM	Digital Terrain Model
Ecological Clerk of Works (ECoW)	A qualified ecologist overseeing ecological protection measures and compliance during construction.
Ecological Impact Assessment (EclA)	Assessment following CIEEM guidelines to evaluate likely significant ecological effects of a plan or project.
EEA	European Economic Association
EfW	Energy from Waste
EHO	Environmental Health Officer
EIA	Environmental Impact Assessment
EMF	Electromagnetic field
Enhancement	The provision of new benefits for biodiversity that are additional to those provided as part of mitigation or compensation measures, although they can be complementary.
EPD	Environmental Product Declaration
EPUK	Environmental Protection UK
ES	Environmental Statement
European Protected Species (EPS)	Species protected across the European Union (and transposed into UK law) due to their rarity or vulnerability, specifically listed under Annex IV of the Habitats Directive 92/43/EEC.
FL	Flight level
FRA	Flood Risk Assessment
GCR	Geological Conservation Review
GHG	Greenhouse Gas
GHRA	Geo-Hazards Risk Assessment
GIS	Geographical Information System



Acronyms and Abbreviations	Definition / Meaning
GPA	Good Practice Advice
GPS	Global Positioning System
GW	Gigawatts
GWDTE	Groundwater Dependent Terrestrial Ecosystems
Ha	Hectares
Habitat Management Plan (HMP)	A plan setting out long-term compensation and enhancement measures for biodiversity during operation.
Habitats of Principal Importance (S41 Habitats)	Habitats listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 as of principal importance for conserving biodiversity in England.
HDV	Heavy Duty Vehicle
HE	Historic England
Hedgerow Regulations 1997	Legislation that protects Important Hedgerows meeting ecological or historical criteria.
HER	Historic Environment Record
HGV	Heavy Goods Vehicle
HRA	Habitats Regulations Assessment
HSE	Health and Safety Executive
Hub Height	Distance from the ground to the centre of the rotor.
HV	High Voltage
HV	Heavy Vehicle
Hz	Hertz
I&C	Industrial and Commercial
IAQM	Institute of Air Quality Management
ICNIRP	International Commission on Non-Ionizing Radiation Protection
IEC	International Electrotechnical Commission
IEMA	Institute of Environmental Management and Assessment
IfA	Institute of Field Archaeologists
IFP	Instrumental Flight Procedure
IFR	Instrument flight rules
IHBC	Institute of Historic Building Conservation
IMD	Indices of Multiple Deprivation
Important Ecological Feature (IEF)	A habitat or species considered important at local, county, regional, national or international scale.
Important Ornithological Feature (IOF)	Bird species which have a higher conservation interest, or additional legislative protection and/or that utilise habitats or have flight behaviours, which may be impacted by wind farms and which will be the focus of detailed assessment within the Ornithology Chapter of the ES.

Acronyms and Abbreviations	Definition / Meaning
INNS	Invasive non-native species
Invasive Non-Native Species (INNS)	Species outside their natural range that can cause environmental or economic harm.
IoA GPG	Institute of Acoustics Good Practice Guide
Irreplaceable Habitat	Habitat that is very difficult (or takes a very long time) to restore, create or replace once it has been destroyed. (e.g., blanket bog, ancient woodland).
ISEP	Institute of Sustainability and Environmental Professionals
JNCC	Joint Nature Conservation Committee
JRC	Joint Radio Commission
Key Characteristics	Those combinations of elements which are particularly important to the existing character of the landscape and help to give an area a particularly distinctive sense of place.
Land cover	The surface cover of the land, usually expressed in terms of vegetation cover or lack of it. Related to but not the same as land use.
Land use	What land is used for, based on broad categories of functional land cover, such as urban and industrial use and the different types of agriculture and forestry.
Landform	The shape and form of the land surface, which has resulted from combinations of geology, geomorphology, slope, elevation and physical process.
Landscape	An area, as perceived by people, the character of which is the result of the action and interaction of natural and/or human factors.
Landscape Character	A distinct, recognisable and consistent pattern of elements in the landscape that makes the landscape different from another, rather than better or worse.
Landscape Character Areas	These are single unique areas which are the discrete geographical areas of a particular landscape type.
Landscape Character Types	These are distinct types of landscape that are relatively homogeneous in character.
Landscape Effects	Effects on the landscape as a resource in its own right.
Landscape Features	Individual parts which make up the landscape, such as, for example, trees, hedges and buildings.
Landscape Quality	A measure of the physical state of the landscape. It may include the extent to which typical character is represented in individual areas, the intactness of the landscape and the condition of individual elements.
Landscape Receptors	Defined aspects of the landscape resource that have the potential to be affected by the Project.
Landscape Value	The relative value that is attached to landscapes by society. A landscape may be valued by different stakeholders for a variety of reasons.
LAQM	Local Air Quality Management

Acronyms and Abbreviations	Definition / Meaning
LB	Listed Building
LCA	Landscape Character Areas
LCRM	Land Contamination Risk Management
LFA	Low Flying Area
LFFA	Lead Local Flood Authority
LI	Landscape Institute
LiDAR	Light Detection and Ranging
Local Nature Reserve (LNR)	A locally designated site recognised for public value and biodiversity interest.
Local Wildlife Site (LWS)	Non-statutory sites recognised for biodiversity value at the County level and protected through local planning policy.
LSA	Land Service Ammunition
LSE	Likely Significant Effects
LSOA	Lower Super Output Area
LTP	Local Transport Plan
LVIA	Landscape and Visual Impact Assessment
LWS	Local Wildlife Site
m	Metres
MAGIC	A government mapping tool providing ecological and environmental constraints data.
MAVRIC	Mapping Application for Visualising Road Injury Casualties
MBNL	Mobile Broadband Network Limited
MHCLG	Ministry of Housing, Communities and Local Government
Mitigation	Measures to reduce or remedy a specific negative impact <i>in situ</i> , for example timing restrictions during construction to avoid key periods for certain species.
Mm ³	Million cubic metres
MMP	Materials Management Plan
MoD	Ministry of Defence
MRA	Mining Remediation Authority
MRA	Mining Risk Assessment
MRF	Material Recycling Facility
MSA	Mineral Safeguarding Area
MW	MegaWatts
National Vegetation Classification (NVC)	A detailed, standardized system used to classify natural and semi-natural plant communities across Great Britain. Developed by the Joint Nature Conservation Committee (JNCC).
NATS	National Air Traffic Services
Natural Environment and Rural	UK legislation designed to improve natural environment management, strengthen rural communities, and promote biodiversity.

Acronyms and Abbreviations	Definition / Meaning
Communities (NERC) Act 2006	
NCN	National Cycle Network
NERC	The Natural Environment and Rural Communities (NERC) Act 2006
NERL	NATS En Route plc
NESO	National Energy System Operator
NGR	National Grid Reference
NH	National Highways
NH ₃	Ammonia
NHLE	National Heritage List for England
NISRA	Northern Ireland Statistics and Research Agency
NNR	National Nature Reserve
No.	Number
NO ₂	Nitrogen Dioxide
NO _x	Nitrogen Oxides
NPPF	National Planning Policy Framework
NPS	National Policy Statement
NRMM	Non-road mobile machinery
NSIP	Nationally Significant Infrastructure Project
NSIPs	Nationally Significant Infrastructure Projects
NSR	Noise Sensitive Receptor
NTS	Non-Technical Summary
NYC	North Yorkshire Council
OMP	Operational Management Plan
ONS	Office of National Statistics
OS	Ordnance Survey
Otter Holts	Resting or breeding sites for otter, strictly protected under UK and EU legislation.
OWMP	Operational Waste Management Plan
PAMP	Public Access Management Plan
PC	Principal Contractor
PCA	Peat Condition Assessment
PCI	Pre-Construction Information
PEIR	Preliminary Environmental Information Report
Photomontage	A visualisation which superimposes an image of the Project upon a photograph or series of photographs.
PINS	Planning Inspectorate
PLHRA	Peat Landslide Hazard Risk Assessment
PLQRA	Preliminary Land Quality Risk Assessment



Acronyms and Abbreviations	Definition / Meaning
PM ₁₀	Particulate matter with an aerodynamic diameter of 10 micrometres or less
PM _{2.5}	Particulate matter with an aerodynamic diameter of 2.5 micrometres or less
PMP	Peat Management Plan
PPG	Planning Practice Guidance
PPS	Planning Policy Statement
Priority Habitats / Species	Habitats and species of "principal importance" for biodiversity conservation in the UK, listed under S41 of the NERC Act 2006.
Protected Species	Species legally protected under the Wildlife and Countryside Act 1981 (as Amended) (WAC), Habitats Regulations, or other legislation (e.g., bats, otter, water vole).
PRoW	Public Right of Way
PSR	Primary Surveillance Radar
PWS	Private Water Supply
RAF	Royal Air Force
Ramsar Site	Wetlands of international importance designated under the Ramsar Convention.
RBL	Re-broadcast link
RCP	Representative Concentration Pathway
RDC	Richmondshire District Council
REAC	Register of Environmental Actions and Commitments
RICS	Royal Institution of Chartered Surveyors
RIDDOR	Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1999
River Condition Assessment (RCA)	A survey used to assess physical river habitat quality, often for BNG calculations.
Rotor	The group of rotor blades that convert wind energy into mechanical energy.
Rotor Diameter	The total diameter of the circle swept by a wind turbine's rotating blades, measured from the tip of one blade to the tip of the opposite blade.
RPG	Registered Park and Garden
SAC	Special Area of Conservation
Schedule 1 bird species	Species listed on Schedule 1 of the Wildlife & Countryside Act 1981 (as amended).
SCI	Site of Community Importance
Section 41 Priority Habitats / Species	Habitats and species of "principal importance" for biodiversity conservation in the UK, listed under S41 of the NERC Act 2006.
Sensitivity	A term applied to specific receptors, combining judgements of the susceptibility of the receptor to the specific type of change or development proposed and the value related to that response.



Acronyms and Abbreviations	Definition / Meaning
SEPA	Scottish Environment Protection Agency
Shadow flicker	The recurring pattern of light and shadow cast when rotating turbine blades intermittently block sunlight.
Significance	A measure of the importance of the environmental effect, defined by significance criteria specific to the environmental topic.
SIS	Spectrum Information System
Site of Importance for Nature Conservation (SINC)	Non-statutory sites recognised for biodiversity value at the County level and protected through local planning policy.
Site of Special Scientific Interest (SSSI)	UK statutory sites protected for biological or geological interest under the Wildlife and Countryside Act 1981 (as amended).
SM	Scheduled Monument
SMP	Soil Management Plan
SOP	Standard Operating Procedure
SoS	Secretary of State (for Energy Security and Net Zero)
SPA	Special Protection Area
Special Area of Conservation (SAC)	Sites designated for habitats or species of European importance under the Habitats Regulations.
Species of Principal Importance (S41 species)	Species listed under Section 41 of the NERC Act due to their conservation priority.
SPZ	Source Protection Zone
SRN	Strategic Road Network
SSR	Secondary surveillance radar
SSSI	Site of Special Scientific Interest
SuDS	Sustainable Drainage Systems
Susceptibility	The ability of a defined landscape or visual receptor to accommodate the specific Project without undue negative consequences.
SWMP	Site Waste Management Plan
TCPA	The Town and Country Planning Act 1990
Term	Definition
Tranquillity	A state of calm and quietude associated with peace, considered to be a significant asset of the landscape.
UAV	Unmanned Aerial Vehicle
UK	United Kingdom
UKHab	The UK Habitat Classification system used for consistent, modern habitat mapping.
UKMNW	UK Measures of National Well-being



Acronyms and Abbreviations	Definition / Meaning
UXO	Unexploded Ordnance
Visual Amenity	The overall pleasantness of the views people enjoy of their surroundings, which provides an attractive visual setting or backdrop for the enjoyment of the activities of the people working, recreating, visiting or travelling through an area.
Visual Effects	Effects on specific views and on the general visual amenity experienced by people.
Visual Receptors	Individuals and/or defined groups of people who have the potential to be affected by a proposal.
Visualisation	A computer simulation, photomontage or other technique illustrating the proposed appearance of a development.
Water Framework Directive (WFD)	Legislation requiring assessment of impacts on waterbody ecological and chemical status.
WFD	Water Framework Directive
Wildlife and Countryside Act 1981 (as Amended) (WAC)	The Wildlife and Countryside Act 1981 (as amended) (WCA) is the primary legislation for the protection of wild animals, plants, and habitats in Great Britain (England, Scotland, and Wales). Originally enacted to implement the EU Birds Directive and the Bern Convention, it has been amended over the past 40 years to strengthen conservation measures.
Zol	Zone of Influence
Zone of Theoretical Visibility	A map, showing areas of land within which, a development is theoretically visible.
ZTV	Zone of Theoretical Visibility

1. Introduction

1.1. Project Background

- 1.1.1. The Hope Moor Wind Farm (hereafter ‘the Project’) is a proposal by Fred. Olsen Renewables Ltd (hereafter ‘the Applicant’) to construct and operate an onshore wind turbine generating station, which would be located on a site crossing the administrative areas of Durham County Council and North Yorkshire Council.
- 1.1.2. The Project is situated on an area of open moorland (‘the Site’) to the south of Barnard Castle and north of Richmond, between the A66 and A6108 roads, covering approximately 1,111 hectares (ha) and centred on National Grid Reference (NGR) NZ 04847 06480. The Project location is shown in **Figure 1.1**, which shows the boundary for scoping purposes, and **Figure 1.2** which shows the Site in its wider context.
- 1.1.3. For the purposes of identifying scope, the Project is anticipated to include a maximum of 23 wind turbines, with a tip height of up to 200 metres (m) and associated development which may include hardstanding areas, access tracks and site accesses, watercourse crossing, Haul Route for construction vehicles, on-Site substation(s) and compound(s), temporary construction compounds, batching plant, borrow pits, on-Site underground cabling, drainage, CCTV, fencing, anemometry mast(s), offsite street works to mitigation overrun and oversail, services and internal cabling work). The Project would have a gross electrical output capacity of at least 100 Megawatts (MW).
- 1.1.4. The Project would also include a range of environmental and ecological mitigation measures, alongside proposals for environmental enhancement. These measures are intended to support the overarching aim of the Project, which is to ensure that Hope Moor Wind Farm is integrated within the wider cultural and environmental landscape, such that the Project and its surroundings can co-exist.
- 1.1.5. The Project would directly support the aims of the UK Government’s clean energy mission of generating clean, renewable electricity and supporting the transition to a low-carbon energy system. In doing so, the Project would play a role in reducing greenhouse gas emissions, strengthening national energy security, and accelerating progress towards the UK’s legally binding net-zero target.
- 1.1.6. Further information about the Project is provided in **Chapter 2: Project Description**.

1.2. Nationally Significant Infrastructure Project

- 1.2.1. In July 2025, the Applicant made a request to the Secretary of State for Energy Security and Net Zero (‘the SoS’) under section 35 of the Planning Act 2008 (‘the 2008 Act’) (Ref 1-1) for the Hope Moor Wind Farm to be treated as development for which development consent is required.



- 1.2.2. A section 35 direction was sought because at that time, section 15 of the 2008 Act (Ref 1-1) excluded onshore generating stations which generate electricity from wind as National Significant Infrastructure Projects ('NSIP'). However, the Government had confirmed its intention to return onshore wind development to the NSIP regime in England, at a threshold of 100 MW. The Infrastructure Planning (Onshore Wind and Solar Generation) Order 2025 ('the 2025 Order') (Ref 1-2) sought to amend section 15 of the 2008 Act (Ref 1-1) to include onshore wind developments exceeding 100 MW in England.
- 1.2.3. The Applicant considered the Project qualified as nationally significant because it would provide significant low-carbon infrastructure that would generate at least 100 MW of clean power, contributing materially to national electricity supply and the need for rapid renewable deployment, and strengthening long-term energy resilience.
- 1.2.4. The SoS issued a section 35 direction on 21 August 2025 (Ref 1-3) confirming that:
- The Project is of national significance as it is a large-scale onshore wind farm with the capability of delivering over 100 MW of renewable energy.
 - The Project will play an important role in enabling an energy system that meets the UK's commitment to reduce carbon emissions and the Government's objectives to create a secure, reliable and affordable energy supply for consumers.
- 1.2.5. Subsequently, with effect from 31st December 2025, the Infrastructure Planning (Onshore Wind and Solar Generation) Order 2025 amended the 2008 Act (Ref 1-1) to include onshore wind generating stations in England with a capacity exceeding 100MW within the NSIP regime. As the Project exceeds this threshold, it would now qualify as an NSIP for which development consent is required without requiring a section 35 direction to be sought.
- 1.2.6. The Applicant intends to make an application for a Development Consent Order (DCO) to the Planning Inspectorate (the Inspectorate) for the Project.
- 1.2.7. The Inspectorate will examine the DCO application and make a recommendation to the SoS on whether development consent for the Project should be granted or refused.

1.3. The Need for an Environmental Impact Assessment

- 1.3.1. In the context of NSIPs, the requirement for Environmental Impact Assessment (EIA) is established by the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the 'EIA Regulations') (Ref 1-4). Schedule 1 of the EIA Regulations identifies development for which EIA is mandatory, while development listed in Schedule 2 may be subject to an EIA if it is likely to have significant effects



on the environment, having regard to the criteria set out in Schedule 3, including the nature, size or location of the development.

- 1.3.2. The Project comprises an onshore wind turbine generating station with a generating capacity exceeding 100 MW. Installations for the harnessing of wind power for energy production (wind farms) fall within Schedule 2, paragraph 3(i) (“Energy Industry”) of the EIA Regulations (Ref 1-4). Having regard to its nature, scale and location, the Project is considered likely to give rise to significant environmental effects. The Project therefore constitutes EIA development.
- 1.3.3. In accordance with Regulation 8(1)(b) of the EIA Regulations (Ref 1-4), the Applicant hereby gives notice that an Environmental Statement (ES) will be submitted in support of the application for development consent. The ES will identify, describe and assess the likely significant environmental effects of the Project and set out measures to avoid, prevent or reduce significant adverse effects and, where necessary, offset residual effects.

1.4. Purpose of the Scoping Report

- 1.4.1. Scoping is an established stage in the EIA process and provides the framework for determining the scope and level of detail of the information to be included within the ES. In accordance with the EIA Regulations (Ref 1-4) and the 2008 Act (Ref 1-1), this Scoping Report seeks to establish an agreed and proportionate basis for the assessment of the Project.
- 1.4.2. This Scoping Report forms a request by the Applicant, made under Regulation 10(1) of the EIA Regulations (Ref 1-4), for a written Scoping Opinion from the SoS as to the scope, and level of detail, of the information to be provided in the ES.
- 1.4.3. The purpose of this Scoping Report is to provide the information required under the EIA Regulations (Ref 1-4) to enable the SoS to issue a Scoping Opinion. It sets out an overview and description of the Project, together with an initial appraisal of the potential impacts arising during construction, operation, maintenance, and decommissioning of the Project on the environment. The Scoping Report also outlines a proportionate approach to assessing these potential impacts through the EIA process, including the use of mitigation measures where appropriate. In addition, the Scoping Report provides the justification and rationale for scoping out environmental aspects or receptors where it is considered that significant environmental effect are unlikely to arise as a result of the Project.
- 1.4.4. The Scoping Report has been prepared with due regard to relevant Inspectorate guidance, including *Advice Note Seven: Environmental Impact Assessment Process, Preliminary Environmental Information and Environmental Statements* (Ref 1-5) and contains the information stipulated in Regulation 10(3) of the EIA Regulations (Ref 1-4), as presented in **Table 1-1**.



Table 1-1: Regulation 10(3) Scoping Information

Regulation 10(3) Requirement	Information Provided
(a) a plan sufficient to identify the land	Figure 1.1, Figure 1.2, Figure 2.1, Figure 2.2
(b) a description of the proposed development, including its location and technical capacity	Chapter 2: Project Description
(c) an explanation of the likely significant effects of the development on the environment	Technical topic Chapters 5 to 18
(d) such other information or representations as the person making the request may wish to provide or make.	Technical topic Chapters 5 to 18

1.5. The Applicant

- 1.5.1. Fred. Olsen Renewables Limited is a leading developer, owner and operator of renewable energy assets, primarily onshore wind farms. The Applicant has been developing and operating wind farms in the UK since the mid 1990's demonstrating long term commitment to the renewable energy generation market in the UK.
- 1.5.2. With over twenty-five years' experience in consenting, developing and operating wind farms, Fred. Olsen Renewables is one of very few developers that take projects all the way from initiation and development, through to operation and ultimately decommissioning.
- 1.5.3. In the UK, Fred. Olsen Renewables' operates ten onshore wind farms with a combined installed capacity of 665MW. This, combined with international projects, brings the total operational capacity to over 800 MW.
- 1.5.4. Fred. Olsen Renewables was the first developer to bring forward community benefit in Scotland. To date, Fred. Olsen Renewables has made available over £6 m to eligible communities surrounding its wind farms and is substantially increasing this investment as new projects come online.
- 1.5.5. Fred. Olsen Renewables is a wholly owned subsidiary of Bonheur ASA and is responsible for the group's renewable energy activities.

1.6. The EIA Project Team and Competency

- 1.6.1. Regulation 14(4) of the EIA Regulations (Ref 1-4) requires that an ES is prepared by "competent experts" and that the ES is accompanied by a competent expert statement outlining the relevant expertise or qualifications of such experts.
- 1.6.2. This Scoping Report has been led by SLR Consulting Ltd ('SLR') with input from other specialist technical and environmental consultants (see **Table 1-2**).

- 1.6.3. SLR is one of the UK's fastest growing multi-disciplinary environmental consultancies. Within the energy sector, SLR provides a wide range of planning, environmental and technical services relating to the design and development of wind farms and other renewable energy projects. The company becomes involved in all aspects of facilitating development, from initial concept design, through planning and consenting to the detailed design, construction management and closure stages.
- 1.6.4. SLR is a registered Environmental Impact Assessor, Member of the Institute of Sustainability and Environmental Professionals (ISEP) and holder of the ISEP EIA Quality Mark. SLR is also a Registered Organisation validated by the Institute of Archaeologists (IfA), a member of the Association of Geotechnical and Geoenvironmental Specialists, and a Landscape Institute (LI) Registered Practice.
- 1.6.5. Further information on SLR can be found on its corporate website at www.slrconsulting.com.

1.7. Scoping Report Structure

- 1.7.1. The structure of the Scoping Report is presented in **Table 1-2**.

Table 1-2: Scoping Report Structure

Chapter	Chapter Title	Lead Author	Lead Author Qualifications	Lead Author Years of Experience
1	Introduction	SLR	BA (Hons), DipTP(UC), MA, MRTPI	20+
2	Project Description	SLR	BA (Hons), DipTP(UC), MA, MRTPI	20+
3	Approach to EIA	SLR	BA (Hons), DipTP(UC), MA, MRTPI	20+
4	Legislation and Policy Context	SLR	BA (Hons), DipTP(UC), MA, MRTPI	20+
5	Landscape and Visual	SLR	MLA	20
6	Archaeology and Cultural Heritage	SLR	MA (Hons) ACIfA	10
7	Ecology	SLR	BSc, CEnv, MCIEEM	25+
8	Ornithology	SLR	BSc, MSc	15+

Chapter	Chapter Title	Lead Author	Lead Author Qualifications	Lead Author Years of Experience
9	Hydrology and Hydrogeology	SLR	BEng	25+
10	Geology and Ground Conditions	SLR	BSc (Hons) MSc	15+
11	Access, Traffic and Transport	SLR	BA (Hons) Dip TP MCIHT MRTPI	25+
12	Noise and Vibration	SLR	BSc. (Hons), MSc., MIOA	20+
13	Aviation, Radar and Telecommunications	Aviatica	MA, MSc	29
14	Shadow Flicker	SLR	BSc	20+
15	Air Quality	SLR	BSc, MCIEH	36
16	Carbon and Climate Change	SLR	MSc, MISEP, CEnv, FIMechE, MEI, AISEP, BSc, PISEP	25+
17	Socio-economics and Tourism	BiGGAR Economics	MA	14+
18	Other Environmental Topics	SLR	BSc, PISEP; MGeol, CIWM; and BA (Hons), DipTP(UC), MA, MRTPI	10; 21+; and 20+
19	Summary	SLR	BA (Hons), DipTP(UC), MA, MRTPI	20+

1.7.2. This Scoping Report is also supported by the following appendices:

- **Volume A:** Figures; and
- **Volume B:** Appendices.

1.8. References

Ref 1-1 UK Government (2008). *The Planning Act 2008*. Available at: <https://www.legislation.gov.uk/ukpga/2008/29/contents> [Access March 2026].

Ref 1-2 UK Government (2025). *The Infrastructure Planning (Onshore Wind and Solar Generation) Order 2025 (SI 2025/694)*. Made 09 June 2025, in force 31 December 2025. Available at:



<https://www.legislation.gov.uk/ukxi/2025/694/made> [Accessed March 2026].

- Ref 1-3 UK Government (2025). *Hope Moor Wind Farm: Section 35 Direction, Planning Act 2008*. Available at:
<https://www.gov.uk/government/publications/hope-moor-wind-farm-section-35-direction-planning-act-2008> [Accessed March 2026].
- Ref 1-4 UK Government (2017). *The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (SI 2017/572)*. Available at:
<https://www.legislation.gov.uk/ukxi/2017/572/contents> [Accessed March 2026].
- Ref 1-5 Planning Inspectorate (2020). *Advice Note Seven: Environmental Impact Assessment – Process, Preliminary Environmental Information and Environmental Statements*. Available at:
<https://www.gov.uk/government/publications/nationally-significant-infrastructure-projects-advice-note-seven-environmental-impact-assessment-process-preliminary-environmental-information-an> [Accessed March 2026].

2. Project Description

2.1. Introduction

- 2.1.1. This Chapter provides an overview of the Project, its location and the surrounding area. The design of the Project is being developed and will continue to evolve and be refined from the completion of Environmental Impact Assessment (EIA) scoping through to the completion of detailed design. However, the key components that would form the Project are outlined below together with the key activities and methodologies that would be undertaken and employed during the construction, operation and maintenance, and decommissioning phases of the Project. Indicative key parameters and timescales are detailed where possible at this early stage in the design development of the Project.
- 2.1.2. This chapter is supported by the following Figures (provided in **Volume A**) and Appendix (provided in **Volume B**):
- Figures:
 - **Figure 2.1:** Wind Farm Array Area and Haul Route Search Area
 - **Figure 2.2:** Project Site
 - **Figure 2.3:** Typical Wind Turbine
 - **Figure 2.4:** Typical Hardstanding
 - Appendix:
 - **Appendix 2A:** Applicant's Position on Grid Connection

2.2. Project Site Description

Project Location

- 2.2.1. The Project is located across the administrative boundaries of Durham County Council and North Yorkshire Council. The Project is situated on an area of open moorland ('the Site') approximately 9 km south of Barnard Castle, approximately 11 km north-west of Richmond. **Figure 1.1** and **Figure 1.2** illustrate the Project's location, which is approximately centred on National Grid Reference (NGR) NZ 04847 06480. The Site is located to the east of the Yorkshire Dales National Park and south-east of the North Pennines National Landscape.
- 2.2.2. The Site is situated between the A66 and A6108 roads and covers an area extending to approximately 1,111 hectares (ha).

Project Site and Surrounding Area

- 2.2.3. The Site is split up into the following areas as illustrated in **Figure 2.1**:
- Wind Farm Array; and
 - Haul Route Search Area.



- 2.2.4. The wind farm array is located on area of open moorland approximately 503m above sea level and covers an area of approximately 1,000 ha.
- 2.2.5. The Haul Route search area extends from the wind farm array in a north-easterly direction encompassing Moor Lane, areas of open moorland and agricultural land to Barningham Road, between the villages of Barningham and Newsham. The Haul Route search area covers an area of approximately 111 ha.
- 2.2.6. The Site consists of undulating open upland habitats with several water courses and is currently managed for grouse shooting and livestock grazing which is likely to be the main source of noise in this area. One Special Area of Conservation (SAC) (North Pennine Moors SAC) is located c.3.2 km south-west, with no hydrological connection to the Site. Within 2km, Brignall Banks SSSI lies to the north and is hydrologically linked via Gill Beck. Shaw Beck Gill SSSI lies to the southwest but is designated for geology only. Multiple Local Wildlife Sites (LWS) occur within 2km including Hud Scar Hope LWS, grassland LWSs near Kexwith and Moresdale Beck, and several sites further downstream. No designated sites with cited ornithological features are located within 2km of the Site. Two Ancient Woodlands are located within 50m the Scoping Boundary.
- 2.2.7. The Agricultural Land Classification (ALC) across the Site is predominantly Grade 5, with the east of the access track classified as Grade 4, with a small portion overlapping Grade 3. No Grade 1 or Grade 2 agricultural land is present within the Site.
- 2.2.8. A pre-historic cairn on Hope Moor, classified as a Scheduled Monument lies within the Site boundary. 61 additional non-designated heritage assets are present, reflecting both pre-historic activity and post-medieval mining. Surrounding upland landscapes include Hope Moor and Kexwith Moor, with the Stang plantation to the northeast. Site elevations range from approximately 164 m at Newsham to around 350 m AOD at Kexwith Beck and up to 509 m AOD at Arndale Hill. The Site lies immediately north of the Yorkshire Dales National Park, with elevated routes such as Stang Lane providing open views across the moorland and towards Swaledale.
- 2.2.9. Key transport corridors in the wider area include the A66 and A67 to the north, the A684 to the south, and the A1(M) within 15 km. Recreational routes include the Teesdale Way, Pennine Way, NCN Route 71, and locally promoted trails such as the Barningham Trail.
- 2.2.10. The Site lies predominantly within the Upper Swale and Middle Swale operational catchments, with a small northern area draining to the Tees Middle catchment. Several Water Framework Directive monitored water bodies occur within the Site. Ordinary watercourses include Arndale Beck, Low Easegill Beck, Moresdale Beck and Sker Burn, with Flood Zone 2/3 confined to narrow watercourse corridors. Surface water flood risk is limited to local drainage channels.
- 2.2.11. Geologically, the Site is underlain by Carboniferous formations of the Yoredale Group, with extensive deep peat (>200 cm) across central and



western areas and shallower peat along the eastern access track. Widespread peatland erosion and drainage feature are present.

- 2.2.12. The Site is underlain by Great Limestone Member, with mapped dissolution features such as shakeholes and sink holes indicating potential ground instability. Historic lead and coal mining is widespread, with 31 recorded mine entries alongside evidence of collapsed pits and mining waste. The northern part of the Site lies outside any Mineral Safeguarding Area, while the southwestern extent falls within a Limestone Safeguard Area. No designated geological or soil-related sites lie within the Study Area. Unexploded Ordnance risk is elevated due to the proximity to the Feldom Ranges. No land is designated as contaminated, though historic mining, quarrying and hushing activities indicate potential for localised metal contamination.
- 2.2.13. Local roads within the surrounding area are predominantly rural (Moor Lane, Barningham Road and Low Lane) with the A66 forming the primary strategic route. All single carriageway sections within the Study Area are scheduled for upgrading to dual carriage way as part of the A66 Northern Trans-Pennine Project. Several Public Rights of Way intersect with the highway network in the Study Area (see **Figure 5.11** and **Figure 12.1**). The nearest AQMA is located 35.7km to the north east of the Site.
- 2.2.14. There are currently eight residential properties within 1.75km of the Scoping Boundary. The nearest villages and hamlets are Newsham (146 m) Barningham (883 m), Dalton (1.9 km), Scargill (2.4 km), Washfold (2.3 km), Helwith (2.4 km), Hurst (2.5 km), Gayles (3.3 km), Booze (3.5 km), Langthwaite (4.1 km), Arkle Town (4.3 km), and Whaw (4.8 km).
- 2.2.15. The closest civilian and military aviation facilities are Teesside Airport (32km east of the Site) and RAF Leeming (30 km south-east of the Site) respectively. The western boundary of the Danger Area of the MoD Feldom Ranges lies 1 km east of the site boundary. No fixed telecommunications links or television broadcast links pass within 1 km of the Scoping Boundary.

2.3. Scoping Boundary

- 2.3.1. The land potentially required for the Project, as identified at this EIA scoping stage, is illustrated in **Figure 1.1**.
- 2.3.2. For the purposes of scoping, the extent of this land, referred to as the 'Scoping Boundary', currently captures what the Applicant believes to be the reasonable worst-case scenario in terms of the extent of land required to construct and operate the Project. This is to allow design flexibility for the following reasons:
- to take account of ongoing design development;
 - to allow for design changes in light of on-going environmental surveys and assessment; and



- to take account of feedback received through engagement, including through consultation events with the public, key stakeholders and discussions with landowners.
- 2.3.3. The Project design would continue to be refined following EIA scoping through to completion of detailed design, and this would lead to optimisation of the Site boundary in the period up to the submission of the application for development consent. A final Site boundary (draft Order Limits) would be defined for assessment in the Environmental Statement (ES) and for the purposes of the application for development consent to establish the outer limits for the Project.
- 2.3.4. The draft Order Limits, alongside any Limits of Deviation that would be applied for in the application for development consent, would cover sufficient area and depth to enable the development to take place and allow the construction contractor reasonable room to alter the precise location of the infrastructure (micro-siting). This flexibility is required so that later detailed design is able to account for localised variations found in ground conditions and thus would enable small changes to the infrastructure locations or location of construction activities within the draft Order Limits. The draft Order Limits would include all permanent infrastructure and would also include all necessary temporary construction works.

2.4. Managing Design Uncertainty & Flexibility

- 2.4.1. Design uncertainty would be addressed within the development of the Project by adopting a precautionary approach to identifying likely significant effects. This would be achieved through the establishment of a series of maximum development parameters known as a 'design envelope' or 'Rochdale Envelope'. The Rochdale Envelope is an established principle, recognised by the Inspectorate in Advice Note Nine: Rochdale Envelope (Ref 2-1), that allows a project to retain design flexibility at the application stage. The Rochdale Envelope is employed "*where the nature of the Proposed Development means that some details of the whole project have yet to be confirmed*" and "*flexibility is ought to addressed uncertainty*".
- 2.4.2. At this stage of the Project, the precise locations and nature of the infrastructure (for example, wind turbines, access tracks, on-Site substation(s), temporary construction compound(s)) and construction methods are to be confirmed. These would be determined through ongoing design work that would take place during pre-application. Therefore, the Project description is necessarily indicative at this stage to accommodate further refinement prior to submission of the application for development consent.
- 2.4.3. The ES would present a detailed Project description and defined design envelope, which would identify which aspects of the Project have yet to be finalised, provide reasons for this and set out the parameters that would apply. The degree of flexibility would vary according to receptor sensitivity and parameters and may be fixed in certain locations on Site where necessary to avoid or prevent likely significant effects arising.



- 2.4.4. **Chapter 3: Approach to EIA** explains further the concept of the ‘Rochdale Envelope’ and the use of parameters to establish a reasonable worst-case scenario for assessment purposes.

2.5. Key Project Components

- 2.5.1. It is currently anticipated that the Project would comprise the following key components, which are described in further detail in the following sections:
- Up to 23 three-bladed horizontal axis wind turbines with associated foundations, external transformers and underground electrical cabling to the on-Site substation
 - Further associated development including but not limited to hardstanding areas, access tracks and site accesses, watercourse crossings, Haul Road for construction vehicles, onsite substation(s) and compound, temporary construction compounds, batching plant, borrow pits, on-Site underground cables, drainage, CCTV, fencing, lighting, anemometry mast(s), highway modifications, offsite street works to mitigate overrun and oversail, services and internal cabling work.
 - Environmental and ecological mitigations measures, and environmental and cultural enhancement works.
- 2.5.2. An indicative Site layout has been developed for the Project for scoping purposes. This layout has been informed by environmental and technical constraints identified to date whilst also reflecting the Project’s operational requirements. The indicative Site layout is shown in **Figure 2.2**.
- 2.5.3. The indicative Site layout would be subject to an iterative design process as part of the EIA. The design of the Project would continue to evolve as the EIA progresses through the pre-application process, taking into account environmental and technical constraints and feedback obtained during stakeholder consultation.

Wind Turbines

- 2.5.4. **Table 2-1** presents the key indicative turbine parameters being considered for scoping purposes, as well as the turbine coordinates for the indicative site layout shown in **Figure 2.2**.

Table 2-1: Wind Turbine Coordinates and Indicative Key Design Parameters for Scoping Purposes

Turbine ID	Easting	Northing	Maximum Rotor Diameter (m)	Maximum Tip Height (m)
T1	404938	505823	175	200
T2	404245	505539	175	200
T3	404299	505998	175	200



T4	403625	505964	175	200
T5	403206	506118	175	200
T6	402599	506732	175	200
T7	402835	507293	175	200
T8	403471	507548	175	200
T9	403432	507091	175	200
T10	403782	506792	175	200
T11	404333	507774	175	200
T12	404710	507491	175	200
T13	404543	506977	175	200
T14	404798	506672	175	200
T15	405120	506382	175	200
T16	405309	507217	175	200
T17	405589	506892	175	200
T18	406119	507412	175	200
T19	406292	506987	175	200
T20	405916	506417	175	200
T21	406429	506202	175	200
T22	406481	505704	175	200
T23	405876	505694	175	200

- 2.5.5. An envelope-based approach would be adopted for the assessment informed by the wind turbine models currently available and consistent with the proposed Project scale. For each environmental discipline, a candidate turbine manufacturer and representative ‘worst case’ wind turbine model, that aligns with the key indicative turbine parameters set out in **Table 2-1**, would be identified to define the assessment envelope for the purpose of the detailed assessment to be presented in the ES. The final choice of wind turbine model to be installed would be dependent on the turbine economics and available technology options at the time of procurement, should development consent be granted for the Project.

- 2.5.6. The specification of the wind turbine would be a typical horizontal axis design, comprising of three rotor blades, a tower and a nacelle. The tower would be tubular and tapered in design and finished in a light grey semi-matt colour. Each turbine would have an external transformer located adjacent to its base. A typical wind turbine is illustrated in **Figure 2.3**.
- 2.5.7. The Project would have a gross electrical output capacity of over 100 Megawatts (MW). It is anticipated that the wind turbines would each be rated at approximately 7.2 MW and based on the indicative site layout comprising 23 wind turbines presented in **Figure 2.2**, the installed capacity is currently anticipated to be up to 165.6 MW. To maintain flexibility, and in line with national policy, it is not proposed that the DCO would limit the electrical output of the Project and instead physical parameters would ensure that the reasonable worst-case scenario is not exceeded.
- 2.5.8. It is expected that the annual output of the Project would be approximately 454,055 MWh/y, enough to meet the needs of approximately 136,640 UK homes. The Project would result in emissions savings of approximately 202,963 tonnes of carbon dioxide (CO₂) per annum, compared to a fossil fuel mix of electricity.

Micro-siting

- 2.5.9. Micro-siting refers to the accurate positioning of the proposed infrastructure, following the completion of detailed ground investigations undertaken prior to construction. It allows for limited adjustments to the location of infrastructure, within a defined distance, to avoid or mitigate geoenvironmental and geotechnical constraints that may only be identified at this stage. A micro-siting allowance for wind turbine infrastructure would be sought for the Project, with specific details to be set out in the ES.

Wind Turbine Foundations and Hardstandings

- 2.5.10. Wind turbine foundations would be designed to accommodate the final choice of wind turbine model and Site-specific ground conditions. The final design specification for each wind turbine foundation would depend on detailed ground investigation at each wind turbine location, which would be undertaken if development consent is granted for the Project.
- 2.5.11. For the purposes of scoping, up to 25 m diameter wind turbine foundations have been assumed. In the absence of detailed ground investigations at this stage, it is anticipated that wind turbine foundations would be based on a reinforced concrete gravity base design. The foundation footprint and working area would be excavated with the foundation footprint being upon competent load bearing strata. The above ground finish would consist of an approximately 4.5 – 5 m diameter foundation plinth protruding from the ground to support the wind turbine.
- 2.5.12. A hardstanding would be required for each wind turbine and would be built adjacent to the wind turbine foundation. These areas would provide a stable base on which to lay down wind turbine components ready for assembly and erection, and to accommodate the cranes necessary to assemble the wind turbine. The hardstandings would be large enough to



accommodate all heavy equipment manoeuvring and component storage during turbine installation.

- 2.5.13. The hardstanding design and layout would be determined by the turbine supplier according to their preferred erection method. At this stage, the hardstandings are anticipated to consist of a crane pad measuring up to 4,150 m² and a blade laydown area of up to 2,050 m². A typical hardstanding is illustrated in **Figure 2.4**. The blade laydown and crane auxiliary pads, which form part of the hardstanding, would be removed on completion of wind turbine installation.
- 2.5.14. The crane pad area would be left in situ following wind turbine installation, to allow for servicing and maintenance activities, including the replacement of components if required during the operational lifetime of the Project, and to facilitate decommissioning.

Lighting

Aviation Lighting

- 2.5.15. As wind turbines over 150 m to blade tip are proposed to be installed on-site, in line with current guidance from the Civil Aviation Authority (CAA), there would be a requirement for them to be fitted with visible aviation lighting. An aviation reduced lighting scheme would be explored, subject to approval by the CAA.

Artificial Lighting

- 2.5.16. Artificial lighting may be required during the construction phase of the Project to ensure safe working conditions during periods of limited natural light. Examples of lighting requirements include, but are not limited to, vehicle and plant headlights, construction compound lighting, floodlights and mobile lighting units, to be used around specific construction activities.
- 2.5.17. Where lighting is required, it is intended that the type of lighting would be non-intrusive to prevent overspill. For example, lighting would be directed towards the works activity and away from the Site boundary and nearby habitat features to prevent lighting disturbance.
- 2.5.18. Details of artificial lighting requirements would be confirmed through the design process and reported in the ES.

Underground and On-Site Electrical Cabling

- 2.5.19. Each wind turbine would be connected to the onsite substation via internal, on-site underground electrical cables. Cables would be accommodated in cable trenches, which would also include communication cables and the earthing cable network. Where cables need to cross access tracks or hardstandings, they would be routed through ducts. The layout of the cable trenches within Site would typically run adjacent to the access tracks where possible.



Site Access

- 2.5.20. Site access would be required for all phases of the Project. During the construction phase, access would be required for the delivery of the wind turbine components, construction materials and plant, and for general construction traffic. At this stage, it proposed that access to the Site would be gained via locations on Barningham Road and / or Moor Lane, and vehicles travelling to and from the Project would use those roads and Low Lane on their journey to and from the A66.
- 2.5.21. The creation of Site accesses would require modifications to the existing roads to create new and temporary Site entrances / exits and to accommodate construction traffic and maintain safe and efficient network operation during the construction phase. These would be designed in consultation with the appropriate Highway Authority to minimise traffic disruption. Studies would be carried out to determine the optimum highways design for the necessary changes to the road systems and any temporary traffic restrictions while road work is being carried out. The studies would also inform the Project on the sequence of road works to reduce their impact.
- 2.5.22. Construction access and highway modifications would be developed and outlined within a Construction Traffic Management Plan (CTMP) as detailed in **Section 2.6**.
- 2.5.23. A dedicated Haul Road is proposed with access from Barningham Road to manage the movement of construction traffic to the Site and minimise the use of local roads. A haul route search area has been identified, as shown on **Figure 2.1**, within which a preferred Haul Road alignment would be developed.
- 2.5.24. Two options are currently being considered within the defined haul route search area presented in **Figure 2.1**:
- A Haul Road linking Barningham Road and Moor Lane, from which construction traffic would then travel onwards to the wind farm array.
 - A Haul Road linking Barningham Road and the wind farm array.
- 2.5.25. The final alignment of the Haul Road would be informed by a detailed review of environmental and engineering constraints, including topography, land use, sensitive receptors and ecological designations as the EIA progresses. This approach would ensure that construction access could be accommodated efficiently while minimising potential impacts on surrounding communities and the local environment. The method of construction would depend on ground conditions and topography.

Access Tracks

- 2.5.26. Access tracks would be required for the Project to provide access to the wind farm array, the wind turbines locations, and to associated development elements including the onsite substation(s), temporary construction compound(s) and borrow pits.



- 2.5.27. Access tracks would be designed to the appropriate geometry and would have sufficient strength and durability to convey heavy loads to their destination throughout the operational lifetime of the Project. Temporary passing places would be provided as required to facilitate traffic movements.
- 2.5.28. The design of a particular length of track would depend on local geological, ecological, topographical and drainage conditions. The primary objectives that would inform the design of access tracks would be:
- Requirement to maintain water flows across tracks and minimise disruption to peat hydrology.
 - Minimisation of peat disturbance and spoil by routing tracks through areas of shallower peat where possible.
 - Selection of an access track design which minimises the potential for peat disturbance and spoil.
 - Serviceability requirements for construction and wind turbine delivery vehicles.
 - Constructability and safety considerations.
- 2.5.29. It is anticipated that a substantial proportion of material for track construction would be sourced from on-Site borrow pits (subject to rock suitability).
- 2.5.30. Access tracks would be used for all phases of the Project.

Watercourse Crossings

- 2.5.31. The access track layout would be designed to minimise the number of new watercourse crossings as far as possible. However, due to the number of watercourses on the Site, it would not be possible for the Project to be developed without some crossings.
- 2.5.32. A buffer zone of 50 m in accordance with the relevant Environment Agency guidance would be maintained around watercourses, with the exception to these buffers being where watercourse crossings are required.
- 2.5.33. The appropriate type of watercourse crossing would be determined based on the topography, hydrology and ecology of each watercourse individually, and in consultation with the Environment Agency and the Lead Local Flood Authority. Details of the watercourse crossings would be presented in the ES.

Borrow Pits

- 2.5.34. It is anticipated that on-Site borrow pits would be used to provide aggregate for the construction of the various elements of the Project, such as access tracks, hardstandings and compound areas, subject to sufficient quality and quantity of stone being available. This approach would minimise the potential environmental and transport network effects associated with transporting imported aggregate to the Site. However, at the beginning of



construction, some aggregate would need to be imported to construct the Site access and the track to at least one internal borrow pit.

- 2.5.35. The location and design of borrow pits would be defined as part of the EIA process and Site design. A review of suitable materials on the Site would be undertaken and borrow pit search areas would be identified as part of a Borrow Pit Appraisal that would be appended to the ES. If appropriate areas are identified, a description of likely materials, borrow pit size and the ability to supply appropriate materials for the construction of the Project would be included in the ES.
- 2.5.36. Further information on the borrow pits and identification of aggregate requirements for the Project would be presented in the ES.
- 2.5.37. Measures to minimise the potential environmental impacts of excavating borrow pits, including provisions for the control of surface run-off during and post construction and the re-vegetating of working faces post construction would be set out in the CEMP (refer to **Section 2.6**).

Temporary Construction Compounds

- 2.5.38. Temporary construction compounds would be required for the duration of the construction phase, which would be used to accommodate a number of facilities, including but not limited to the following:
- temporary modular building(s) to be used as a Site office(s), meeting rooms etc.;
 - staff welfare facilities;
 - parking for construction staff, visitors and deliveries;
 - a reception area;
 - a fuelling point or mobile fuel bowser;
 - secure storage areas for tools; and
 - waste storage and recycling facilities.
- 2.5.39. The temporary construction compounds would be fenced to prevent unauthorised access and would contain security and operational lighting.
- 2.5.40. Once the erection and commissioning of the wind turbines is complete, the temporary construction compounds would be removed, and the land would be reinstated.
- 2.5.41. At this stage the locations of the temporary construction compounds are still to be determined. The final positions of the compounds would be informed by a detailed review of environmental and engineering constraints, including topography, land use, sensitive receptors and ecological designations as the EIA progresses.

Batching Plant

- 2.5.42. At this stage it is not known if concrete would be batched on Site and therefore, if a batching plant would be required. Should this be necessary, potential impacts resulting from the concrete batching process, including



from the abstraction of water and discharge of wastewater would be assessed in the ES. If required, the batching plant equipment would include:

- concrete and aggregate storage bins;
- concrete batching equipment;
- wash out facilities;
- testing facilities;
- water supply; and
- waste storage area.

On-Site Substation(s)

- 2.5.43. An on-Site dedicated substation(s) would be required to connect the Project to the national electricity distribution network. The substation(s) would accommodate the infrastructure necessary to export electricity including transformers, switchgear, protection systems, control equipment, control building, parking and ancillary components. The internal layout of the substation compound would be confirmed as the design of the Project evolves and presented in the ES.
- 2.5.44. Construction would involve reinforced concrete foundations where required, such as slabs or pad foundations, designed to the site-specific ground conditions and compound makeup. The foundations for each component and building would vary and be designed to account for weight, size and function.
- 2.5.45. The substation would be enclosed by a perimeter fence, such as palisade fencing or similar, up to approximately 3 m in height, with controlled access points and CCTV surveillance. Lighting may be required within the substation compound, with measures expected to be incorporated to manage light spill beyond the Site boundary.
- 2.5.46. Access to the substation compound would be provided via the Project's internal access track network.

Grid Connection

- 2.5.47. The Project can be understood as comprising two distinct grid connection infrastructure assets:
- **Onward transmission infrastructure:** the wider transmission assets extending from an off-Site substation to the national electricity transmission network; and
 - **Project-specific connection infrastructure:** the electrical infrastructure of internal overhead or underground electricity cables required to connect the generating asset (the wind turbines) from an on-Site substation to an off-Site substation.
- 2.5.48. The Applicant's position is that the onward transmission infrastructure does not form part of the scope of the Project. Within the NSIP regime, with



- electricity generation schemes, it is commonplace for electricity generation infrastructure and transmission infrastructure to be promoted and consented separately. This is preceded in the following DCOs: Brechfa Forest West Wind Farm, Hinkley Point C Nuclear Power Station, Morgan Offshore Wind Farm, Morecambe Offshore Windfarm Generation Assets.
- 2.5.49. These precedents show that where onward transmission infrastructure is promoted separately, it is typically treated as cumulative development for the purposes of EIA, rather than as an intrinsic component of the generating asset scheme.
- 2.5.50. In relation to the Project-specific grid connection infrastructure, the Applicant's view is that on a basis of functional interdependence, this does form part of the Project for EIA purposes. Notwithstanding this, the Applicant does not currently have sufficient information to include the Project-specific grid connection infrastructure within the scope of the DCO application. The point of connection is not yet confirmed. Potential connection options are currently being investigated by the Applicant through ongoing discussions with the National Energy System Operator (NESO), Northern Powergrid as the Distribution Network Operator (DNO), and their technical advisors. The location of the off-Site substation is therefore currently unknown and would be influenced by a range of factors outside the control of the Applicant.
- 2.5.51. Given the lack of current knowledge of the location of the point of connection, it is not possible at this stage to identify the potential route options for the connection cables from the Site to the point of connection and so the Project-specific grid connection infrastructure, including the internal export cables to the off-Site substation, is not part of the application for development consent for the Project.
- 2.5.52. The grid connection infrastructure, including the export connection cables and the off-Site substation, would be subject to detailed environmental assessment requirements when brought forward by the third party responsible for its delivery. The Applicant has prepared **Appendix 2A** which explains its position on these matters. It is requested that the Scoping Opinion confirms this approach, in line with section 4.11 of the National Policy Statement for Energy (EN-1), which confirms that where there is the absence of information about both forms of grid connections, these are capable of being scoped out on the basis that a meaningful assessment cannot be carried out.

Off-Site Highways Works

- 2.5.53. The delivery of the turbine components during construction would require Abnormal Indivisible Load Vehicle (AILV) movements from the port of entry to the Site. Initial feasibility work undertaken to date has identified feasible routes to the Site from Able Seaton Port and Teesport, and these are shown in **Figure 12.2**.
- 2.5.54. The vehicle routing associated with AILV movements would be considered as the EIA and detailed design of the Project progresses and would be discussed with stakeholders. Routing studies would consider the



requirement for off-site highway works required to accommodate the AILV movements including oversailing rights and street works that may be required. Environmental studies would be undertaken as necessary to understand and assess the potential environmental effects arising from any proposed off-Site highway works.

- 2.5.55. As noted in **Section 2.3** the Site boundary may be subject to change as the Project design develops and would be refined to include highway modifications to accommodate AILV movements if necessary. A final Site boundary (draft Order Limits) would be defined for assessment in the ES for the purposes of the development consent.

2.6. Construction Phase

Construction Approach

- 2.6.1. Subject to development consent being granted for the Project, it is currently anticipated that construction of the Project could commence in 2030 and is likely to be completed over a period of approximately 18 months. Construction would include, but would not be limited to, the principal activities listed below:

- site preparation: vegetation clearance, topsoil stripping and drainage installation;
- formation of new site accesses: construction or upgrading of access points from the public highway, including visibility improvements, junction widening and installation of temporary traffic management if required;
- formation of temporary construction compounds: establishment of laydown areas, welfare facilities, parking, offices, storage areas and temporary utilities;
- formation of borrow pits: excavation and operation of on-site borrow pits;
- access track construction: new tracks and upgrades to existing routes, including passing places, turning heads and hardstandings;
- foundation works: excavation, formwork, reinforcement and concrete pours for turbine bases and other electrical infrastructure;
- on-Site cable installation: trenching and installation of underground electrical and communications cables;
- sub-station(s) construction: civil works, building erection and installation of transformers, switchgear and control systems;
- turbine delivery and erection: abnormal load deliveries, crane mobilisation and erection of towers, nacelle and blades; and.
- commissioning and testing: mechanical and electrical testing and turbine configuration.

- 2.6.2. A detailed construction programme would be set out in the ES.



Construction Hours

- 2.6.3. The construction working hours for the Project would be 07:00 to 19:00 Monday to Friday and 07:00 to 13:00 on Saturdays. Working would not be permitted on Sundays or Public Holidays. It should be noted that out of necessity some activities, for example abnormal load deliveries, concrete pouring for foundations and also the lifting of turbine components may require exceptions to these specified working hours.
- 2.6.4. Construction activities taking place outside of specified hours would be notified to the local authorities within 48 hours of any works taking place. Local residents would also be kept informed of the proposed working schedule, where appropriate, including the times and durations of any abnormal loads deliveries and abnormally noisy activities.

Construction Environmental Management

- 2.6.5. A series of environmental management plans would be prepared to manage and control potential environmental effects associated with the construction phase of the Project. These plans would provide a framework for the implementation of procedures, controls and good practice measures to support the undertaking of construction activities in accordance with relevant standards, regulatory requirements and Project-specific requirements established through the EIA process. The anticipated management plans are described below, however this is not an exhaustive list, and additional plans or measures may be identified as the EIA and design process evolves and would be confirmed in the ES.

Construction Environmental Management Plan

- 2.6.6. A Construction Environmental Management Plan (CEMP) would set out the principles and procedures for the environmental management of the Project during construction. The CEMP would aim to describe how any potential adverse effects from the construction phase of the Project on the environment and local communities would be controlled and minimised as far as reasonably practicable. It would describe good industry practice for the management of the environment and would form the framework for more detailed construction mitigation plans.
- 2.6.7. The CEMP would also define the roles and responsibilities of the environmental management personnel, including the Environmental Clerk of Works (EnvCoW) and Ecological Clerk of Works (ECoW) who would provide oversight of environmental compliance, ecological protection and mitigation measures during the construction phase.
- 2.6.8. The CEMP, in outline form (outline CEMP), would be developed alongside the EIA process as a key construction mitigation document that would form part of the application for development consent.
- 2.6.9. It is likely that a number of topic specific environmental plans would be provided, in outline form, as appendices to the outline CEMP, however, this would be reviewed and updated as necessary through the EIA process:



- outline Pollution Prevention and Emergency Incident Response Plan – would set out the pollution prevent measures, and emergency incident responses, which would be implemented during the construction phase of the Project;
 - outline Soil Management Plan (outline SMP) – would set out how soils would be protected, handled, stored and reinstated during the construction phase of the Project;
 - outline Materials Management Plan (outline MMP) – would focus on efficient resource management for the Project to minimise Project impacts in relation to material use (and ultimately waste management infrastructure demand);
 - outline Dust Management Plan – would set out measures and procedures that would be implemented during construction to prevent, minimise and manage dust emission;
 - outline Site Waste Management Plan (outline SWMP) – would outline arrangements for the management of waste arising during construction in accordance with relevant legal and good practice requirements;
 - outline Biosecurity and Invasive Non-native Species (INNS) Management Plan (BIMP) – would outline measures to manage the risk of the introduction and spread of INNS during construction;
 - outline Pollution Prevention and Emergency Incident Response Plan (PPEIRP); and
 - outline Bird Disturbance Management Plan (BDMP) – would outline the precautions to be taken to comply with legislation in regard to the protection afforded to wild birds during construction and would be informed by pre-commencement surveys and / or consultations with relevant bird recording groups.
- 2.6.10. Production of a final version of the CEMP would be secured by a Requirement in the DCO, stipulating that the final version must be substantially in accordance with the outline CEMP.

Traffic and Transport Management

- 2.6.11. The movement of materials, waste, construction workforce and plant require careful management with respect to transport movements. Traffic management measures would be covered in a Construction Traffic Management Plan (CTMP) to be agreed with the appropriate Highway Authority to minimise traffic disruption. The CTMP measures would be employed during construction to manage the movement of wind turbine components, construction materials and plant and general construction traffic to the Site, reduce delays on other road users, and minimise interference with local traffic.
- 2.6.12. The CTMP would set out how transport movements would be managed on the local highway network, routes for any Heavy Goods Vehicles (HGVs), details for management any abnormal indivisible loads and details / timings



of any necessary road closures, if required. Construction access and highway modifications would also be developed and outlined in the CTMP.

- 2.6.13. The CTMP, in outline form (outline CTMP), would be developed alongside the EIA as a key traffic and transport management document that would form part of the DCO. Production of a final version of the CTMP would be secured by a Requirement in the DCO, stipulating that the final version must be substantially in accordance with the outline CTMP.

Public Access Management Plan

- 2.6.14. A Public Access Management Plan (PAMP) would be prepared to set out the approach that would be taken to manage interactions between the Project and public, and to manage the potential impacts upon Public Rights of Way (PRoW). The PAMP would seek to promote public safety, maintain appropriate access where reasonably practicable, and minimise disruption to existing public access routes, during all phases of the Project.
- 2.6.15. The PAMP, in outline form (outline PAMP), would be developed alongside the EIA as a key public access management document that would form part of the DCO. An outline PAMP would be provided with the application for development consent that sets out the principles to be followed when the final PAMP is finalised. Production of a final version of the PAMP would be secured by a Requirement in the DCO as granted and would be adopted during all phases of the Project.

Peat Management Plan

- 2.6.16. A Peat Management Plan (PMP) would be prepared to outline the overall approach to minimising disruption to peatland present on Site. It would aim to identify and take forward all further opportunities to minimise peat disturbance and extraction during detailed design and construction of the Project.
- 2.6.17. The PMP would be developed to demonstrate that peat is afforded significant consideration during the design evolution of the Project. The PMP would set out measures including, but not limited to, the following:
- Avoiding peat excavation where practicable;
 - Minimising the volume of peat excavated where disturbance cannot be avoided; and
 - Reusing excavated peat in a manner to which it is suited.
- 2.6.18. An outline PMP (a Stage 1 PMP), would be developed to establish the peat management strategy for the Project and inform the EIA by identifying peat risks, sensitivities, and likely effects associated with the Project. A Stage 1 PMP would be submitted as part of the ES. Approval of a Stage 2, construction-phase PMP, would be controlled via a Requirement in the DCO as granted.



Landscape and Ecology Management Plan

- 2.6.19. In addition to the outline CEMP and associated construction management plans, the application for development consent would include proposals for managing measures to avoid, reduce, mitigate or compensate for potential impacts on landscape and biodiversity resources and measures intended to provide biodiversity benefit. This information would be presented, in outline form, within either a combined LEMP or separate plans for landscape and visual and biodiversity aspects. These would cover construction and operational aspects of the Project. Production of a final version of the LEMP would be secured by a requirement in the DCO, stipulating that the final version must be substantially in accordance with the outline LEMP. A detailed Habitat Management Plan (HMP) may subsequently be prepared and secured as a Requirement in the DCO linked to the LEMP, to provide detailed prescriptions for habitat management, monitoring and long-term biodiversity objectives during operation.

2.7. Operation and Maintenance Phase

Duration

- 2.7.1. Subject to development consent being granted for the Project, it is anticipated that the Project would become operation in 2031. The Project would have an operational life of up to 30 years from the first commissioning (export to the electrical grid).

Operation and Maintenance Phase On-Site Activities and Management

- 2.7.2. During the operation and maintenance phase of the Project, on-Site activities would be limited in extent. The wind turbines would operate automatically and would be monitored remotely. Routine site visits would be undertaken periodically for the maintenance and inspection of wind turbines and electrical infrastructure, as well as for other site management activities including vegetation and habitat management, and the maintenance of other other-Site infrastructure such as access track and drainage features.

Operational Phase Environmental Management Plan

- 2.7.3. An Operational Phase Environmental Management Plan (OEMP), in outline form (outline OPEMP) would be developed alongside the EIA to describe the overarching principles and measures through which environmental impacts associated with the operational and maintenance phase, as identified in the EIA, would be appropriately managed. Production of a final version of the OPEMP would be secured by a Requirement in the DCO, stipulating that the final version must be substantially in accordance with the outline OPEMP.
- 2.7.4. It is anticipated that the outline OPEMP is likely to comprise a suite of topic-specific management plans, which may include, but not be limited to, an Operational Phase PMP, Operational Phase SMP, Operational Phase Waste Management Plan and LEMP and any other relevant operational



mitigation measures identified through the ES. Each plan would set out the principles for protecting environmental receptors, management operational risks and delivering mitigation and enhancement commitments.

Community Benefit

- 2.7.5. Should the Project gain consent, a Community Benefit Fund would be made available to the community to support local priorities, and the Applicant is committed to engaging with the community to understand what the priorities are.
- 2.7.6. The Applicant is committed to offering a £5,000 per MW of installed capacity on an indexed linked basis. Based on the indicative site layout presented in **Figure 2.2**, comprising of up to 23 wind turbines each rated at 7.2 MW, which would result in the Site having an installed capacity of 165.5 MW, it is estimated that the community benefit fund could accrue benefits to the local economy of approximately £24.8 million over the 30 year life of the Project.
- 2.7.7. The nature of how this fund would be used would depend on decisions taken by the community and the Applicant is committed to ongoing engagement to ensure that the fund is best used to meet the needs of the local area.
- 2.7.8. Full details of the proposed Community Benefit Fund would be provided in the ES.

2.8. Decommissioning Phase

- 2.8.1. At the end of its operational life, the Project would be decommissioned unless an application is submitted to extend the operational period or to repower the Site. The decommissioning phase would be expected to take up to 12 months.
- 2.8.2. Decommissioning would be undertaken safely, in line with specific procedures and subject to risk assessment, and with regards to the environmental legislation at the time of decommissioning. The required licences and permits would also be required.
- 2.8.3. Decommissioning of the Project would involve the dismantling and removal of wind turbines from the Site. The top 1 m of wind turbine foundations and hardstandings would be removed and disposed of appropriately and the excavated foundations and hardstandings would be reprofiled with soil and reseeded. Any new access tracks would be decommissioned using the same method unless otherwise agreed with the landowners and the planning authority. Any upgraded access tracks would be left in situ, as would underground cabling subject to them being made safe and being 1 m below ground. The on-Site sub-station and any associated equipment would be removed and disposed of appropriately. Land would be restored to a satisfactory state.
- 2.8.4. A Decommissioning Plan, in outline form (outline Decommissioning Plan) would be produced, which would detail measures envisaged to be



implemented to avoid or reduce impacts during the decommissioning phase and assessment would be undertaken where necessary.

- 2.8.5. The outline Decommissioning Plan would be submitted with the application for development consent and secured in the DCO. Approval of a finalised version of the Decommissioning Plan would be controlled via a Requirement in the DCO as granted and would be adopted by the appointed contractor during decommissioning. The finalised Decommissioning Plan would address the relevant statutory requirements at the time; address any extant commitments with landowners / statutory authorities; and take account of any good practice in place at the time of decommissioning.

2.9. Site Selection, Consideration of Alternatives and Design Evolution

- 2.9.1. Schedule 4, paragraph 2 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (Ref **2-2**) (the EIA Regulations) requires the Environmental Statement (ES) to contain:

“A description of the reasonable alternatives (for example in terms of development design, technology, location, size and scale) studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of environmental effects.”

- 2.9.2. National Policy Statement for Renewable Energy Infrastructure (EN-3) (Ref **2-3**) acknowledges that there may be several factors influencing site selection by an applicant. Including but not limited to, predicted wind speed, proximity to dwellings, accessibility, and public rights of way. EN-3 also identifies that the siting of an onshore wind farm and its design evolution will be influenced by a range of technical considerations that inform site layout design and appearance, such as topography, environmental designations, geological conditions, landscape and visual designations, and ecological and ornithological interest.

Proposed Approach

- 2.9.3. The EIA Regulations (Ref **2-2**) do not require consideration of alternatives, but where reasonable alternatives have been considered, these should be described in the ES. In particular, the ES should set out the main reasons for the chosen site selection and design, including a comparison of the likely significant environmental effects of the selected option against the identified reasonable alternatives.
- 2.9.4. A full description of the Project site selection, design evolution and assessment of reasonable alternatives would be presented in detail in the ES. This would include the rationale for site selection and the iterative design process that would be undertaken during the pre-application process to inform site layout design by reference to relevant environmental, technical, and commercial considerations.



- 2.9.5. For the Project, the consideration of alternatives would focus on different site layouts, wind turbine technology including size and scale, and the refinements made to the Project through the iterative EIA process, in response to the statutory consultation process, and following stakeholder feedback. An appraisal of the alternatives considered would be presented which would provide the rationale for the final Project design that would be taken forward in the DCO application.
- 2.9.6. A ‘do nothing’ or ‘no development’ scenario, in which the Project does not proceed, is not considered to constitute a reasonable alternative because it would not meet the Project’s fundamental purpose of generating renewable electricity and supporting the transition to a low-carbon energy system. As such, this scenario would not be assessed as a reasonable alternative within the ES. However, the environmental conditions that would exist in the absence of the Project would be reflected within the ‘future baseline’ for each environmental topic chapter of the ES and would be used as the basis against which the Project’s likely significant effects would be assessed.
- 2.9.7. If alternative design options still exist for any element of the Project, such as wind turbine parameters, at the point of submission of the DCO application, the EIA would adopt a precautionary approach and assess the likely significant effects of the Project on the basis of the reasonable worst-case scenario, in accordance with the principles outlined in the Planning Inspectorate’s Advice Note Nine: Rochdale Envelope (Ref 2-1).

2.10. References

- Ref 2-1 Planning Inspectorate (2018). *Nationally Significant Infrastructure Projects – Advice Note Nine: Rochdale Envelope*. Available at: <https://www.gov.uk/government/publications/nationally-significant-infrastructure-projects-advice-note-nine-rochdale-envelope/nationally-significant-infrastructure-projects-advice-note-nine-rochdale-envelope> [Accessed March 2026].
- Ref 2-2 The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017. Available at: <https://www.legislation.gov.uk/ukxi/2017/572/contents> [Accessed March 2026].
- Ref 2-3 UK Government (2026). *National Policy Statement for Renewable Energy Infrastructure (EN-3)*. Available at: <https://assets.publishing.service.gov.uk/media/695d1368b5c46330350ed9a2/national-policy-statement-for-renewable-energy-infrastructure-en-3-web-accessible.pdf> [Accessed March 2026].



3. Approach to EIA

3.1. Introduction

- 3.1.1. Environmental Impact Assessment (EIA) is a structured process for identifying, predicting and evaluating the likely significant effects (beneficial and adverse) of a proposed project. Through the EIA, environmental information is systematically gathered and assessed, which promotes the early identification and evaluation of potential effects. This information enables appropriate mitigation measures to be identified and incorporated into the design of the development. The information compiled during the EIA is presented in an Environmental Statement (ES) to accompany the application for consent and support the determining authority in the decision-making process.
- 3.1.2. EIA is an iterative process and typically, a number of design iterations take place in response to environmental constraints being identified and consultee feedback received during the preparation of the EIA prior to the final design being defined. This will be important for the Project as the design and layout are still being refined. Further changes are expected following submission of this Scoping Report.
- 3.1.3. This chapter sets out the proposed approach to the EIA for this Project, noting that for specific environmental topics a different approach may be adopted where prevailing standards, thresholds and / or established criteria exist. Where this is the case, this is identified in the topic specific chapters (**Chapters 5 to 18**) of this Scoping Report. In all cases, the approach to EIA will be developed and refined in response to engagement with relevant stakeholders.
- 3.1.4. The approach to EIA for the Project and the production of the ES will be prepared in compliance with the requirements of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the 'EIA Regulations') (Ref 3-1), and with due regard to the relevant advice notes prepared by the Planning Inspectorate, including:
- Nationally Significant Infrastructure Projects: Advice on the Preparation and Submission of Application Documents (Ref 3-2);
 - Advice Note Seven: Environmental Impact Assessment: process, preliminary environmental information and environmental statements (Ref 3-3);
 - Advice Note Nine: Rochdale Envelope (Ref 3-4); and
 - Nationally Significant Infrastructure Projects: Advice on Cumulative Effects Assessment (CEA) (Ref 3-5).

3.2. The EIA Process

- 3.2.1. The EIA process follows a series of stages:
- Scoping



The purpose of scoping is to ensure the EIA focuses on the likely and relevant significant environmental effects of the Project, drawing on the identification of sensitive environmental receptors and agreement of the EIA scope.

- **Baseline Data Collection**

This stage involves desk and field survey baseline data collection to gather information on current environmental conditions against which the impacts of the Project will be measured.

- **Assessment**

Impact assessment is undertaken to predict and evaluate the likely significant effects – both positive and negative – of the construction, operation and maintenance, and decommissioning phases of the Project on the receiving environment.

- **Mitigation, Enhancement and Design Iteration**

Measures to avoid, minimise, reduce, compensate for, or provide enhancement in relation to likely significant effects are identified. As EIA is iterative, mitigation measures will feed back into refinements to Project design.

- **Preparation of the ES**

Findings of the EIA process are compiled into the ES detailing the design evolution process, environmental topic assessment outcomes, proposals for mitigation, monitoring and management of potential environmental effects. The ES will accompany the application for development consent.

3.3. EIA Scoping

- 3.3.1. The EIA scoping process identifies which aspects of the environment are likely to be significantly affected by the Project. This involves determining:
 - The environmental and human receptors that could be significantly affected by the Project; and
 - The work required to assess these potential significant effects in detail.
- 3.3.2. Consultees are invited to confirm their agreement with the proposed EIA scope for the Project, including what topics are included and excluded ('scoped in' and 'scoped out'), the assessment methodologies, and the receptors identified.
- 3.3.3. The approach taken in preparing this Scoping Report has been guided by the Inspectorate's Advice Note Seven (Ref 3-3) and reflects the requirement of the EIA Regulations (Ref 3-1) for the ES to focus on those aspects of the environment likely to be subject to significant effects. Accordingly, this Scoping Report seeks to scope out certain matters from further assessment where appropriate and with suitable justification provided. This ensures the EIA remains proportionate and targeted, consistent with the Institute of Sustainability and Environmental



Professionals' (ISEP) (formerly the Institute of Environmental Management and Assessment (IEMA)) *Delivering Proportionate EIA* guidance document.

3.4. Rochdale Envelope Approach

- 3.4.1. The Inspectorate's Advice Note Nine (Ref 3-4) recognises that during the early stages of scheme design, certain aspects may remain subject to change. Design uncertainty will be managed within the EIA by applying a precautionary approach to the identification of significant environmental effects, using a defined set of maximum development parameters, known as a 'design envelope' or 'Rochdale Envelope'. The Rochdale Envelope is an established principle, recognised in Advice Note Nine, that allows a project to retain design flexibility at the application stage.
- 3.4.2. The Rochdale Envelope, derived from UK case law (Ref 3-6), is an established principle that enables a project to be defined through a set of maximum and minimum parameters that limit its potential scope. By adopting this approach, the EIA can assess a reasonable worst-case scenario, ensuring that decision-makers are provided with a robust ES to consider when determining the acceptability or otherwise of the environmental effects of a development project.
- 3.4.3. This approach is based on the assumption that, provided the technical and engineering parameters of a development project remain within the defined limits of the design envelope, and the EIA assesses the likely significant effects of a development coming forward within that envelope (using a reasonable worst-case scenario), then flexibility within those parameters is considered acceptable under the terms of any consent granted.
- 3.4.4. In adopting the design envelope approach for EIA, it is necessary to consider whether development in accordance with one parameter might result in a more significant adverse effect than another. Where a range of parameters are provided, the EIA must assess the parameter that is likely to generate the greatest potential adverse effect for each receptor. This means that the worst-case parameter may differ between environmental topics, ensuring that the assessment remains robust, transparent and precautionary.
- 3.4.5. The parameters for the Project will form part of the Project description within the ES and may include, for example, maximum land take to accommodate environmental mitigation, as well as horizontal and vertical limits of deviation within which the Project design may be adjusted if necessary.
- 3.4.6. This approach to managing uncertainty and maintaining flexibility within defined parameters and limits will ensure that any design changes arising after submission of the DCO application remain within the assessed parameters and therefore do not undermine the adequacy or validity of the ES.



3.5. Defining the Study Area

- 3.5.1. Each environmental topic considered within the EIA will define the Study Area to be considered and will provide a rationale to support its selection. In each case, the Study Area represents the area within which environmental changes arising from the Project are predicted to occur. The extent of each Study Area is determined by the nature of the potential effects and the location of receptors that could be affected. In defining these areas, consideration is given to:
- the physical footprint of the Project;
 - the characteristics and sensitivities of the existing baseline environment;
 - the manner and extent to which environmental effects may occur; and
 - any relevant topic specific guidance.
- 3.5.2. The Study Area for each environmental topic is described within **Chapters 5 to 18** of this Scoping Report and has been informed by the Scoping Boundary, the indicative Site layout (shown on **Figure 2.2**) and other topic specific considerations. The Study Area for each environmental topic may be refined in response to comments from consultees, the evolution of the Project design through the EIA process, or as a consequence of further assessment work. Study areas will then be confirmed in the ES.

3.6. Temporal Scope

- 3.6.1. Whilst National Policy Statement (NPS) for Renewable Energy Infrastructure (EN-3) (Ref 3-7) recognises that wind farms are temporary developments by virtue of a time-limited consent period, the EIA will consider the temporary nature of the consent (should development consent be forthcoming for the Project), including the potential for effects to remain following decommissioning and restoration.
- 3.6.2. The temporal scope of the EIA will define the period over which changes to the environment and the resultant effects are predicted to occur as a result of the Project. These effects may be beneficial or adverse and occur over different timeframes.
- 3.6.3. The assessment will therefore have regard to the Project programme and the Project lifecycle phases – construction, operation and maintenance, and decommissioning. The environmental effects associated with each phase will be identified and evaluated, with the duration of effects and their potential for reversibility considered on an effect-by-effect basis:
- Construction effects may arise both from construction activities themselves and from the temporary occupation of land. These effects are typically short-term in nature and confined to the construction period. However, some effects may persist into the operational phase and beyond, for example, land take associated with the wind turbines and associated infrastructure such as the on-site substation and access tracks, which would remain for the duration of the operational period, or



turbine foundations which would remain in situ following decommissioning.

- Operational effects may be permanent or temporary in nature, occurring only for the duration of the Project's operational life. This is particularly relevant to onshore wind developments, where development consent is granted for a defined number of years as acknowledged by EN-3 (Ref 3-7). The assessment of operational effects in the EIA will assess the maximum development parameters, or those representing the reasonable worst case where this differs, to identify likely significant environmental effects; and
- Decommissioning effects may occur during decommissioning activities or from the temporary use of land during this period. For the purposes of the EIA the decommissioning assessment will be based on an assumption that the Project will be operational for approximately 30 years.

3.7. Baseline Characterisation

- 3.7.1. To assess the potential environmental effects of the Project, it is first necessary to establish the existing environmental conditions (the baseline) within the defined Study Area for each environmental topic.
- 3.7.2. Appropriate understanding of the baseline for each environmental topic will be established using some or all of the following sources:
- Review and collation of existing desk-based information, including existing reports and published datasets;
 - Undertaking appropriate baseline surveys; and
 - Stakeholder consultation to determine the sufficiency of baseline information and the need for and scope of additional studies.
- 3.7.3. As required by Schedule 4(3) of the EIA Regulations (Ref 3-1), the ES will also describe the likely future evolution of the baseline in the absence of the Project, based on available information on future plans and knowledge of historic land uses. The 'future baseline' will be clearly set out and described within the ES in the description of the Project and in each relevant environmental topic assessment chapter.

3.8. Environmental Effects

- 3.8.1. Environmental effects are the consequences of impacts, whereby impacts are the changes that arise as a result of a development, and effects are the consequences of those changes. For an effect to occur there has to be a pathway between the impact and the resource or receptor.
- 3.8.2. The EIA Regulations (Ref 3-1) (Schedule 4, Part 5) require consideration of a range of effect types, including direct and indirect, secondary, cumulative, transboundary, short-, medium-, and long-term, and permanent and temporary effects.



- 3.8.3. In the EIA, effects will be assessed by considering the importance, value or sensitivity of the affected environmental resource or receptor, along with the scale or magnitude of the predicted impact or change. The significance criteria outlined in **Section 3.9** will be used to report the significance of effects. The definition and evaluation of effects will draw on professional judgement, defined thresholds, established criteria and relevant standards.
- 3.8.4. Account will be taken of the role of environmental measures, as discussed in **Section 3.10**, in reducing the significance of adverse effects.

3.9. Assessing Significance

- 3.9.1. The EIA Regulations (Ref 3-1) themselves do not define significance, and it is therefore necessary to state how this will be defined for the EIA. Development proposals affect different environmental elements to varying degrees and not all of these are of sufficient concern to warrant detailed investigation or assessment within the EIA process. The EIA Regulations (Ref 3-1) identify those environmental resources that warrant investigation as those that are *“likely to be significantly affected by development”* (Schedule 4(4)).
- 3.9.2. In determining the significance of effect, consideration will be given to two key factors:
- the **sensitivity** (or importance, value or vulnerability) of the receptor; and
 - the **magnitude** of the predicted change arising from the Project.
- 3.9.3. Sensitivity reflects how susceptible a receptor is to change and how critical its functions or values are, while magnitude describes the scale, extent and nature of the impact anticipated. Where it is not possible for sensitivity or magnitude to be quantified, assessments will draw on professional judgement and relevant experience and a qualitative approach to assessment will be applied.
- 3.9.4. The significance of an effect can be either adverse or beneficial and is determined by combined sensitivity and magnitude using a matrix approach, and an example is shown in **Table 3-1**. Reference is made to:
- ‘Major’ effects, which would always be considered as significant;
 - ‘Moderate’ effects, which can be significant based on specific scenarios and professional judgement; and
 - ‘Minor’ or ‘Negligible’ effects, which would be deemed as ‘not significant’.



Table 3-1: Generic Guidelines for the Assessment of Sensitivity

Magnitude of Change	Sensitivity of Receptor				
		High	Medium	Low	Negligible
	High	Major (significant)	Major (significant)	Moderate (potentially significant)	Minor (not significant)
	Medium	Major (significant)	Moderate (potentially significant)	Minor (not significant)	Negligible (not significant)
	Low	Moderate (potentially significant)	Minor (not significant)	Minor (not significant)	Negligible (not significant)
	Negligible	Minor (not significant)	Minor (not significant)	Negligible (not significant)	Negligible (not significant)

- 3.9.5. The methods for predicting the nature and magnitude of potential effects vary between environmental topics where other recognised standards, thresholds or established criteria must be applied.
- 3.9.6. The specific methodologies used for each environmental topic, and the exact definition of terms used to determine significance, are outlined in the relevant technical assessment chapters (**Chapters 5 to 18**) of this Scoping Report. Further detail and justification will be presented within the individual topic assessment methodologies in the ES.

3.10. Environmental Measures

- 3.10.1. In line with Regulation 14(2)(c) of the EIA Regulations (Ref 3-1), the ES will be based on an EIA mitigation hierarchy which sets out the “*measures envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment*”.
- 3.10.2. Each environmental topic assessed within the EIA will systematically identify potential impacts and effects and will consider the environmental measures proposed as part of the Project. The environmental measures include avoidance, best practice and design commitments as follows:
- **Embedded Mitigation Measures:** modifications made to the siting, design or operation of development components made during the pre-application phase that are inherent in the Project and do not require additional action to be taken;
 - **Standard Mitigation Measures:** management practices and techniques that will be applied during the construction phase to limit



impacts by adhering to good site practice and achieving legal compliance; and

- **Additional Mitigation Measures:** measures identified through the EIA process as necessary to further reduce significant environmental effects, beyond the embedded and standard mitigation already proposed.

- 3.10.3. Where the embedded and standard mitigation measures form an integral part of the Project design and/ or the approach to its construction, the assessment of likely significant effects within the ES will only report the post-mitigation effects.
- 3.10.4. Where additional mitigation measures are identified, the assessment of significance will be re-evaluated to determine whether there is likely to be a residual effect and if it remains significant. Residual effects assessed as Moderate or Major after consideration of additional mitigation measures normally require additional analysis and consultation to further mitigate them, where feasible. Where further mitigation is not possible, a significant residual effect may remain and this will be reported in the ES.
- 3.10.5. A Commitments Register will be prepared to summarise the environmental measures commitments within the ES and will be included in the application for development consent. A draft Register of Environmental Actions and Commitments (REAC), summarising the environmental measures identified in the Scoping Report is included in **Appendix 3A**.

3.11. Cumulative Effects

Approach to Cumulative Effects Assessment

- 3.11.1. A Cumulative Effects Assessment (CEA) will be carried out for the Project. The CEA will assess the combined (or *inter-project*) effects of the Project together with other existing or reasonably foreseeable projects on shared receptors or environmental resources. This assessment will be undertaken in line with paragraph 5(e) of Schedule 4 of the EIA Regulations (Ref 3-1). The CEA will also examine the interaction of environmental effects resulting from different aspects of the Project (or the *intra-project* effects) in accordance with the requirements of Regulation 5(2).
- 3.11.2. The assessment will be informed by the best available information on proposed and committed developments, in accordance with the Inspectorate's Advice Note Seventeen (Ref 4-5). This information will be drawn from publicly available sources or data provided to the Project team, and it will be assumed that such information is accurate. The assessment will also rely on engagement with statutory consultees, neighbouring authorities and other developers to identify any changes in information relevant to the assessment.



Inter-Project Effects

- 3.11.3. The approach to the Cumulative Effects Assessment would reflect the guidance set out in the Inspectorate's Advice on Cumulative Effects Assessment (Ref 3-5). This four-stage approach is as follows:
- 1) Establish the Zone of Influence (Zol) for the Project and identify a 'longlist' of 'other projects';
 - 2) Identify a 'shortlist' of 'other development';
 - 3) Information gathering; and
 - 4) Assessment.
- 3.11.4. The longlist would be compiled by identifying relevant 'other projects' within a CEA search area, which would be determined by establishing the Project's Zol associated with the environmental topic areas assessed with the EIA. The longlist would be developed and grouped into three tiers based on the certainty of their implementation, as outlined below:
- Tier 1
 - Projects under construction;
 - Consented projects (not yet under construction); and
 - Projects with consent applications but not yet determined.
 - Tier 2
 - Projects on the Inspectorate's Programme of Projects where a Scoping Report has been submitted.
 - Tier 3
 - Projects on the Inspectorate's Programme of Projects where a Scoping Report has not been submitted;
 - Projects identified in the relevant Development Plans; and
 - Projects identified in other plans and programmes which set the framework for future development consent/ approvals, where such development is reasonably likely to come forward.
- 3.11.5. The longlist will be refined in consultation with the local planning authorities and key consultees. To keep the CEA proportionate, a shortlist would then be prepared, focussing on projects likely to generate impacts that could combine with the Project and give rise to cumulative effects. Selection criteria would vary by discipline and consider scale, nature and timing. Before submitting the application for development consent, the cumulative development list and associated data will be fixed to allow completion of impacts assessments for the ES.
- 3.11.6. It is proposed that projects that are built or operational at the time that any baseline survey data were collected would be classified as part of the baseline conditions for the purposes of the EIA. Where projects are expected to be completed before Project construction and their effects are fully defined, these would be considered within the construction and



operational assessments presented in the ES as part of the future baseline. The ES would clearly distinguish developments included in this future baseline from those considered in the CEA.

- 3.11.7. At this stage of the Project, the Applicant is aware of the following large-scale developments that have the potential to form part of the Stage 1 'long list' set out in **Table 3-2**, and illustrated in **Figure 3.1**, and this will be kept under review as the Project progresses.

Table 3-2: Initial Stage 1 Long List

Development	Distance (approximate) and Direction from Scoping Boundary	Status
Wind Farms		
Tow Law Wind Farm	30.7 km north	Operational
West Durham Wind Farm	31 km north	Operational
Broom Hill Farm Wind Farm	30 km north-north-east	Operational
Butterwick Moor Wind Farm	35 km north-east	Operational
Southern Law Wind Farm	37 km north-east	Operational
Langley Moor Wind Farm	39 km north-north-east	Operational
High Hedley Hope Extension Wind Farm	31 km north-north-east	Operational
Hedley Hope Wind Farm	31 km north-north-east	Operational
Walkway Wind Farm	35 km north-east	Operational
Boundary Lane Wind Farm	430 km north	Operational
Hambleton Wind Farm	37 km east	Operational
Greencroft Estate Turbines Wind Farm	41 km north-north-east	Operational
Stockton on Tees Wind Farm	38 km east	Operational
Lambs Hill Wind Farm	34 km east-north-east	Operational
Red Gap Moor Wind Farm	38 km east-north-east	Operational
Moor House Wind Farm	24 km east-north-east	Operational
Trimdon Grange Wind Farm	37 km north-east	Operational
Aygill Intake Wind Farm	31 km south	Consented
Tow Law Wind Farm (repower)	30 km north-north-east	Application
MME3, Plot DC1, Integra 61	33 km north-east	Application
Nationally Significant Infrastructure Projects		



Development	Distance (approximate) and Direction from Scoping Boundary	Status
Dogger Bank Teesside A / Sofia Offshore Wind Farm (formerly Dogger Bank Teesside B) - Project previously known as Dogger Bank Teesside A&B	44 km east-north-east	Post Decision
H2Teesside	38 km east-north-east	Examination
Heysham to M6 Link Road	66 km south-west	Post Decision
Lighthouse Green Fuels Project	41 km east-north-east	Pre-application
A66 Northern Trans-Pennine Project	1.5 km west-north-west	Post Decision
Yorkshire GREEN	66 km South-east	Post Decision
The Net Zero Teesside Project	39 km east-north-east	Post Decision
Tees CCPP	47 km east-north-east	Post Decision
Byers Gill Solar	22 km east-north-east	Decision
York Potash Harbour Facilities Order	47 km east-north-east	Post Decision
Morven Hawthorn Pit Grid Connection Project	44 km north-north-east	Pre-application

Intra-Project Effects

3.11.8. The assessment of intra-project effects will examine whether a single environmental receptor or resource is likely to be affected by more than one source of impact arising from different aspects of the Project. Potential interactions will be identified through a review of the conclusions from the individual environmental topic assessments set out in this Scoping Report, to determine where separate impacts may act together and result in likely significant effects. The significance of these intra-project effects on environmental receptors and resources will be determined using professional judgement, informed by input from the authors of the individual topic assessments.

3.12. Transboundary Effects

3.12.1. The EIA Regulations (Ref 3-1) require an ES to consider the transboundary effects of a development (Schedule 4(5)). Given the nature of the Project and its proposed location, significant transboundary effects on the environment of another European Economic Association (EEA) member state are considered unlikely. Agreement is therefore sought that transboundary effects are scoped out of the EIA.

3.13. Consultation and Engagement

- 3.13.1. The Project involves a broad range of stakeholders with diverse interests, each requiring different levels and forms of consultation. As a result, communication activities will be tailored to address the specific needs of individual stakeholders and groups. This approach relies on a clear understanding of who the stakeholders are and how their interests relate to the Project.

Pre-Application Consultation

- 3.13.2. Currently, under section 42 of the Planning Act 2008 (Ref 3-8), the Project is required to consult with a range of prescribed consultees about the Project. However, the Planning and Infrastructure Act 2025 (Ref 3-9) is removing the requirement to carry out consultation with prescribed consultees for NSIPs. The Applicant nonetheless proposes to consult key stakeholders with interests relating to the Project as part of the pre-application process. These include (but are not limited to):
- prescribed consultees;
 - local authorities;
 - landowners/ land interests;
 - local communities;
 - other key interest groups; and
 - seldom heard groups.
- 3.13.3. The Applicant acknowledges that consultation and engagement will play a central role in shaping the design of the Project by helping to identify specific environmental issues, local considerations and stakeholder priorities that should be taken into account from an early stage. The Applicant is therefore committed to maintaining open, constructive and ongoing engagement through the design and assessment process, ensuring stakeholders continue to have a clear voice as the Project progresses.
- 3.13.4. The Applicant will implement a structured but proportionate consultation framework for the Project aligned to the Planning and Infrastructure Act 2025 and any associated government guidance as it emerges. Accordingly, the Applicant will undertake a two-stage consultation process, with stage one providing early, broad public engagement and stage two comprising more detailed consultation on the developed Project proposals, ensuring engagement remains proportionate, meaningful and effective notwithstanding changes to the statutory framework. This framework will be designed to ensure engagement is undertaken early enough to inform design development and mitigation, while maintaining a clear documentary audit trail to support the DCO application.

Technical Engagement

- 3.13.5. The Applicant will hold informal engagement with the key technical stakeholders, as appropriate, to refine the Project and the EIA and to assist



in the development of any required mitigation or other environmental measures. Specific information on this is presented in the environmental topic chapters (**Chapters 5 to 18**) of the Scoping Report.

- 3.13.6. A summary of technical stakeholder engagement will be summarised within the individual technical chapters within the ES. In addition, the Applicant will seek to agree draft Statements of Common Ground with key technical stakeholders to set out matters that have been agreed prior to submission of the DCO application.

Consultation and Engagement to Date

- 3.13.7. The Applicant is committed to constructive engagement with the local community and stakeholders. Engagement has already commenced with key political representatives as well as local groups and the community, and this dialogue will continue as the Project develops.
- 3.13.8. Following receipt of the Hope Moor Wind Farm Section 35 Direction (Ref 3-10) the Applicant commenced targeted engagement with local representatives and planning authorities and established a website for the Project. Engagement to date has comprised:
- liaising with political stakeholders – local MPs, Mayors and County Durham and North Yorkshire councillors;
 - hosting drop-ins for stakeholders in the local area, to allow them to meet the project team and ask any initial questions;
 - establishing a Community Liaison Group (CLG), made up of local parish representatives, to act as a conduit between the Applicant and the local community;
 - responding to enquiries from local stakeholders; and
 - ongoing political engagement.

3.14. Limitations and Assumptions

- 3.14.1. Each technical chapter of the ES will set out any assumptions made and limitations encountered whilst undertaking and reporting the respective assessments.

3.15. Other Assessment Requirements

- 3.15.1. At this stage in the EIA process, the need to undertake a range of other assessment to inform the EIA, and/ or other consent requirements has been identified and are detailed below as well as within the relevant technical topic chapters of this Scoping Report.

Habitat Regulations Assessment

- 3.15.2. Under the Habitats Directive (92/43/EEC) (Ref 3-11), and its UK transposition through the Conservation of Habitats and Species Regulations 2017, the Secretary of State (SoS) – as a competent authority – must consider the potential for the Project to give rise to a likely



significant effect (LSE) on a European site when considering the merits of the DCO application. European sites are defined as Special Areas of Conservation (SAC), candidate SACs, Site of Community Importance (SCI) and Special Protection Areas (SPA). UK policy extends the requirements pertaining to European sites to include Ramsar sites and potential SPAs, which include proposed extensions or alterations to existing SPAs.

- 3.15.3. If the SoS concludes that the Project has the potential for LSE on a European site, an Appropriate Assessment must be carried out. This assessment looks at how the Project could affect the identified European site's conservation objectives, either on its own or in combination with other plans or projects. The screening stage, the Appropriate Assessment and any further assessments together make up the Habitats Regulations Assessment (HRA) process.
- 3.15.4. To support the HRA process, the Applicant will include the necessary information in the DCO application to allow an Appropriate Assessment to be undertaken. The Applicant will also liaise with Natural England and other relevant bodies on its preparation as required.

Flood Risk Assessment

- 3.15.5. A Flood Risk Assessment (FRA) will be submitted with the DCO application. The FRA will assess the flood risk both and from the Project and demonstrate how that flood risk would be managed over the Project's lifetime. The FRA will give due regard to climate change and will form an appendix to the ES.

Water Framework Directive Assessment

- 3.15.6. A Water Framework Directive (WFD) assessment (Ref 3-12) will be submitted with the DCO application and will consider all aspects of the Project that could affect any surface or groundwater body.
- 3.15.7. The WFD assessment will form an appendix to the ES and will involve up to three stages:
- Screening – excludes any activities that do not need to go through the scoping or impact assessment stages;
 - Scoping – identifies the receptors that are potentially at risk from any activity and the need for impact assessment; and
 - Impact assessment – considers the potential of activities, identifies ways to avoid or minimise impacts, and shows if activities may cause deterioration or jeopardise the water body achieving good status.

3.16. Approach to the Environmental Statement

- 3.16.1. The Inspectorate's Advice Note Seven (Ref 3-3) requires the Applicant to provide an outline structure of what the ES will contain. The structure of the ES for the Project would broadly follow the same order of chapters that are presented in this Scoping Report, acknowledging that changes may need to be made within the ES to reflect the advice from the Scoping Opinion, both in terms agreement to scope out certain environmental topics, the



presentation of the Project to aid understanding, and to address the design requirements as they evolve.

3.16.2. An indicative outline structure of the ES is set out in **Table 3-3**.

Table 3-3: Indicative Outline ES Structure

ES Document	Likely Content
Non-Technical Summary	
A standalone document that would provide a concise description of the Project, the considered alternatives, baseline conditions, the assessment methodology, potential environmental effects and mitigation measures. The Non-Technical Summary (NTS) would be designed to provide the information regarding the Project in an accessible format which can be understood by a wider audience and to assist interested parties with their familiarisation with the Project.	
Volume 1: Main Report	
Introduction	This chapter would set out an overview of the Project including the Project need. The purpose and structure of the ES and a brief summary of the other relevant assessments and documents.
Project Description	This chapter would provide a description of the Project and how the Project would be constructed, operated and maintained, and decommissioned.
Site Selection, Design Evolution and Consideration of Alternatives	This chapter would set out the reasonable alternatives considered and the environmental reasons for the selection of the preferred options.
Approach to EIA	This chapter would provide a description of the overall methodology for this EIA, in terms of determining the significance of likely environmental effects.
Legislation, Energy Policy and Planning Policy Context	This chapter would set out the legislative and policy context for the Project on a national and local scale. Other relevant guidance and policies would be included as part of a comprehensive review.
Environmental Topic Chapters	The environmental topics are currently expected to be as follows: • Landscape and Visual • Archaeology and Cultural Heritage • Ecology • Ornithology • Hydrology and Hydrogeology • Geology, Soils and Ground Conditions • Access, Traffic and Transport • Noise and Vibration • Aviation, Radar and Telecommunications • Shadow Flicker

ES Document	Likely Content
	• Air Quality • Carbon and Climate Change Each environmental topic chapter would provide the following information: • Relevant topic specific legislation, policy and guidance • Consultation and engagement • Baseline description (current and future) • Scope of the assessment • Embedded Design and Standard Mitigation Measures • Assessment methodology • Limitations and assumptions • Assessment of potential impacts and effects • Additional mitigation • Assessment of residual effects • Cumulative (inter-project) effects assessment • Summary of assessment.
Cumulative Assessment	This chapter will detail the cumulative (intra-project) effects as a result of two or more environmental aspects impacts acting together to result in a new or changed impacts on a single receptor.
Volume 2: Figures	
This would present a complete set of all figures for reference that have been prepared to support the ES chapters provided in Volume 1 .	
Volume 3: Technical Appendices	
This would contain a complete set of technical appendices for reference. These would comprise of background data, technical reports, tables, and surveys which would support the environmental topic assessments provided in Volume 1 .	

3.17. Further Consideration for Consultees

3.17.1. The following questions are provided to help frame consultee comments on the Scoping Report on the approach to EIA:

- Q3.1: Do you agree with the proposed approach to EIA for this Project?
- Q3.2: Are there any other large-scale developments that consultees are aware of which should be considered as part of the cumulative effects assessment?



3.18. References

- Ref 3-1 HM Government (2017). *The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017* (SI 2017/572). Available at: <https://www.legislation.gov.uk/uksi/2017/572/contents> [Accessed March 2026].
- Ref 3-2 Planning Inspectorate (2026). *Advice Note Six: Preparation and Submission of Application Documents*. Updated 2 March 2026. Available at: <https://www.gov.uk/guidance/nationally-significant-infrastructure-projects-advice-on-the-preparation-and-submission-of-application-documents> [Accessed March 2026].
- Ref 3-3 Planning Inspectorate (2020). *Advice Note Seven: Environmental Impact Assessment: process, preliminary environmental information and environmental statements*. Updated 25 March 2025. Available at: <https://www.gov.uk/government/publications/nationally-significant-infrastructure-projects-advice-note-seven-environmental-impact-assessment-process-preliminary-environmental-information-an>[Accessed March 2026].
- Ref 3-4 Planning Inspectorate (2018). *Advice Note Nine: Rochdale Envelope*. Updated 25 March 2025. Available at: <https://www.gov.uk/government/publications/nationally-significant-infrastructure-projects-advice-note-nine-rochdale-envelope> [Accessed March 2026].
- Ref 3-5 Planning Inspectorate (2024). *Nationally Significant Infrastructure Projects: Advice on Cumulative Effects Assessment*. Updated 25 March 2025. Available at: <https://www.gov.uk/guidance/nationally-significant-infrastructure-projects-advice-on-cumulative-effects-assessment> [Accessed March 2026].
- Ref 3-6 R.V Rochdale MBC ex parte Milne (No.1); and R.V. Rochdale MBC ex parte Tew [1999] and R.V. Rochdale MBC ex parte Milne (No. 2) [2000].
- Ref 3-7 Department for Energy Security and Net Zero (2026). *National Policy Statement for Renewable Energy Infrastructure (EN-3)*. Available at: <https://assets.publishing.service.gov.uk/media/695d1368b5c46330350ed9a2/national-policy-statement-for-renewable-energy-infrastructure-en-3-web-accessible.pdf> [Accessed March 2026].
- Ref 3-8 UK Government (2008). *The Planning Act 2008*. Available at: <https://www.legislation.gov.uk/ukpga/2008/29/contents> [Accessed March 2026].
- Ref 3-9 UK Government (2025). *Planning and Infrastructure Act 2025*. Available at: <https://www.legislation.gov.uk/ukpga/2025/34/enacted> [Accessed March 2026].



- Ref 3-10 Department for Energy Security and Net Zero (2025). *Hope Moor Wind Farm Section 35 Direction, Planning Act 2008*. Available at: <https://assets.publishing.service.gov.uk/media/68a817373a052c9c504c8d70/hope-moor-wind-farm-s35-direction.pdf> [Accessed March 2026].
- Ref 3-11 Council of the European Communities (1992). *Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora*. Available at: <https://eur-lex.europa.eu/eli/dir/1992/43/oj/eng> [Accessed March 2026].
- Ref 3-12 European Parliament and Council (2000). *Directive 2000/60/EC establishing a framework for Community action in the field of water policy*. Available at: <https://eur-lex.europa.eu/eli/dir/2000/60/oj/eng> [Accessed March 2026].



4. Legislation and Policy Context

4.1. Introduction

- 4.1.1. This chapter provides an overview of the consenting process for the Project, including policy relevant to renewable development in the UK with particular regard to the relevant National Policy Statement(s) (NPS) and specifically any requirement stated in the NPS(s) to inform the proposed scope of the EIA. Further information on planning policy where it is applicable to a particular technical aspect, is provided in the technical sections themselves (see **Chapters 5 to 18** of this Scoping Report).
- 4.1.2. This chapter also identifies the policies that will underpin the relevant chapter of the Environmental Statement (ES) setting out the legislative and policy context relevant to the Project. These policies will inform the assessment of effects and will also be included within the Planning Statement, a separate document to the EIA that will support the Development Consent Order (DCO) application, which will demonstrate compliance with relevant planning policies.

4.2. Principle and Need for the Project

- 4.2.1. The UK Government has made expanding onshore wind a central part of its plan to achieve clean power by 2030. To support this ambition, the UK Government has already taken several important steps to remove barriers and accelerate deployment.
- 4.2.2. The National Planning Policy Framework (NPPF) (Ref 4-1) was updated in 2024 so that onshore wind is given the same level of policy support as other forms of energy infrastructure. Furthermore, the Draft NPPF (Ref 4-2) (published 2025) reinforces the need for the Project by confirming that substantial weight should be given to the benefits of renewable energy. Alongside this, the Infrastructure Planning (Onshore Wind and Solar Generation) Order 2025 (Ref 4-3) (the '2025 Order') has amended section 15 of the Planning Act 2008 (Ref 4-4) (the '2008 Act') to bring onshore wind projects over 100 MW back into the Nationally Significant Infrastructure Project (NSIP) regime. This enables larger onshore wind projects to be progressed through a more streamlined and centralised consenting process.
- 4.2.3. In January 2026, the Government published revised versions of NPS EN-1 (Overarching National Policy Statement for Energy) (Ref 4-5) and EN-3 (National Policy Statement for Renewable Energy Infrastructure) (Ref 4-6), which embed the Clean Power 2030 (Ref 4-7) ambition and strengthen the policy need case for low-carbon infrastructure, including onshore wind.
- 4.2.4. The Government also established the Onshore Wind Taskforce to identify and address the key barriers developers face. In July 2025, the Taskforce published its Strategy (Ref 4-8), setting out more than 40 actions aimed at delivering up to 29 GW of onshore wind capacity by 2030. While the primary focus is on accelerating deployment in England, the Strategy also



recognises wider challenges across the UK and the need for coordinated action.

- 4.2.5. The UK's statutory climate targets further reinforce the need for the Project. The Climate Change Act 2008 (Ref 4-9), amended in 2019, requires the UK to achieve net zero emissions by 2050, with the Sixth Carbon Budget (Ref 4-10) mandating a 78% reduction by 2035. Meeting these legally binding commitments depends on rapidly expanding renewable electricity generation.
- 4.2.6. The need and justification for the Project is established through its identification as nationally significant low carbon infrastructure under NPS EN-1 (Ref 4-5) and EN-3 (Ref 4-6). EN-1 and EN-3 are clear that the Project would constitute development which has the benefit of the "critical national priority" designation. The Project, with a gross electrical output capacity of at least 100 MW, would make a meaningful contribution to national efforts to decarbonise the electricity system and accelerating the transition to net zero, whilst supporting the Government's Clean Power 2030 Action Plan (Ref 4-7), which requires rapid deployment of new clean energy capacity across the UK.
- 4.2.7. In addition to generating significant quantities of clean electricity, the Project would deliver a range of wider benefits, including positive socio-economic effects through job creation, the delivery of environmental gain, and contributions to long term energy security and affordability for consumers.

4.3. The Consenting and EIA Context

The Planning Act 2008

- 4.3.1. The 2008 Act (Ref 4-4) establishes the statutory framework for applying for and determining DCO's for NSIPs. It sets out the criteria by which projects are classified as NSIPs and requires developers of such projects to obtain a DCO from the relevant SoS to authorise their construction, operation and maintenance.
- 4.3.2. Prior to December 2025, section 15 of the 2008 Act (Ref 4-4) excluded onshore generation stations which generated electricity from wind as NSIP's. Therefore, on 28 July 2025, a qualifying request for a direction from the Secretary of State (SoS) for Energy Security and Net Zero under section 35 of the 2008 Act (Ref 4-4) for the Project was made by the Applicant. On 21st August 2025, the SoS directed that the Project was to be treated as development for which development consent was required.
- 4.3.3. The SoS confirmed that the Direction (Ref 4-11) should be issued because:
- The Project was of national significance as it a large-scale onshore wind farm with the capability of delivering over 100 MW of renewable energy; and
 - The Project would play an important role in enabling an energy system that meets the UK's commitment to reduce carbon emissions and the



Government's objectives to create a secure, reliable and affordable energy supply for consumers.

- 4.3.4. As set out above, in December 2025, the Government returned onshore wind development to the NSIP regime in England, at a threshold of over 100 MW under the 2025 Order and therefore irrespective of the section 35 Direction, the Project falls within the NSIP regime.

The Infrastructure Planning (EIA) Regulations 2017

- 4.3.5. The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the 'EIA Regulations') (Ref 4-12) govern the EIA process relevant to NSIPs. Schedule 1 of the EIA Regulations lists those projects for which an EIA is required and Schedule 2 lists projects which may be considered EIA development, based on the selection criteria provided in Schedule 3 on characteristics of the development, its location and the types and characteristics of the potential impacts.
- 4.3.6. Installations for the harnessing of wind power for energy production (wind farms) fall within Schedule 2, Paragraph 3(i) (Energy Industry) of the EIA Regulations (Ref 4-12). Having regard to its nature, scale, characteristics and location, the Project is considered to have the potential to give rise to significant environmental effects. It therefore constitutes EIA development.
- 4.3.7. This Scoping Report provides formal notification to the SoS, under Regulation 8(1)(b) of the EIA Regulations (Ref 4-12), that the Applicant proposes to provide an ES in respect of the Project. Therefore, the Project is EIA development pursuant to Regulation 6(2) of the EIA Regulations (Ref 4-12).

4.4. Key Policy

- 4.4.1. Under Section 104(2) of the 2008 Act (Ref 4-4), the SoS must have regard to any relevant NPSs when deciding whether to grant a DCO, with NPSs forming the primary policy basis for examining and determining NSIP applications.
- 4.4.2. In accordance with Section 104 (2) of the 2008 Act (Ref 4-4), the following NPSs are material considerations in relation to the Project:
- Overarching National Policy Statement for Energy (EN-1) (Ref 4-5); and
 - National Policy Statement for Renewable Energy Infrastructure (EN-3) (Ref 4-6).
- 4.4.3. General policies within the NPSs relating to onshore wind farm development are discussed below, with context on how the policies will shape the proposed scope of the ES. The ES will set out the NPS policies of relevance to each environmental topic and supporting information on how each item is addressed.



Overarching National Policy Statement for Energy (EN-1)

4.4.4. EN-1 (Ref 4-5) was originally adopted by the Department of Energy and Climate Change (DECC) in July 2011, with an updated version coming into force in January 2026 as discussed above. The document sets out the national policy for delivering major energy infrastructure in England and Wales and comprises the primary document that informs the Examining Authority's recommendation to the SoS regarding decisions to grant or refuse Development Consent.

4.4.5. EN-1 (Ref 4-5) aligns with the Governments' Clean Power 2030 Action Plan (Ref 4-7), which as per Paragraph 2.2.6 of EN-1:

'Sets out infrastructure deployment pathways and generation capacity ranges that will ensure by 2030 clean sources produce at least 95% of Great Britain's generation, meeting the sixth Carbon Budget advice and pushing the country towards net zero 2050.'

4.4.6. Part 3 of EN-1 (Ref 4-5) identifies the need that exists for nationally significant energy infrastructure, with Paragraph 3.1.1 stating:

'the government sees a need for significant amounts of new large-scale energy infrastructure to meet its energy objectives and why the government considers that the need for such infrastructure is urgent.'

4.4.7. Directly relevant to the Project is Paragraph 3.3.23 which outlines the role of wind:

'Wind and solar are the lowest cost ways of generating electricity, helping reduce costs and providing a clean and secure source of electricity supply (as they are not reliant on fuel for generation).'

4.4.8. Paragraph 3.3.24 acknowledges that energy sources like wind are intermittent and not reliable on their own and as a result *'need to be complemented with technologies which supply electricity, or reduce demand, when the wind is not blowing'*. Paragraph 3.3.26 subsequently outlines the role energy storage can play in addressing intermittence, however, Paragraph 3.3.28 outlines its limitations including availability.

4.4.9. Part 4 of EN-1 (Ref 4-5) sets out the general policies for the submission and assessment of applications relating to energy infrastructure. In considering project impacts, Paragraph 4.1.6 confirms that:

'The Secretary of State should take into account environmental, social and economic benefits and adverse impacts, at national, regional and local levels.'

4.4.10. Paragraph 4.1.5 expands on this and states that in considering any proposed development, in particular when weighing its adverse impacts against its benefits, the SoS should take into account:

'Its potential benefits including its contribution to meeting the need for the Clean Power 2030 Mission and net zero, energy infrastructure, job creation, reduction of geographical disparities, environmental enhancements, and any long-term or wider benefits; and



Its potential adverse impacts, including on the environment, and including any long-term and cumulative adverse impacts, as well as any measures to avoid, reduce, mitigate or compensate for any adverse impacts, following the mitigation hierarchy.'

- 4.4.11. Section 4.2 of EN-1 (Ref 4-5) further emphasises there is a Critical National Priority (CNP) for low carbon infrastructure. This infrastructure is identified as all *'onshore and offshore generation that does not involve fossil fuel combustion...'* (Paragraph 4.2.17) which includes the Project.

- 4.4.12. Section 4.3 of EN-1 is (Ref 4-5) concerned with the requirement for assessment of likely significant environmental effects and reporting within the ES. Paragraph 4.3.4 outlines that:

'To consider the potential effects, including benefits, of a proposal for a project, the applicant must set out information on the likely significant environmental, social and economic effects of the development, and show how any likely significant negative effects would be avoided, reduced, mitigated or compensated for, following the mitigation hierarchy. This information could include matters such as employment, equality, biodiversity net gain, community cohesion, health and well being.'

- 4.4.13. Paragraph 4.3.5 further explains that:

'For the purposes of this NPS and the technology specific NPSs the ES should cover the environmental, social and economic effects arising from pre-construction, construction, operation and decommissioning of the project.'

- 4.4.14. Paragraph 4.3.10 states *'The applicant must provide information proportionate to the scale of the project, ensuring the information is sufficient to meet the requirements of the EIA Regulations.'*

- 4.4.15. Section 5 of EN-1 (Ref 4-5) considers generic impacts that arise from the development of all the types of infrastructure covered by the energy NPSs (such as landscape and visual impacts). It also includes Paragraph 5.5.4 which emphasises that windfarms are an integral part of the Government's plan to achieve Net Zero, as well as delivering affordable clean energy to consumers.

National Policy Statement for Renewable Energy Infrastructure (EN-3)

- 4.4.16. EN-3 (Ref 4-6) provides guidance for applicants on factors influencing site selection, technical considerations, mitigation measures and the secretary of state decision-making process.

- 4.4.17. EN-3 (Ref 4-6) is directly relevant to the project as it contains technology-specific policy requirements for renewable electricity generation NSIPs. Section 2.12 specifically relates to onshore wind and explains the role it plays within the UK's energy mix, with Paragraph 2.12.2 stating:

'The deployment of onshore wind farms is critical in meeting the government's Clean Power 2030 Mission. The Clean Power Action Plan estimates the need for 27-29GW of operational onshore wind capacity by 2030.'



- 4.4.18. This section of EN-3 (Ref 4-6) also explains the key factors that will influence site selection – the primary factor being *‘predicted wind resource as the electricity generated on site is directly affected by the wind speed’* (Paragraph 2.12.8). This site selection criteria are also discussed in Paragraphs 2.4.13-2.4.14 which state:

‘Onshore wind farms will be in the windiest available locations, and in particular, applicants should set out how the proposal would be resilient to increased storms.’

‘Projects may be proposed in high lying exposed sites that are unlikely to be affected by flooding, but where there is potential risk, applicants should set out how the layout of the infrastructure has been designed to be resilient.’

- 4.4.19. Additionally, EN-3 (Ref 4-6) includes broader requirements that apply to all renewable NSIPs. These include demonstrating that site selection and design has been informed by environmental constraints, technical considerations and opportunities for efficient grid connection; showing that the project has been designed to be resilient to climate change over its operational lifetime; and ensuring that the scheme reflects the principles of good design, minimising environmental effects while supporting efficient and reliable energy generation.

- 4.4.20. Paragraph 2.3.6 also discusses projects that are located within National designations, stating:

‘When considering applications for CNP Infrastructure in sites with nationally recognised designations (such as SSSIs, National Nature Reserves, National Parks, the Broads, National Landscapes, Registered Parks and Gardens, Listed Buildings and Scheduled Monuments, designated Marine Protected Areas (MPAs) and World Heritage Sites), the Secretary of State will take as the starting point that the relevant tests in Sections 5.4 and 5.10 of EN-1 have been met, and any significant adverse effects on the qualities for which the area has been designated are clearly outweighed by the urgent need for this type of infrastructure.’

4.5. Other Policy Considerations

The Land Use Framework for England (March 2026)

- 4.5.1. The Land Use Framework for England (Ref 4-13) was adopted in March 2026 and is the country’s first national plan to coordinate land use across several development sectors in recognition that there is a need to increase the resilience of homes, communities, infrastructure, and food systems, while speeding up development and restoring nature.

- 4.5.2. With respect to energy and clean power development, Section I of the plan ‘The Land Use Framework’ establishes the following vision:

‘By 2030, renewable energy infrastructure will drive increased energy security; at least 95% of electricity will come from clean power sources (...) Solar and wind will remain a small proportion of land use, and much of this land will be managed sustainably to boost and deliver other outcomes’



By 2050, we will have an energy sector based on renewable and nuclear power, and the windfarms that powered the economy in 2030 have been repowered with more efficient technology. Strategic spatial planning will ensure a fairer and more efficient distribution of solar and wind infrastructure across England.'

- 4.5.3. The plan includes a comprehensive land-use analysis demonstrating that sufficient land is available to support the delivery of the above vision. It identifies five distinct land-use categories, with wind farm development falling under Category D (Renewables). The projected land requirements for this category across England are:
- 2035: 129,000 ha⁵; and
 - 2050: 155,000 ha⁶.
- 4.5.4. Although these figures indicate substantial growth in renewable energy infrastructure, such as the development to which this Scoping Report relates, renewable energy installations are still expected to occupy only around 1% of England's total landmass by 2050.
- 4.5.5. Section II of the plan, titled 'Better Land Use Decisions' sets out four key principles that should inform decisions relating to, or having an impact on, land in England and are as follows:
- 5) **Multifunctionality:** land use should be planned and managed to deliver greater benefits across a range of outcomes;
 - 6) **Right use, right place:** land should be used in ways that align with local context and account for natural, social and economic factors;
 - 7) **Future-ready decisions:** land use decisions should take a long-term view, aiming to meet the needs of the present without compromising the ability of future generations to meet their own needs; and
 - 8) **Adaptive by design:** land use policy and delivery should be flexible enough to incorporate new evidence, respond to emerging needs and challenges, and evolve with changing local and national priorities.
- 4.5.6. Section III 'Implementing the Framework' thereafter sets out a series of actions the Government is taking to start applying the above principles, and to help others do the same. The actions relate to the following:
- consistent spatial plans: joining-up decisions on land use;
 - supporting multifunctional and efficient land use;
 - making land digital; and
 - sharing responsibility for the stewardship of land.
- 4.5.7. The plan encourages all land managers to factor in these principles in the way land is managed.
- 4.5.8. The Project aligns with the principles set out in The Land Use Framework for England (Ref 4-13). In particular, Principle 2 – 'Right use, right place' is



achieved, as the Project has been identified as occupying a suitable location, given the:

- Sites's open upland moorland context provides a strong wind resource and ample space for turbine layout, access tracks, and supporting infrastructure;
- surrounding low population density and separation from nearby settlements, minimising potential noise, shadow flicker and residential visual impacts;
- proximity to major transport routes (A66, A6108, A1(M)), enabling feasible delivery of turbine components and construction materials;
- limited ecological and heritage constraints within the Site; and
- existing compatible land uses, such as grazing and grouse moor management, which can co-exist alongside wind farm infrastructure and support practical construction, operation and maintenance.

National Planning Policy Framework (adopted December 2024)

4.5.9. The NPPF (Ref 4-1) sets out the Government's planning policies for England and how these are expected to be applied. Although the NPPF (Ref 4-1) primarily relates to the application of the Government's planning policies to the determination of applications under the Town and Country Planning Act 1990 (as amended), NPS EN-1 (Ref 4-5) sets out that the NPPF (Ref 4-1) is also considered important and relevant to decision-making under the 2008 Act (Ref 4-4). At paragraph 4.1.11, NPS EN-1 (Ref 4-5) states that the energy NPSs have taken account of the NPPF (Ref 4-1) where appropriate. However, in the event of any conflict between the NPPF (Ref 4-1) and an NPS, the NPS prevails (paragraph 4.1.16 of NPS EN 1 (Ref 4-5)). The NPPF itself states that "The Framework does not contain specific policies for nationally significant infrastructure projects." Nonetheless, the potentially relevant policies from the NPPF (Ref 4-1) will be set out within the topic chapters of the ES, where relevant. In addition, they will be considered within the Planning Statement and supporting policy trackers to be submitted as part of the application for development consent.

4.5.10. The Paragraphs of particular relevance to the Application are as follows:

- **Paragraph 8:** *Achieving sustainable development means that the planning system has three overarching objectives, which are interdependent and need to be pursued in mutually supportive ways (so that opportunities can be taken to secure net gains across each of the different objectives) (...) c) an environmental objective – to protect and enhance our natural, built and historic environment; including making effective use of land, improving biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy.'*
- **Paragraph 165:** *'To help increase the use and supply of renewable and low carbon energy and heat, plans should (...) b) consider identifying suitable areas for renewable and low carbon energy sources, and supporting infrastructure, where this would help secure their development.'*



- **Paragraph 168:** *‘When determining planning applications for all forms of renewable and low carbon energy developments and their associated infrastructure, local planning authorities should: (a) not require applicants to demonstrate the overall need for renewable or low carbon energy, and give significant weight to the benefits associated with renewable and low carbon energy generation and the proposal’s contribution to a net zero future.’*

Draft National Planning Policy Framework (Published December 2025)

- 4.5.11. A new Draft NPPF (Ref 4-2) (the ‘Draft’) was published in December 2025, with a consultation on the Draft closing in March 2026. Adoption is anticipated in summer 2026. The Draft represents a significant shift from the previous iteration of the NPPF (Ref 4-1) and strengthens the policy basis for the Project. This is because, it signals a clear national intention to accelerate the delivery of renewable energy in support of the UK’s wider transition towards net-zero by 2050. Whilst the Draft currently carries only limited weight as it has not yet been adopted, it is still a material consideration. Should the Draft be formally adopted later in 2026, it will then hold significant weight in the decision-making process for all proposals across the UK.
- 4.5.12. In contrast to the currently adopted NPPF (Ref 4-1), the Draft introduces a dedicated section on energy – ‘Section 10: Securing Clean Energy and Water’ which supports the development and operation of energy and water infrastructure.
- 4.5.13. Section 10 of the Draft includes ‘Policy W1: Planning for Energy and Water’, which seeks to embed climate change considerations directly into both plan making and decision taking, ensuring they are treated as fundamental principles rather than secondary matters.
- 4.5.14. The Draft also introduces ‘Policy W2: Securing Renewable and Low Carbon Energy and Electricity Network Infrastructure’, which strengthens expectations that local plans proactively identify suitable sites for renewable and low-carbon energy development. The policy states that development plans should, at the most appropriate level, maximise opportunities for such infrastructure by identifying:
- ‘Areas which are suitable for renewable and low carbon energy development and electricity network infrastructure, including for future re-powering and life extension, where this would help secure their development.’*
- 4.5.15. In addition, ‘Policy W3: Renewable and Low Carbon Energy Development and Electricity Network Infrastructure’, reinforces the strong national support for renewable and low-carbon energy development and confirms that substantial weight should be given to:

‘a. The benefits of such development for improving energy security, supporting economic development and moving to a net zero future;

b. In the case of applications for the re-powering and life-extension of existing sites, the additional benefit of utilising an established site for this purpose and



c. The contribution that small-scale and community-led renewable and low carbon energy projects can make to reducing emissions, along with their associated economic and social benefits.'

- 4.5.16. Policy W3 also makes clear that applicants are not required to demonstrate the need for renewable or low-carbon energy infrastructure, and that proposals located outside areas identified as suitable should still be supported when assessed against the national decision-making policies of the Framework as a whole.

4.6. Local Planning Policy

- 4.6.1. The 2008 Act (Ref 4-4) does not incorporate section 38(6) of the Planning and Compulsory Purchase Act 2004 (Ref 4-14), which provides the principal basis in legislation for the determination of planning applications under the Town and Country Planning Act 1990, namely that they must be determined in accordance with the statutory development plan unless material considerations indicate otherwise.
- 4.6.2. Nevertheless, EN-1 (Ref 4-5) (at paragraph 4.1.12) states that local planning documents may be considered to be both important and relevant to decision making. Where a project conflicts with a proposal in a draft Development Plan, the SoS should take account of the stage that the Development Plan document has reached in deciding what weight to give to the plan for the purposes of determining the planning significance of what is replaced, prevented, or precluded (paragraph 4.1.13).
- 4.6.3. Paragraph 4.1.16 of EN-1 (Ref 4-5) states that in the event of a conflict between local planning policy documents and an NPS, the NPS prevails (in line with section 104 of the 2008 Act (Ref 4-4).
- 4.6.4. Local planning policies issued by the relevant County, District, and Unitary Authorities have been taken into account in preparing this Scoping Report, as the Project intersects with several administrative areas. Key local planning policies relevant to the Project will be considered during the EIA process. These will include those set out below.
- 4.6.5. The development footprint overlaps the boundaries of the following authorities:
- Unitary Authorities:
 - Durham County Council (DCC); and
 - North Yorkshire Council (NYC);
 - Former District Authorities:
 - Richmondshire District Council (RDC).
- 4.6.6. There are no neighbourhood planning boundaries that overlap with the infrastructure associated with the Project.



- 4.6.7. The remainder of this section sets out the main local planning policy documents that may be considered to be relevant to the Project.

Durham County Council

County Durham Plan (2020-2035)

- 4.6.8. The County Durham Plan (Ref 4-15) was adopted in 2020 and sets out the planning framework for the period 2020–2035. Energy is a prominent theme throughout the plan and is incorporated as one of the strategic objectives underpinning its spatial strategy. Objective 17 states:

***Objective 17:** Low Carbon -Reduce the causes of climate change and support the transition to a low carbon economy by encouraging and enabling the use of low and zero carbon technologies, supporting the development of appropriate renewable energy sources and sustainable and active transport.'*

- 4.6.9. The policies that may be considered to be relevant to the Project in the plan are:

- **Policy 33: Renewable and Low Carbon Energy** - supports renewable and low-carbon energy generation in appropriate locations, placing significant weight on the wider social, environmental and economic benefits of such development; and
- **Policy 34: Wind Turbine Development** - provides additional criteria specifically for wind energy proposals, requiring full assessment of landscape, cumulative, environmental and residential amenity impacts, and demonstrating that any potential adverse effects can be satisfactorily mitigated.

DCC Wind Turbine Development Evidence Paper (Published 2019)

- 4.6.10. DCC in 2019 published a Wind Turbine Development Evidence Paper (Ref 4-16) which forms part of the evidence base associated with adopted development plan. It contains a county-wide analysis of the main technical and environmental factors that can constrain the potential for the development of turbines of different sizes.
- 4.6.11. The plan also identifies suitable areas for wind development and sets out locally specific considerations to ensure that renewable energy proposals are sustainable and appropriately located.
- 4.6.12. Several of the constraint maps included in the paper identify the Site as suitable for wind farm development.

DCC Emerging Local Plan

- 4.6.13. On the 25th March 2026, DCC issued notice of its intention to commence the preparation of a new Local plan, to be referred to as the County Durham Plan (CDP), with scoping consultation expected to begin in June 2026. As the emerging plan is at a very early stage, there are currently no



material evidence-base documents that the Applicant considers are relevant to the Project.

- 4.6.14. Nonetheless, as the plan-making process progresses, any emerging policies or evidence of relevance will be taken into account and addressed within the forthcoming DCO application as appropriate.

North Yorkshire Council

North Yorkshire Local Plan Draft

- 4.6.15. NYC was formed in April 2023, replacing the former two-tier system comprising North Yorkshire County Council and seven district and borough councils. This reorganisation created a single unitary authority covering the majority of the county.

- 4.6.16. NYC is currently preparing a new Local Plan for its full administrative area, which will replace all existing local plans. The plan is at a very early stage of development, with an 'Issues and Options' (Ref 4-17) consultation undertaken between May and July 2025 as the initial step in identifying key planning issues and potential policy approaches. The consultation document highlights the importance of mitigating the effects of climate change and confirms that the emerging Local plan will identify:

'Locations and/or criteria-based policies for a range of renewable energy technologies, including wind, solar, bioenergy, hydroelectric etc through domestic renewable energy projects, district networks, as well as large scale commercial renewable developments to help decarbonise the National Grid. Specific studies and evidence relating to this will inform the draft local plan.'

- 4.6.17. As with DCC's emerging Local Plan, the NYC plan will be reviewed in more detail as it progresses. At present, there are no material evidence-base documents relevant to the Project.

Richmondshire Local Plan: Core Strategy (2012-2028)

- 4.6.18. RDC was incorporated into the new NYC following Local Government reorganisation in 2023. However, the adopted RDC planning policies remain in place until NYC adopts its new Local plan.
- 4.6.19. The Richmondshire Local Plan Core Strategy (Ref 4-18) was adopted in November 2014 and covers the period between 2012–2028. The Core Strategy sets out the spatial vision, strategic objectives and overarching planning policies for the area, including the distribution of development, protection of the natural and historic environment, and the delivery of sustainable economic growth.
- 4.6.20. The policies that may be considered to be relevant to the Project in the plan are:
- **Policy CP3: Sustainable Design** - requires development to minimise carbon emissions, improve energy efficiency and incorporate renewable and low carbon technologies where appropriate; and



- **Policy CP12: Renewable Energy** - supports renewable and low carbon energy schemes where any adverse impacts on the character of the landscape, biodiversity, heritage assets, residential amenity and highway safety can be satisfactorily avoided or mitigated.

4.6.21. The Core Strategy (Ref 4-18) provides the strategic policy framework against which renewable energy proposals under the Town and Country Planning Act 1990 are to be assessed, balancing the delivery of clean energy with the protection of Richmondshire's valued environmental assets.

4.7. Environmental Policy

4.7.1. **Table 4-1** provides a summary of the key environmental legislation of relevance to the Project.

Table 4-1: Key Environmental Legislation

Level	Policy / Legislation	Summary
International	The Convention on Wetlands of International Importance Especially as Waterfowl Habitat (Ramsar Convention) (Ref 4-19)	The Ramsar Convention was adopted in 1971 and ratified by the UK in 1976. It provides an international mechanism for protecting sites of global importance and is thus of key conservation significance, covering all aspects of wetland conservation. Sites designated under the Ramsar Convention are known as Ramsar sites.
International	The Convention on Biological Diversity (CBD) (Ref 4-20)	The CBD came into force in December 1993. It has three main objectives: 1) The conservation of biological diversity; 2) The sustainable use of the components of biological diversity; 3) The fair and equitable sharing of the benefits arising from the utilisation of genetic resources.
International	The Convention on Environmental Impact Assessment in a Transboundary Context (Espoo Convention) (Ref 4-21)	The Espoo Convention came into force in 1997 and sets out the obligations of Parties to notify and consult each other on all major projects under consideration that have the potential for likely significant adverse environmental effects across international boundaries, known as transboundary effects.
National	The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 (Ref 4-22)	The Water Framework Directive (WFD) (2000/60/EC) (Ref 4-23), which was transposed into UK law by the Water Environment Regulations 2017, aims to ensure the quality of inland, estuarine and groundwater bodies are protected.
National	The Conservation of Habitats and Species Regulations 2017 (as amended by the	Under Regulation 61 of the Conservation of Habitats and Species Regulations 2017, appropriate assessment is required for a plan or project which, either alone or in

Level	Policy / Legislation	Summary
	Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019) (Ref 4-24)	combination with other plans or projects, is likely to have a significant effect on a National Site Network and is not directly connected with or necessary for the management of the site. The National Site Network includes existing and newly designated Special Areas of Conservation (SAC) and Special Protection Areas (SPA). The overall process is known as Habitats Regulations Assessment (HRA). Any proposals affecting proposed SACs, potential SPAs, Ramsar sites and areas secured as sites compensating for damage to a National Site Network site would also require an HRA, as they are protected by government policy.
National	The Environment Act 2021 (Ref 4-25)	The Environment Act 2021 sets clear statutory targets for the recovery of the natural world in four priority areas: air quality, biodiversity, water and waste, and sets a new target to reverse the decline in species abundance by the end of 2030. The Act will also deliver annual Environmental Improvement Plans to underpin the targets and a set of environmental principles to be embedded into UK policy making. It is acknowledged that 10% BNG became mandatory as part of the planning system (for Town and Country Planning Act (TCPA) (Ref 4-26) developments) in England from January 2024. For NSIP developments it is anticipated that BNG will be a requirement no later than November 2026.
National	The Wildlife and Countryside Act 1981 (Ref 4-27)	The Wildlife and Countryside Act 1981 enables the designation of Sites of Special Scientific Interests (SSSI) to provide statutory protection of the best examples of flora, fauna, geological and hydro features. The Wildlife and Countryside Act 1981 also enables statutory nature conservation bodies to declare sites which are considered to be of national importance as National Nature Reserves (NNRs).
National	The Countryside and Rights of Way Act 2000 (Ref 4-28)	Under the Countryside and Rights of Way Act 2000, Natural England has the power to designate Areas of Outstanding Natural Beauty (AONBs) in England and areas that are outside national parks and that are considered to have significant landscape value. The Act amends the law relating to Public Rights of Way (PRoW), including



Level	Policy / Legislation	Summary
		making provision for public access on foot to certain types of land.
National	The Protection of Badgers Act 1992 (Ref 4-29)	The Protection of Badgers Act 1992 makes it an offence to wilfully kill, injure or take, or attempt to kill, injure or take a badger; and to cruelly ill-treat a badger. The Act also makes it an offence to intentionally or recklessly damage, destroy or obstruct a badger set, or to disturb a badger whilst in a set. A licence may be granted for the purpose of development which will interfere with a badger sett within an area specified in the licence.
National	The Natural Environment and Rural Communities (NERC) Act 2006 (Ref 4-30)	Section 41 of the NERC requires the relevant Secretary of State to compile a list of habitats and species of principal importance for the conservation of biodiversity in England. Decision makers of public bodies must have regard for the conservation of biodiversity in England when exercising their duties, using the list as guidance.
National	The Commons Act 2006 (Ref 4-31)	The Commons Act 2006 protects areas of common land in a sustainable manner, delivering benefits for farming, public access and biodiversity.
National	The Hedgerow Regulations 1997 (Ref 4-32)	The Hedgerow Regulations 1997 makes it an offence to remove or destroy certain hedgerows without permission from the local authority and the local authority is the enforcement body for such offences.

4.8. Key Policy Considerations

Policy Influence on EIA Scope

4.8.1. National policy is explicit that large scale renewable energy projects such as the Project are urgently required as reflected in the below key policy statements already outlined in this chapter of the Scoping Report.

- **EN-1 Paragraph 3.3.20** – the UK requires a substantial increase in low-carbon electricity generation;
- **EN-1 Paragraph 3.3.39** – meeting net zero necessitates a rapid expansion of renewable energy infrastructure;
- **EN-1 Paragraph 4.1.2** – there is a presumption in favour of granting consent for energy NSIPs; and
- **EN-3 Paragraph 2.1.1** confirms that onshore wind is a key component of renewable energy delivery.



- 4.8.2. The policy documents outlined in this section have informed the proposed scope of the EIA in line with Inspectorate's Advice Note 7 (Ref 4-33) which requires applicants to use the relevant NPSs to define the scope of the ES, ensuring that assessments are proportionate, targeted, and focused on likely significant effects.
- 4.8.3. **Table 4-2** Table 4-2 below sets out the proposed EIA scope with reference to the relevant NPS policy requirements. Where a topic is proposed to be scoped out, a clear justification is provided.

Table 4-2: Scope of the EIA and Relevant NPS Policy

EIA Topic	Key Policy Drivers (with Paragraphs)*	Scoped In/Out	Relevance
Chapter 5: Landscape and Visual	EN-1 (5.10.1–5.10.38), EN-3 (2.7.69-2.7.71, 2.12.94-2.12.99m 2.12.124-2.12.125, 2.12.158-2.12.161), NPPF (187-191)	Scoped In	Effects on moorland landscape and National Park setting.
Chapter 6: Archaeology and Cultural Heritage	EN-1 (5.9.1–5.9.37), EN3 (2.10.129, 2.12.81-2.12.93), NPPF (202-221)	Scoped In	Assessment of effects related to archaeological remains and heritage assets and their settings, including Scheduled Monuments and non-designated assets.
Chapter 7: Ecology	EN-1 (4.6.1-4.6.21, 5.4.1-5.4.57), EN3 (2.10.120-2.10.122, 2.11.45-2.11.49, 2.12.52-2.12.58, 2.12.114-2.12.118), NPPF (202-221)	Scoped In	Impacts on priority habitats, designated sites, protected species and peatland ecology.
Chapter 8: Ornithology	EN-3 (2.8.125 – 2.8.129, 2.12.52-2.12.67, 2.12.68-2.12.74)	Scoped In	Potential disturbance, displacement and collision risk to bird species associated with upland habitats.
Chapter 9: Hydrology & Hydrogeology	EN-1 (5.6.1-5.6.22, 5.8.1-5.8.42), EN3 (2.4.13-2.4.14), NPPF (161-186)	Scoped In	Potential effects on surface water, groundwater, WFD waterbodies, peat hydrology and flood risk. Projects may be proposed in sites that are unlikely to be affected by flooding, but where there is potential risk, applicants should set out how the layout of the infrastructure has been designed to be resilient.
Chapter 10: Geology, Soils and Ground Conditions	EN1 (5.4.1-5.4.39, 5.11.4-5.11.5, 5.11.3-5.11.15), EN3 (2.8.31-2.8.33,	Scoped in	Assessment required due to presence of peat, potential ground instability (e.g.,

EIA Topic	Key Policy Drivers (with Paragraphs)*	Scoped In/Out	Relevance
	2.10.20-2.10.26, 2.10.67-2.10.84, 2.10.119, 2.10.137, 2.12.59-2.12.67), NPPF (187, 196-201)		dissolution features), historic mining, and soil disturbance from infrastructure.
Chapter 11: Access, Traffic & Transport	EN-1 (5.14.1–5.14.22), EN3 (2.12.107- 2.12.113, 2.12.128-2.12.134), NPPF (109-123)	Scoped In	Effects from construction traffic movements and route modifications on local and strategic road networks.
Chapter 12: Noise & Vibration	EN-1 (5.12.1–5.12.18), EN-3 (2.12.100-2.12.104, 2.12.126, 2.12.162-2.12.165), NPPF (187)	Scoped In	Operational and construction noise effects on residential and ecological receptors.
Chapter 13: Aviation, Radar and Telecommunications	EN-1 (5.5.1-5.5.63), NPPF (111, 223-224)	Scoped In	Potential interference with aviation safeguarding, MOD radar and telecom links.
Chapter 14: Shadow Flicker	EN-3 (2.1.16–2.12.17, 2.12.105-2.12.106, 2.12.127, 2.12.116-2.12.168)	Scoped In	Potential shadow flicker effects on nearby residential properties/.
Chapter 15: Air Quality	EN-1 (5.2.1-5.2.19, 5.3.1-5.3.12, 5.7.1-5.7.15), EN3 (2.7.41-2.7.44), NPPF (199)	Scoped In	Construction-phase traffic and dust emissions that may generate air quality effects.
Chapter 16: Carbon and Climate Change	EN-1 (4.10.1-4.10.19, 5.3.1-5.3.12), EN3 (2.4.1-2.4.4), NPPF (161-186)	Scoped In	Assessment of carbon savings, climate resilience and contribution to net-zero infrastructure.
Chapter 17: Socio-Economics	EN-1 (5.13.1-5.13.12), NPPF (85-89)	Scoped In	Economic benefits, employment and GVA contribution, requiring assessment.
Chapter 18: Other Environmental Topics			
Material Assets and Waste	EN-1 (5.15.1, 5.15.18), National Planning Policy Framework for Waste [adopted October 2014]	Scoped Out	Effects are minimal and managed through standard construction practices; no likely significant effects identified.
Human Health	EN-1 (4.4.1-4.4.8), NPPF (96-108)	Scoped Out	No significant health pathways beyond topics assessed elsewhere (noise, traffic, air quality); no standalone significant effects expected.

EIA Topic	Key Policy Drivers (with Paragraphs)*	Scoped In/Out	Relevance
Major Accidents & Disasters	EN-1 (4.13.1-4.13.8), EIA Regulations (Reg 4(2)(j) and Schedule 4, Part 1, paragraph 4(e))	Scoped Out	Wind energy presents low inherent accident risk; no COMAH, nuclear or major hazard receptors affected.

* Paragraph references are not exhaustive and are intended to highlight the key policy provisions. The full policy documents should be read as a whole.

4.9. Other Consents and Notifications

Disapplication of Legislative Provisions

- 4.9.1. The Planning Act 2008 (Ref 4-4) allows DCO applications to apply, modify or exclude statutory provisions where necessary for NSIPs and acknowledges that such requirements typically become clear only as project design and construction methods develops further.
- 4.9.2. Consideration is being given to the consents and approvals that may need to be secured through the DCO for the Project. As the EIA progresses, pre-application discussions will be held with relevant stakeholders to establish an agreed position on which legislative requirements or consents may appropriately be disapplied through the DCO. This process will ensure that any proposed disapplications are informed by early dialogue and aligned with stakeholder expectations.

4.10. Further Consideration for Consultees

- 4.10.1. The following questions are provided to help frame consultee comments on the Scoping Report for legislation and policy context:
- Q4.1: Do consultees have any comments on the key policy context set out in **Section 4.4**?
 - Q4.2: Do consultees have any comments on the other policy considerations set out in **Section 4.5**?
 - Q4.3: Do consultees have any comments on the local planning policy context set out in **Section 4.6**?
 - Q4.4: Do consultees have any comments on the key environmental legislation of relevance to the Project in **Section 4.7**?
 - Q4.5: Do consultees have any comments on the relevant NPS policy in the context of the proposed EIA scope set out in **Section 4.8**?



4.11. References

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5. Landscape and Visual

5.1. Introduction

- 5.1.1. This chapter sets out the proposed methodology and approach of the Landscape and Visual Impact Assessment (LVIA) of the Project. It presents the suggested scope of the LVIA in terms of those landscape and visual receptors to be scoped in and scoped out of the assessment process based on a preliminary assessment of relevant receptors to the Project. The LVIA will consider the likely significant effects of the Project during the construction, operation and maintenance and decommissioning of the Project, details of which are set out in **Chapter 2: Project Description**.
- 5.1.2. The purpose of the LVIA is to identify and record the potential likely significant effects that the Project may have on physical elements of the landscape; landscape character; areas that have been designated for their scenic or landscape-related qualities; and views from various locations such as settlements, routes, hilltops, and other sensitive locations. The potential cumulative effects that may arise from the addition of the Project to other developments will also be considered.
- 5.1.3. There are interrelationships between the potential effects on landscape and visual receptors and other environmental topics. Therefore, this chapter should be read alongside the following chapters of the Scoping Report:
- **Chapter 6:** Archaeology and Cultural Heritage; and
 - **Chapter 7:** Ecology.
- 5.1.4. This chapter is supported by the following figures (provided in **Volume A**):
- **Figure 5.1:** LVIA Study Area
 - **Figure 5.2:** Blade Tip ZTV Bare Earth
 - **Figure 5.3:** Blade Tip ZTV Bare Earth (detailed area)
 - **Figure 5.4:** Screened Blade Tip ZTV (detailed area)
 - **Figure 5.5:** Hub Height ZTV Bare Earth
 - **Figure 5.6:** National Landscape Character with Blade Tip ZTV Bare Earth
 - **Figure 5.7:** Landscape Character with Blade Tip ZTV Bare Earth (detailed area)
 - **Figure 5.8:** Landscape Designations with Blade Tip ZTV Bare Earth
 - **Figure 5.9:** Principal Visual Receptors (Transportation) with Blade Tip ZTV Bare Earth
 - **Figure 5.10:** Recreational Principal Visual Receptors with Blade Tip ZTV Bare Earth
 - **Figure 5.11:** Principal Visual Receptors Public Right of Way with Blade Tip ZTV
 - **Figure 5.12:** Cumulative Windfarms



5.2. Study Area

- 5.2.1. In accordance with NatureScot guidance (Ref 5-1) and with a proposed wind turbine height of up to 200 m, the proposed Study Area for the LVIA of the Project will cover a radius of 45 km from the nearest proposed wind turbine, as shown in **Figure 5.1**. This is considered to be the maximum radius within which a significant effect could occur given the height of the wind turbines that are being considered. Landscape Designations and Visual Receptors will utilise this 45km Study Area in the LVIA.
- 5.2.2. Following a review of the Zone of Theoretical Visibility (ZTV) (**Figures 5.2 – 5.9**) for the Project, it is proposed that the assessment of landscape character effects focusses within 20 km. As described in **Section 5.6**, the 20km Study Area, reflects the reduced extent of theoretical visibility found beyond 20km and is therefore considered a more appropriate area in which to focus the identification of potentially significant landscape character effects.

5.3. Baseline Environment

Overview of Available Data Sources

- 5.3.1. The sources to be consulted in the production of the landscape and visual chapter of the Environmental Statement (ES) include, but are not limited to, those outlined in **Table 5-1**.

Table 5-1: Key sources of information for Landscape and Visual

Source	Summary	Spatial Coverage of Study Area
Digital mapping.	Ordnance Survey (OS) 1: 50,000 scale raster mapping - OS 2026	45 km
Digital terrain model.	Ordnance Survey Terrain 50 Metre Digital Terrain Model (DTM) – OS 2026	45 km
Long Distance Walking Association	Details of long-distance recreational routes. https://ldwa.org.uk/index.php	45 km
National Cycle Network	Mapping of National Cycle Network within North Yorkshire and Country Durham – Sustrans 2026. https://www.walkwheelcycletrust.org.uk/national-cycle-network/	45 km
National Landscape Character	Natural England – National Character Area Profiles. https://nationalcharacterareas.co.uk/	45 km
North Yorkshire Landscape Character	North Yorkshire and York Landscape Characterisation Project (2011). Chris Blandford Associates.	20 km

Source	Summary	Spatial Coverage of Study Area
	https://www.northyorks.gov.uk/environment-and-neighbourhoods/conservation/describing-and-understanding-our-landscape	
Durham County Landscape Character	The County Durham Landscape Character Assessment (2008). Durham County Council. https://durhamlandscape.info/durham-landscape/the-landscape-character-assessment/	20 km

Overview of Baseline Environment

Baseline Context

- 5.3.2. The proposed location of the Project is approximately 9 km south of the Barnard Castle settlement, 11 km to the north-west of Richmond and 21 km west of Darlington. The Site is located across the boundaries of the North Yorkshire and County Durham administrative areas.
- 5.3.3. The Site is largely moorland covered currently managed for grouse shooting and livestock grazing, which unfolds across localised yet broad undulations between upland watercourses including the Arndale Beck, Moresdale Gill and Stang Gill. The upland moorland on the Site includes parts of Hope Moor and Kexwith Moor. A large area of forestry (The Stang) lies to the north-west of the Site which is in varied stages of removal and replanting. Elevation on the Site ranges from around 164 m above ordnance datum (AOD) at Newsham to around 350 m AOD along Kexwith Beck, and up to the highest point at 509 m AOD on Arndale Hill with the majority of the moorland plateau above 450 m AOD.
- 5.3.4. The Site is located immediately to the east of the Yorkshire Dales National Park (YDNP), the upland to the south of the site forms part of its north-east boundary. The minor road to the west of the Site, locally named Stang Lane, provides a connecting route across the elevated moorland ridge between Teesdale to the north and Swaledale to the south. Views into and across the Site and south into Swaledale and the YDNP are available from Stang Top, where this road is most elevated.
- 5.3.5. Key transport routes in the area include the A66 and A67 to the north and the A684 to the south which passes through Wensleydale to the south. The A1(M) passes through the western half of the Study Area and within around 15 km at its closest point. The B6270 is a scenic route that passes along Swaledale to the south and the north-east corner of the YDNP. Key long distance walking routes in the LVIA Study Area include the Coast to Coast trail which passes through Swaledale to the south of the Site; and the Teesdale Way, Pennine Way and route 71 of the National Cycle Network which pass to the south-west of the Site along Arkengarthdale. Other recreational routes close to the site also include – ‘Three Ridings on Foot’ to the east of the site; ‘Barningham Trail’ which is within and circles the Site; and the ‘Trans Dales Trail – 2’ on the western edge of the Site.



- 5.3.6. Baseline information is further described in relation to potential landscape and visual effects in **Section 5.6** of this report.

5.4. Proposed Approach to the Environmental Impact Assessment

Proposed Assessment Methodology

- 5.4.1. Whilst **Chapter 3: Approach to EIA** provides an indicative EIA assessment method, it also identifies that assessment methodologies may differ in accordance with the prevailing technical area guidance. As such the following sections provide a description of the assessment criteria and assessment methodologies of relevance to the LVIA for the Project, which are derived from best practice guidance documents applicable to this topic and differ from those presented in the broader methodology chapter.
- 5.4.2. The LVIA methodology will accord with 'Guidelines for Landscape and Visual Impact Assessment: Third Edition' (Ref 5-2) ('GLVIA3'), the key source of guidance for LVIA. Other sources of guidance that will be used and referenced in the LVIA are listed below in the section titled 'Relevant Policy, Legislation and Relevant Guidance'.
- 5.4.3. This Scoping Report has included a desk study of the site and 45 km LVIA Study Area, combined with a good professional working knowledge of the immediate context of the Project and the LVIA Study Area. Aspects of the landscape and visual resource that will need to be considered in the LVIA, are identified as follows:
- landscape and seascape character typology;
 - landscape related planning designations;
 - properties and settlements;
 - routes (including roads, canals, National Cycle Networks (NCN) and long-distance walking routes); and
 - potential cumulative windfarms.
- 5.4.4. The desk study has also utilised GIS software to explore the potential visibility of the Project. The resultant ZTV diagrams (**Figures 5.2 to 5.9**) have provided an indication of which landscape and visual receptors are potentially affected by the Project.
- 5.4.5. The LVIA is intended to determine the likely significant effects that the Project would have on the landscape and visual resource. For the purpose of assessment, the potential effects on the landscape and visual resource are grouped into the following categories:
- physical effects: physical effects are restricted to the area within the Site and are the direct effects on the existing fabric of the site. This category of effects is made up of landscape elements, which are the components of the landscape such as rough grassland and moorland that may be directly and physically affected by the Project;



- effects on landscape character: landscape character is the distinct and recognisable pattern of elements that occurs consistently in a particular type of landscape and the way that this pattern is perceived. Effects on landscape character arise either through the introduction of new elements that physically alter this pattern of elements or through visibility of the Project that may alter the way in which the pattern of elements is perceived. This category of effects is made up of landscape character receptors, which fall into two groups - landscape character types and landscape / seascape-related designated areas. Effects on National Scenic Areas will be considered against their special landscape qualities;
- effects on views: the assessment of the effects on views is an assessment of how the introduction of the Project would affect views throughout the LVIA Study Area. The assessment of effects on views is carried out in relation to representative viewpoints and principal visual receptors; and
- cumulative effects: cumulative effects arise where the Study Areas for two or more developments (windfarms or in some cases other relevant development) overlap so that both developments are experienced at a proximity where they may have a greater incremental effect, or where they may combine to have a sequential effect. The LVIA assesses the effect arising from the addition of the Project to the cumulative situation. This approach is in line with NatureScot cumulative assessment guidance (2021) (Ref 5-24) and Landscape Institute Technical Guidance Note LITGN – 2024-01 (Ref 5-16), which provides GLVIA3 clarifications.

5.4.6. The objective of the assessment of the Project is to predict the likely significant effects on the landscape and visual resource. In line with the EIA Regulations, the LVIA effects are assessed to be either significant or not significant. The significance of effects is assessed through a combination of two considerations: the sensitivity of the landscape receptor or view and the magnitude of change that would result from the addition of the Project. The degree of effects in the LVIA will be assessed as negligible, minor, moderate-minor, moderate, moderate-major or major. In those instances where the magnitude is assessed as 'no change', the level of effect will be recorded as 'no effect'.

5.4.7. Any effects with a significance level of major and moderate-major will be deemed significant. Moderate levels of effect have the potential, subject to the assessor's professional judgement and any relevant guidance, to be considered as significant or not significant, depending on the sensitivity and magnitude of change factors evaluated. GLVIA3 clarification note 3(5) supports this approach and states that '*moderate effects may or may not be significant and justification would be needed in the methodology or receptor assessment as to whether a moderate effect is significant or not*'. The assessments of significance for moderate levels of effect will therefore be explained as part of the assessment, where they occur. Effects assessed



as being either moderate-minor, minor or negligible level are deemed as not significant.

- 5.4.8. Significance thresholds can therefore vary depending on the sensitivity and magnitude, however, in all cases, a significant effect is considered more likely to occur where a combination of the variables results in the Project having a defining effect on the landscape character or view.
- 5.4.9. The nature of effect relates to whether the effects of the Project are adverse, neutral, or beneficial. A precautionary approach will generally be adopted which assumes that significant landscape and visual effects will be weighed on the negative side of the planning balance, although positive or neutral effects may arise in certain situations.

Relevant Policy, Legislation and Relevant Guidance

- 5.4.10. The following legislation, policy and guidance are relevant to the consideration of the potential effects of the Project on the landscape and visual resource of the Study Area. This list is not exhaustive, and other documents may be referred to as appropriate:
- Legislation
 - National Parks and Access to the Countryside Act, 1949 (Ref 5-3).
 - Countryside and Rights of Way Act (CROW Act), 2000 (Ref 5-4).
 - Environment Act, 1995 (Ref 5-5)
 - European Landscape Convention (ELC) (Ref 5-6).
 - National Policy
 - National Policy Statements (NPS):
 - Overarching National Policy Statement for Energy (EN-1) (Ref 5-7); and
 - National Policy Statement for Renewable Energy Infrastructure (EN-3) (Ref 5-8).
 - National Planning Policy Framework (NPPF) (Ref 5-9).
 - Local Policy
 - Emerging Yorkshire Dales National Park, Local Plan 2025-40 (Ref 5-10). Relevant Policies may include:
 - CP2: National Park Purposes;
 - CP8: Landscape Character; and
 - L6: Dark Night Skies.
 - North York Moors National Park, Local Plan (2020) (Ref 5-11). Relevant Policies may include:
 - Strategic Policy G: Landscape;
 - Policy ENV4: Dark Night Skies;



- Policy ENV8: Renewable Energy.
- County Durham Plan (Adopted 2020) (Ref 5-12). Relevant policies may include:
 - Policy 34: Wind Turbine Development;
 - Policy 38: North Pennines Area of Outstanding Natural Beauty; and
 - Policy 39: Landscape.
- Emerging County Durham Plan (Ref 5-13).
- Emerging North Yorkshire Council Local Plan (Ref 5-14).
- Richmondshire Local Plan 2012-2028: Core Strategy (Adopted 2014) (Ref 5-15). Relevant Policies may include:
 - Core Policy 2: Responding to Climate Change; and
 - Core Policy 12: Conserving and Enhancing Environmental and Historic Assets.
- Guidance
 - Landscape Institute and Institute for Environmental Management and Assessment (2013) 'Guidelines for Landscape and Visual Impact Assessment: Third Edition' ('GLVIA3') (Ref 5-2).
 - Landscape Institute, Technical Guidance Note LITGN – 2024-01. GLVIA3 Clarifications (Ref 5-16).
 - Landscape Institute (2019). Technical Guidance Note 2/19 Residential Visual Amenity Assessment (Ref 5-17).
 - Landscape Institute (2021). Technical Guidance Note 2/21 Assessing landscape value outside of national designations (Ref 5-18).
 - Landscape Institute (2019). Visual Representation of Development Proposals: Landscape Institute Technical Guidance Note 06/19 (Ref 5-19).
 - Christine Tudor, Natural England (2nd version March 2018). An Approach to Landscape Character Assessment (Ref 5-20).
 - Civil Aviation Authority (2016) CAP 764: Policy and Guidelines on Wind Turbines (Ref 5-21).
 - NatureScot (2024). Guidance on Aviation Lighting Impact Assessment (Ref 5-22).
 - NatureScot (2025). Guidance for Assessing the Effects on Special Landscape Qualities (Ref 5-23).
 - NatureScot (2021). Assessing the Cumulative Impact of Onshore Wind Energy Developments (Ref 5-24).
 - NatureScot (2017) Siting and Designing Wind Farms in the Landscape Version 3a (Ref 5-25).



- NatureScot (2017). Visual Representation of Wind Farms, Version 2.2 (Ref 5-25).
- Nationally Significant Infrastructure Projects: Advice on Cumulative Effects Assessment, (2024) (Ref 5-26).

Further Baseline Data

Desk Study

- 5.4.11. The analysis of key receptors (landscape character areas, landscape designations and visual receptors such as residents, road users, recreational routes and visitors) within this Scoping Report has been carried out based on an initial field survey, a good professional working knowledge of the LVIA Study Area and detailed desk study and Geographic Information Systems (GIS) analysis.
- 5.4.12. The assessment is initiated through a desk study of the Project. Desk based analysis of the Project is carried out for the LVIA Study Areas outlined above along with mapping of landscape character, landscape related designations and principal visual receptors. The desk study also utilises GIS software to explore the potential visibility of the Project. The resultant ZTV diagrams provide an indication of which landscape and visual receptors are likely to be key in the assessment.

Planned Surveys

- 5.4.13. To inform the LVIA and layout design, detailed field surveys will be undertaken throughout the LVIA process and Study Area and will be reported in the ES. Field surveys will be concentrated within the areas shown on the ZTV to gain theoretical visibility of the Project. The field survey work will include visits to viewpoints as well as extensive travel around the LVIA Study Area to consider potential effects (including cumulative) on landscape character and on the experience of views seen from travel routes through the landscape. These visits will allow the landscape character and the visual amenity of the Study Area to be experienced in a range of different conditions and seasonal variation. The field survey will also allow the assessors to judge the likely scale, distance, extent, and prominence of the Project directly. Viewpoint photography will be captured during field survey visits in periods of good visibility.

Consultation

- 5.4.14. Consultation regarding the scope and approach of the LVIA (including via this scoping process), will be undertaken with key consultees including Natural England, Yorkshire Dales National Park, North York Moors National Park, Durham County Council and North Yorkshire Council. The focus of the LVIA consultation is to seek feedback on:
- The locations and number of viewpoints for inclusion in the LVIA (see **Table 5-3**).



- The approach to the assessment of Special Qualities within the nationally designated landscapes in the Study Area that require detailed assessment.
- Sites to be included in the cumulative assessment.

5.4.15. A summary of the consultation undertaken will be included within the LVIA chapter of the ES.

5.5. Design, Mitigation and Enhancement Measures

5.5.1. The design and layout of the proposed wind turbines and associated infrastructure is a vital part of the EIA process and is the stage where the biggest contribution can be made to mitigate potential landscape and visual effects. A key design objective will be to create a design which is appropriate for the existing landscape character and visual features of the area. The design of the Project will evolve as part of an iterative process which aims to provide an optimal design in environmental, as well as technical and economic terms, and the mitigation of landscape and visual effects will be a central consideration in this process.

5.6. Potential Effects

Zone of Theoretical Visibility (ZTV) Overview

5.6.1. The blade tip ZTV is based on the 200 m Project tip height and represents the worst-case theoretical visibility considered in the scoping assessment. The blade tip ZTV also illustrates where there would be no visibility, as well as areas where there will be lower or higher numbers of blade tips theoretically visible.

5.6.2. The ZTVs show the areas in which the Project would be theoretically visible, assisting in the identification of viewpoints and providing an understanding of the potential extent of landscape and visual effect within the Study Area. The majority of ZTVs produced for scoping illustrate the 'bare ground' situation based on an Ordnance Survey (OS) terrain model and do not take account of the screening effects of vegetation, buildings, or other local features that may prevent or reduce visibility. By using a bare ground elevation model, the results will be an over-representation of maximum visibility, as many areas could, in reality, be blocked by surface features not included in the model. The bare ground blade tip ZTV is shown with proposed viewpoints on **Figure 5.2** and on more detailed 50k mapping on **Figure 5.3** which for greater legibility of the immediate context has been produced for an approximate 20 km area. It is also shown alongside landscape character, landscape designations and visual receptors, on **Figures 5.6 – 5.9**.

5.6.3. A screened blade tip ZTV has also been produced for scoping on **Figure 5.4**. This is calculated using conservative estimates for buildings (8m) and woodland (10m) heights and whilst presenting a more accurate depiction of the Project visibility, the screened ZTV is limited by the averaged heights applied to it and does not allow for other landscape elements (e.g. individual trees and hedgerows) that may have a screening effect through



- successive layering. The screened ZTV is therefore still theoretical and is not a substitute for the fieldwork carried out during the course of the LVIA.
- 5.6.4. All of the blade tip ZTVs indicate a ‘higher’ or ‘lower’ theoretical visibility based on the number of blade tips visible, not on the amount of blade tip visible. Therefore, areas indicated with higher visibility (in terms of the number of visible blade tips) may have views of very small amounts of these blade tips at long range.
- 5.6.5. The landform of the Site and surrounding area has a notable influence on the extent of visibility across the Study Area. The pattern of theoretical visibility shown on the blade tip ZTVs illustrates that due to the nature of the landscape within surrounding hill ranges of the Pennines, theoretical visibility begins to reduce in extent across neighbouring upland areas, beyond around 10km to the south and west and beyond around 20km to the north. In these areas, beyond 20km theoretical visibility is limited to patches on elevated hill tops or along isolated ridges facing the Project site, further reducing with distance such that very little is found beyond 30km. Beyond 20 km, the visibility reduces as the apparent height of the turbines will form a smaller feature on distant upland horizons and will only be viewed in very good to excellent visibility conditions.
- 5.6.6. To the east the ZTVs show that theoretical visibility extends consistently across more settled lowlands towards the edges of the Study Area, including Darlington (between 20km and 30km) and Middlesbrough (beyond 35km). The ZTVs also show that a wide swathe of theoretical visibility follows the lower lying area to the south-east, between the Pennines and Cleveland Hills, created by the Swale and Ure valleys and also where the A1 road corridor is located.
- 5.6.7. The Hub Height ZTV (as shown on **Figure 5.5**) shares a similar overall pattern of theoretical visibility to the Blade Tip ZTV in terms of the affected areas. However, there are consistent reductions in the numbers of hubs visible compared to the numbers of blades visible within these shared areas of visibility, particularly on the upland areas to the north, west and south. This indicates that large parts of the Study Area would only experience blade visibility for many of the Projects proposed turbines.

Landscape Character

- 5.6.8. England’s landscape is classified at the national level by National Character Areas (NCAs). The descriptive profiles for the 159 individual NCAs are identified and described by Natural England, they highlight what distinguishes one landscape from another, with reference to their regionally distinct characteristics. The Site sits across 3 NCAs – NCA10 North Pennines, NCA21 Yorkshire Dales and NCA22 Pennine Dale Fringe, with the proposed turbines of the Project across the edges of NCA10 and NCA21. The overview of Project ZTV described in the previous section, highlights that the pattern of theoretical visibility is greatly reduced beyond 10km to the south and west (NCA 10), and beyond around 20km to the north (NCA 21). Theoretical visibility also occurs within lower lying areas to the east, across the settled landscapes of the Tees Valley (NCA 23 Tees



Lowlands and NCA24 Vale of Mowbray). The gentle rolling topography of these lowland landscapes, combined with the successive layers of trees and hedgerows often seen on rolling horizons) often shortens longer distance views to the wider landscape. It is also considered that beyond 20 km, the visibility reduces as the apparent height of the turbines will form a smaller feature on distant horizons and will only be viewed in very good to excellent visibility conditions.

- 5.6.9. Taking all of this into account, it is considered that the potential for significant landscape character effects may only arise within an area of approximately 20km radius from the proposed wind turbines. As such it is proposed that the landscape character assessment will focus on this 20km area.
- 5.6.10. Local Landscape Character Areas (LCAs) have been identified by the various district councils within the Study Area. It is considered that these local level LCAs represent the most appropriate scale 'reporting units' for the Project and will therefore be used as the basis for Landscape Character Assessment in the LVIA. In particular, the landscape character assessment will focus on assessing the likely significant effects on the LCAs in which the Project is located, where the Project may result in direct effects on the pattern of elements that comprise the landscape character, together with LCAs in the immediately adjacent area where the Project may result in indirect effects on the perception of the landscape character.
- 5.6.11. Of particular relevance to the Project are therefore the character assessments and associated LCAs within County Durham and North Yorkshire, where the Project will be located:
- The County Durham Landscape Character Assessment (2008). Durham County Council (Ref 5-27); and
 - North Yorkshire and York Landscape Characterisation Project (2011). Chris Blandford Associates (Ref 5-28).
- 5.6.12. The Site sits across County Durham LCA 1 North Pennines and North Yorkshire LCA 33 Gritstone High Plateau (see **Figure 5.7**).
- 5.6.13. County Durham LCA 1 North Pennines Key Characteristics (Ref 5-27):
- 'An upland landscape of high moorland ridges and plateaux divided by broad pastoral dales.
 - Alternating strata of Carboniferous limestones, sandstones and shales give the topography a stepped, horizontal grain.
 - Millstone Grits cap the higher fells and form distinctive flat-topped summits. Hard igneous dolerites of the Great Whin Sill form dramatic outcrops and waterfalls.
 - Broad ridges of heather moorland and acidic grassland and higher summits and plateaux of blanket bog are grazed by hardy upland sheep.
 - Pastures and hay meadows in the dales are bounded by dry stone walls, which give way to hedgerows in the lower dale.



- Tree cover is sparse in the upper and middle dale. Hedgerow and field trees and tree-lined watercourses are common in the lower dale.
- Woodland cover is low. Upland ash and oak-birch woods are found in river gorges and dale side gills, and larger conifer plantations in the moorland fringes.
- The settled dales contain small villages and scattered farms. Buildings have a strong vernacular character and are built of local stone with roofs of stone flag or slate.
- The landscape is scarred in places by mineral workings with many active and abandoned limestone and whinstone quarries and the relics of widespread lead workings.
- An open landscape, broad in scale, with panoramic views from higher ground to distant ridges and summits.
- The landscape of the moors is remote, natural and elemental with few man-made features and a near wilderness quality in places.
- Within the dales there is a strong sense of cultural continuity and visual unity.'

5.6.14. North Yorkshire LCA 33 Gritstone High Plateau Key Characteristics (Ref 5-28):

- 'Blanket bog.
- Characteristic moorland vegetation composed of heather and dwarf shrubs.
- Flat upland plateau.
- Important upland bird assemblages.
- Expansive, undeveloped character.
- Open skylines and extensive views.
- Strong sense of tranquillity and remoteness throughout, with associated dark night skies.
- Muted colours.
- MOD ranges within plantations at the north-eastern edge.'

Landscape Designations

5.6.15. The Project in the scoping layout does not lie within any national landscape planning designations as shown on **Figure 5.8**. Within the LVIA Study Area, national landscape planning designations include National Parks, National Landscapes (previously AONBs), and Registered Parks and Gardens (RPG). There is also a World Heritage Site (WHS) at the edges of the Study Area.

5.6.16. **Table 5-2** below lists the designated areas and provides information about their distance to the Project and relationship to the ZTV, as shown in **Figure 5.8**. Thereafter, it is assessed in the final column whether or not,



these designated areas can be scoped out of the assessment, unless changes to the layout during the detailed design process materially alter the potential for significant effects.

Table 5-2: Preliminary Assessment of Landscape Designations

Landscape Designation	Approx. distance to nearest turbine (km)	Theoretical visibility within study area? Yes / No	Include / exclude from detailed assessment within the LVIA?
Durham – Areas of Higher Landscape Value (AHLV)	0.0	Yes	Yes. Site is located within this local designation. Potential for significant effects due to location and level of theoretical visibility.
Yorkshire Dales National Park (YDNP)	0.65km	Yes	Yes. Potential for significant effects to special qualities due to close proximity and level of theoretical visibility.
Yorkshire Dales Dark Sky Reserve	0.65km	Yes	Yes. Potential for significant effects to dark sky qualities due to close proximity and level of theoretical visibility.
Lake District National Park (LDNP)	41km	No	No. Very distant with no theoretical visibility within Study Area.
North York Moors National Park (NYMNP)	38km	Yes	No. Very Distant. No potential for significant effects to special qualities due to distance.
North Pennines National Landscape (NPNL)	2.3km	Yes	Yes. Potential for significant effects to special qualities due to close proximity and level of theoretical visibility.
Nidderdale National Landscape (NNL)	22km	Yes	No. Distant with limited theoretical visibility extent. No potential for significant effects.
Studley Royal Park including the ruins of Fountains Abbey WHS	39km	Yes	No. Very Distant. Limited theoretical visibility extent. No potential for significant effects.
Durham Castle and Cathedral WHS	40km	No	No. No theoretical visibility.
Lartington Hall RPG	9.4km	Yes	Yes. Potential for significant effects due to level of theoretical visibility.
Bowes Museum RPG	8.4km	Yes	Yes. Potential for significant effects due to level of theoretical visibility.
Rokeby Park RPG	6.3km	Yes	Yes. Potential for significant effects due to level of theoretical visibility.

Landscape Designation	Approx. distance to nearest turbine (km)	Theoretical visibility within study area? Yes / No	Include / exclude from detailed assessment within the LVIA?
Raby Castle RPG	14.7km	Yes	Yes. Potential for significant effects due to level of theoretical visibility.
Forcett Hall RPG	11.6km	Yes	No. No potential for significant effects due to intervening woods that restrict theoretical visibility.
Middleton Lodge RPG	15.6km	Yes	No. Very limited theoretical visibility, no potential for significant effects.
Aske Hall RPG	9.7km	Yes	No. Very limited theoretical visibility, no potential for significant effects.
Temple Grounds RPG	11km	No	No. No theoretical visibility.
St Nicholas Richmond RPG	12.3km	No	No. No theoretical visibility.
Constable Burton Hall RPG	16.1km	Yes	No. Very limited theoretical visibility, no potential for significant effects.
Hornby Castle Park RPG	19.4km	Yes	No. Very limited theoretical visibility, no potential for significant effects.
Ramshaw Hall Garden RPG	21km	Yes	No. No potential for significant effects due to distance and intervening woods that restricts visibility.
Aukland Castle Park RPG	27.3km	Yes	No. Limited theoretical visibility extent restricted by intervening woods, no potential for significant effects.
Brancepeth Castle RPG	33km	Yes	No. No potential for significant effects due to distance and intervening woods that restrict theoretical visibility.
Burn Hall RPG	36.5km	Yes	No. Very limited and distant theoretical visibility, no potential for significant effects.
Croxdale Hall RPG	36.4km	Yes	No. Very limited and distant theoretical visibility, no potential for significant effects.
Old Durham Gardens	41.2km	No	No. No Theoretical Visibility
Windlestone Hall RPG	28.6km	Yes	No. Very limited and distant theoretical visibility, no potential for significant effects.
Hardwick Park RPG	35.3	Yes	No. No potential for significant effects due to distance and intervening woods that restricts visibility.

Landscape Designation	Approx. distance to nearest turbine (km)	Theoretical visibility within study area? Yes / No	Include / exclude from detailed assessment within the LVIA?
Ceddesford Hall Gardens RPG	36km	Yes	No. No potential for significant effects due to distance and intervening woods that restricts visibility.
Wynyard Park RPG	39.4km	Yes	No. Very limited and distant theoretical visibility, no potential for significant effects.
West Cemetery Darlington RPG	21.8km	Yes	No. No potential for significant effects due to intervening trees / urban fabric that restricts visibility.
South Park Darlington RPG	23km	Yes	No. No potential for significant effects due to intervening trees / urban fabric that restricts visibility.
Landscape at Cummins Engine Factory, Darlington RPG	26.3km	Yes	No. No potential for significant effects due to intervening trees / urban fabric that restricts visibility.
Ropner Park RPG	38.5km	Yes	No. Very Distant. No potential for significant effects due to intervening trees / urban fabric that restricts visibility.
Albert Park RPG	44.8km	Yes	No. Very Distant. No potential for significant effects due to intervening trees / urban fabric that restricts visibility.
Arncliffe Hall RPG	39.2km	Yes	No. No potential for significant effects due to distance and intervening trees / woods that restricts visibility.
Thorp Perrow RPG	27.4km	Yes	No. Limited and distant theoretical visibility, no potential for significant effects.
Norton Conyers RPG	38.2km	Yes	No. No potential for significant effects due to distance and intervening trees / woods that restricts visibility.
Hackfall	32.8km	Yes	No. Limited theoretical visibility extent restricted by intervening woods, no potential for significant effects.
Studley Royal RPG	39.7km	No	No. No Theoretical Visibility
Japanese garden at Grantley Hall RPG	40.4km	No	No. No Theoretical Visibility



Landscape Designation	Approx. distance to nearest turbine (km)	Theoretical visibility within study area? Yes / No	Include / exclude from detailed assessment within the LVIA?
Swinton Castle RPG	28.9km	Yes	No. Limited and distant theoretical visibility, no potential for significant effects.
Parcevall Hall RPG	44.2km	No	No. No Theoretical Visibility
Queens Garden RPG	40.4km	No	No. No Theoretical Visibility
The Image Garden	43.6km	Yes	No. Limited and distant theoretical visibility, no potential for significant effects.
Appleby Castle RPG	36.3km	No	No. No Theoretical Visibility

National Landscape Designations – Special Qualities

- 5.6.17. A key step in special qualities assessment is identifying which of the SQs may be affected by a proposal. Expanding on the preliminary assessment in **Table 5-2** above, this section lists which of the SQs for the YDNP and NPNL are considered as requiring detailed assessment in the LVIA. As the Project is located in a landscape outside the YDNP and NPNL, any effects upon these designated areas would be indirect.
- 5.6.18. The YDNP SQs are set out in the Yorkshire Dales National Park Management Plan 2025 – 2030 (Ref 5-29). SQs proposed to be assessed in detail in the LVIA are –
- ‘The area straddles the Pennines, the backbone of northern England. The underlying geology, natural processes and human activity have created a hugely varied landscape and numerous dramatic features and beautiful views.’
 - ‘A landscape of striking contrasts, between the deep, sheltered dales and the open, exposed, sweeping fells above.’
 - ‘Extensive areas where a true sense of tranquillity, remoteness and solitude can still be found, which is rare in England today.’
 - ‘Expansive views that show to advantage the areas beauty and variety.’
 - ‘Dark night skies - as it suffers little from light pollution, the moon, night sky and atmospheric effects can be fully appreciated.’
- 5.6.19. The special qualities of the NPNL are not specifically defined, however, the NPNL Draft Management Plan (Ref 5-30) provides a key resource in relation to landscape quality, within which the following identified aspects of ‘Natural Beauty’ are considered to have the potential to be affected by the Project –



- ‘a relative sense of remoteness, wildness and tranquillity.’
- ‘truly dark night skies.’

5.6.20. The assessment of effects on Special Qualities (SQs) will follow guidance set out by NatureScot (Ref 5-23) which is aimed specifically at landscape professionals undertaking LVIA for developments with potential to impact on the SQs of national landscape designations, such as National Parks and National Landscapes.

Visual Receptors and Visual Amenity

5.6.21. The LVIA will undertake an assessment of the likely visual effects of the Project through consideration of the specific visual effects at a selection of representative viewpoints and by considering the wider effects on visual amenity with reference to principal visual receptors. Principal visual receptors are shown with blade tip ZTV on **Figure 5.9** (transportation) and on **Figure 5.10** (recreational). There are also a number of Public Rights of Way (PRoW) intersecting and crossing the Site area. These PRoW provide access to the surrounding uplands and connections between closely surrounding communities. PRoWs within 5km are mapped, in combination with the blade tip ZTV on **Figure 5.11**. In relation to residential properties, a Residential Visual Amenity Assessment (RVAA) will be carried out for properties within 2 km, in line with Landscape Institute technical guidance.

Viewpoint Selection

5.6.22. A preliminary viewpoint list is shown in **Table 5-3: Preliminary Representative Viewpoint Locations**. The proposed representative viewpoint locations are shown on **Figures 5.2 to 5.5**. The preliminary viewpoints were selected to represent a range of visual receptors within the LVIA Study Area based on an initial review of the Site and surrounding landscape and visual resource. They were selected to represent landscape receptors and in consideration of the potential for cumulative effects to arise. The final list will be established in agreement with key consultees listed in **Section 5.4**, through further surveys and having regard to the scoping responses. The final viewpoint list will be reported in the ES. Visualisations and figures will be produced to NatureScot standards, as set out in ‘Visual Representation of Windfarms: Version 2.2’ (Ref 5-1). In line with NatureScot guidance (Ref 5-1), it is proposed that photomontages will be prepared for viewpoints where they are located within a 20 km radius of the proposed wind turbines.



Table 5-3: Preliminary Representative Viewpoint Locations.

Viewpoint Name	Approx. Grid Ref		Distance to nearest turbine (km)	Receptors represented / Landscape Designation
	Easting	Northing		
VP 1 - Stang Top, YDNP	401833	506749	0.8	Road Users / YDNP
VP 2 - Stang Lane	403224	510740	3.2	Road Users
VP 3 - Scargill, Chapel Hill	405635	510590	3.1	Road Users, residential
VP 4 - Barningham	408122	510168	3.4	Settlement
VP 5 - Minor Road, Marrick Moor	405621	502095	3.6	Road Users, residential
VP 6 - Barnard Castle, Cricket Ground	405095	516998	9.3	Settlement
VP 7 - Bowes Castle	399223	513498	7.2	Settlement / Bowes Castle RPG
VP 8 - Great Pinseat, YDNP	397005	502707	6.9	Hill walkers / YDNP
VP 9 - Sleightholme Moor Road, YDNP	392905	507493	9.7	Road users / YDNP, NPNL
VP 10 - A66, Mainsgill Farm	415510	508700	9.4	Road users
VP 11 - Wether Hill, Roman Road, YDNP	388224	487034	24.3	Hill walkers / YDNP
VP 12 - A1(M), Catterick	423794	497195	19.3	Road Users
VP 13 - A1(M), Burtree Interchange, Darlington	426228	518125	22.8	Road Users, Settlement
VP 14 - Nine Standards, Scenic Viewpoint. NPNL	382449	506427	20.2	Hill walkers / YDNP
VP 15 - A66, Bowes Moor, NPNL	390465	512239	13.3	Road Users / NPNL
VP 16 - Minor Road Overlooking Mickleton, NPNL	397706	527032	20.3	Road Users / NPNL
VP 17 - Cogden Moor, YDNP	405232	496859	8.7	Road Users / YDNP
VP 18 - Downholme Moor, YDNP	411723	498850	8.6	Road Users / YDNP

Potential Effects of Visible Aviation Lighting

5.6.23. A key factor in the development of wind turbines greater than 150 m in height is the requirement for them to have visible red, medium intensity (2,000 candela) lights fitted to the hubs, with low intensity lights on the towers, in accordance with Civil Aviation Authority (CAA) guidance (Ref



5-21). The details of the lighting requirements for the Project are currently being defined along with potential mitigation measures. A night-time visual impact assessment and visualisations illustrating wind turbine lighting at night will be prepared for inclusion in the LVIA, including consideration of the Yorkshire Dales Dark Sky Reserve. A hub height ZTV will be used to identify where there would be direct line of sight of the lights from the surrounding area (an initial hub height ZTV has been prepared for the scoping layout, see **Figure 5.5**).

5.6.24. In order to inform this assessment, photographs will be captured from four of the readily accessible viewpoints at dusk (photographs to be taken after the period of civil twilight) and visualisations will be prepared to represent the effects of lighting on these views. The assessment approach and night-time visualisations will be in accordance with NatureScot guidance (Ref 5-22), which recommends a Study Area of 20 km for the assessment of visible aviation lighting. It is proposed that of the initially proposed viewpoints listed in **Table 5-3** that the following four locations be used for night-time visualisations:

- Viewpoint 1 - Stang Top, YDNP;
- Viewpoint 4 – Barningham;
- Viewpoint 6 - Barnard Castle, Cricket Ground; and
- Viewpoint 18 - Downholme Moor, YDNP.

Potential Cumulative Effects

5.6.25. NatureScot's guidance (Ref 5-24) highlights that '*The purpose of a Cumulative Landscape and Visual Impact Assessment (CLVIA) is to describe, visually represent and assess the ways in which a proposed wind farm would have additional impacts when considered with other consented or proposed wind farms. It should identify the significant cumulative impacts arising from the proposed wind farm.*' GLVIA3, p120 (Ref 5-2) also highlights that '*the focus of the cumulative assessment will be on the additional effect of the project in conjunction with other developments of the same type (as for example, in the case of wind farms)*'

5.6.26. In accordance with the aforementioned guidance, the cumulative assessment will focus on the addition of the Project to other wind farm development. However, in line with PINS guidance (Ref 5-26), other forms of major development will also be considered to determine whether or not they could potentially lead to a significant cumulative effect when considering landscape or visual interaction with the Project.

5.6.27. In line with the above, the proposed scope the cumulative search area for the LVIA includes the following search criteria –

- Wind turbine development above 50 m in height to a distance of 45 km from the Project.
- Non-wind national infrastructure developments (NSIP) to a distance of 45 km from the Project.



- Non wind local developments (Major Applications) to a distance of 10 km from the Project.
- 5.6.28. For the LVIA, cumulative plans will be produced showing the locations of cumulative development as identified using the above search criteria. This will include developments that are operational, under construction, consented, or which are at application / scoping stage. In order to take account of any changes to the cumulative situation, a detailed review of the cumulative sites within the area will be carried out during the later stages of the EIA, closer to the application submission date and will take account of consultation feedback from key consultees.
- 5.6.29. **Figure 5.12** illustrates cumulative wind farm development found within the Study Area. There are no existing cumulative windfarms within 20km with the closest (Moor House) at nearly 30km from the Project. Following an initial review of wind turbine development in the Study Area, there are also only 1 consented and 2 applications for wind turbine developments in the Study Area and none within the 30km of the Project. As a result, it is considered that cumulative effects will likely be minimal at worst and it is most likely that key landscape and visual receptors will not experience any significant cumulative effects resulting from the addition of the Project.

Potential Effects Summary

- 5.6.30. Based on the initial assessment above the key sensitivities and potential effects can be summarised as follows:
- potential effects on landscape character, particularly on the host LCAs of County Durham LCA 1 North Pennines and North Yorkshire LCA 33 Gritstone High Plateau;
 - potential effects on the locally designated AHLV which covers part of the Site;
 - potential effects on the national designated YDNP and NPNL due to their close proximity;
 - potential visual effects from principal visual receptors including from key routes (such as the A66, Teesdale Way, Pennine Way and NCN71) and settlements (such as Barningham and Barnard Castle);
 - potential visual effects from residential visual receptors within 2km which includes isolated properties and clusters of rural properties; and
 - visibility of the Project at night due to visible aviation lighting including effects on the Yorkshire Dales DSR.

5.7. Potential Impacts Scoped In

- 5.7.1. A range of potential impacts on landscape and visual receptors have been identified which may occur during construction, operation and maintenance, and decommissioning phases. The impacts that have been scoped into the EIA are outlined in **Table 5-4**.



Table 5-4: Impacts proposed to be scoped into the assessment for Landscape and Visual

Impact	Description	Proposed Approach to Assessment
Construction (and Decommissioning)		
Impact of the construction / decommissioning of the Project on landscape features.	Potential for short-term, temporary physical impacts on landscape features. Arising as a result of the temporary construction activities and temporary structures that comprise the Project.	Physical landscape features within the site area, included in the landscape impact assessment.
Impact of the construction / decommissioning of the Project on landscape character	Potential for short-term, temporary impacts on perceived landscape character. Arising as a result of the temporary construction activities and temporary structures that comprise the Project.	LCAs within 20 km of the Project, included in the landscape impact assessment.
Impact of the construction / decommissioning of the Project on designated landscapes	Potential for short-term, temporary impacts on landscape designations. Arising as a result of the temporary construction activities and temporary structures that comprise the Project.	Landscape Designations with potential for significant effects, as described in the preliminary assessment in Table 5-2 , included in the landscape impact assessment.
Impact of the construction / decommissioning of the Project on visual receptors / views.	Potential for short-term, temporary impacts on visual receptors. Arising as a result of the temporary construction activities and temporary structures that comprise the Project.	Receptors within the LVIA Study Area included in the visual impact assessment. As represented by the identified viewpoints in Table 5-3 or assessed as principal visual.
Operation and Maintenance		
Impact of the operation and maintenance of the Project on landscape fabric	Potential for long-term, permanent physical impacts as a result of the Project on the landscape fabric of the site area.	Physical landscape features within the site area, included in the landscape impact assessment.
Impact of the operation and maintenance of the Project on landscape character	Potential for long-term, reversible impacts as a result of the Project on perceived landscape character of LCAs.	LCAs within 20 km of the Project, included in the landscape impact assessment.
Impact of the operation and maintenance of the	Potential for long-term, reversible impacts as a result of	Landscape Designations with potential for significant effects, as described in the

Impact	Description	Proposed Approach to Assessment
Project on designated landscapes	the Project on landscape designations.	preliminary assessment in Table 5-2 , included in the landscape impact assessment.
Impact (daytime) of the operation and maintenance of the Project on visual receptors / views.	Potential for long-term, reversible impacts as a result of the Project on visual receptors during daylight hours.	Receptors within the LVIA Study Area included in the visual impact assessment. As represented by the identified viewpoints in Table 5-3 or assessed as principal visual.
Impact (night-time) of the operation and maintenance of the Project on visual receptors / views.	Potential for long term, reversible effects on views and visual amenity experienced by people from principal visual receptors and representative viewpoints arising because of visible aviation lights.	Receptors within 20km included in the assessment of visible aviation lighting. Including the four night-time visualisation locations identified in Section 5.6 above.
Cumulative		
Cumulative effect of the operation and maintenance of the Project on landscape character, landscape designations and views / visual receptors.	Potential for long term, reversible cumulative effects on perceived landscape character of LCAs, designated landscapes, and views/visual amenity experienced by people.	Included in cumulative landscape and visual impact assessment. Including operational, under construction, consented, or application stage wind turbines greater than 50 m to blade tip.

5.8. Impacts Proposed to be Scoped Out

- 5.8.1. Based on the baseline environment information currently available and the Project description (outlined in **Chapter 2: Project Description**) a number of impacts are proposed to be scoped out of the EIA for Landscape and Visual. The impacts are outlined in **Table 5-5**, together with a justification for scoping them out.

Table 5-5: Impacts proposed to be scoped out of assessment for Landscape and Visual

Impact	Justification for Scoping Out
Construction	
Short term, temporary impact of the construction / decommissioning of the Project on landscape features outside of the site area.	Landscape outside the site area not physically affected by the Project.
Short term, temporary impact of the construction / decommissioning of the	LCAs beyond 20km are shown on the scoping ZTVs to have distant, limited or no



Impact	Justification for Scoping Out
Project on landscape character LCAs beyond 20km.	visibility and therefore do not have the potential for likely significant visual effects.
Short term, temporary impact of the construction / decommissioning of the Project on designated landscapes described in Table 5-2 as having no potential for significant effects.	Justification for each designated landscape is provided in Table 5-2 .
Short term, temporary impact of the construction / decommissioning of the Project on visual receptors / views with limited or no visibility.	Visual receptors / views with limited or no visibility do not have the potential for significant visual effects.
Operation and Maintenance	
Potential for long-term, reversible impacts of the operation and maintenance of the Project on landscape fabric outside of the site area.	Landscape outside the site area not physically affected by the Project.
Potential for long-term, reversible impacts of the operation and maintenance of the Project on landscape character LCAs beyond 20km.	LCAs beyond 20km are shown on the scoping ZTVs to have distant, limited or no visibility and therefore do not have the potential for significant visual effects.
Potential for long-term, reversible impacts of the operation and maintenance of the Project on designated landscapes described in Table 5-2 as having no potential for significant effects.	Justification for each designated landscape is provided in Table 5-2 .
Potential for long-term, reversible impacts (daytime) of the operation and maintenance of the Project on visual receptors / views with limited or no visibility.	Visual receptors / views with limited or no visibility do not have the potential for significant visual effects.
Potential for long-term, reversible impacts (night-time) of the operation and maintenance of the Project on visual receptors / views beyond 20km.	Potential significant effects of visible aviation lighting are considered unlikely beyond 20km, in line with NatureScot guidance.
Cumulative	
Cumulative effects that may arise as a result of cumulative wind farm development below 50m. Non wind local developments (Major Applications) beyond 10km from the Project.	No potential for significant cumulative effects due to a predicted lack of cumulative interaction and / or influence.

5.9. Further Consideration for Consultees

5.9.1. The following questions are provided to help frame consultee comments on the Scoping Report for landscape and visual:

- Q6.1: Do consultees have any comments on the proposed approach and methodology?



- Q6.2: Do consultees agree with the proposed 45km LVIA Study Area?
- Q6.3: Do consultees agree that the assessment of the effects on landscape character receptors (except landscape planning designations) should focus on areas within a 20 km radius of the proposed wind turbines?
- Q6.4: Do consultees agree with the proposal to scope out the Landscape Planning Designations where no further assessment is proposed for the LVIA, as set out in **Table 5-2**?
- Q6.5: Do consultees have any comments or suggestions in relation to the Preliminary Representative Viewpoint Locations shown in **Table 5-3** and illustrated on **Figures 5.2 - 5.5**?
- Q6.6: Do consultees have any further comments or suggestions relating to the cumulative assessment or the preliminary cumulative sites shown on **Figure 5.11**?

5.10. References

- Ref 5-1 NatureScot (2017). *Visual Representation of Wind Farms, Version 2.2*. Available at: <https://www.nature.scot/doc/visual-representation-wind-farms-guidance> [Accessed March 2026].
- Ref 5-2 Landscape Institute and Institute of Environmental Management and Assessment (2013). *Guidelines for Landscape and Visual Impact Assessment: Third Edition*. Available at: <https://www.landscapeinstitute.org/publication/guidelines-for-landscape-and-visual-impact-assessment-3rd-edition/> [Accessed March 2026].
- Ref 5-3 UK Government (1949). *National Parks and Access to the Countryside Act 1949*. Available at: <https://www.legislation.gov.uk/ukpga/1949/97/contents> [Accessed March 2026].
- Ref 5-4 UK Government (2000). *Countryside and Rights of Way Act 2000*. Available at: <https://www.legislation.gov.uk/ukpga/2000/37/contents> [Accessed March 2026].
- Ref 5-5 UK Government (1995). *Environment Act 1995*. Available at: <https://www.legislation.gov.uk/ukpga/1995/25/contents> [Accessed March 2026].
- Ref 5-6 Council of Europe. *European Landscape Convention* (entered into force in the UK, 2007). Available at: <https://www.coe.int/en/web/landscape/the-european-landscape-convention> [Accessed March 2026].
- Ref 5-7 UK Government (2025). *Overarching National Policy Statement for Energy (EN-1)*. Available at: <https://www.gov.uk/government/publications/overarching-national-policy-statement-for-energy-en-1-2025/overarching-national-policy-statement-for-energy-en-1-2025-accessible-webpage> [Accessed March 2026].



- Ref 5-8 UK Government (2025). *National Policy Statement for Renewable Energy Infrastructure (EN-3)*. Available at: <https://www.gov.uk/government/publications/national-policy-statement-for-renewable-energy-infrastructure-en-3-2025> [Accessed March 2026].
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- Ref 5-11 North York Moors National Park Authority (2020). *North York Moors Local Plan*. Available at: <https://www.northyorkmoors.org.uk/planning/policy/local-plan> [Accessed March 2026].
- Ref 5-12 Durham County Council (2020). *County Durham Plan (Adopted 2020)*. Available at: <https://durham.gov.uk/media/34069/County-Durham-Plan-adopted-2020-/pdf/CountyDurhamPlanAdopted2020vDec2020.pdf> [Accessed March 2026].
- Ref 5-13 Durham County Council (emerging). *Emerging County Durham Plan*. Available at: <https://www.durham.gov.uk/cdp> [Accessed March 2026].
- Ref 5-14 North Yorkshire Council (2025). *North Yorkshire Local Plan: Our First Consultation*. Available at: <https://edemocracy.northyorks.gov.uk/documents/s52420/Appendix%201%20North%20Yorkshire%20Council%20First%20Conversation%20consultation.pdf> [Accessed March 2026].
- Ref 5-15 Richmondshire District Council (2014). *Richmondshire Local Plan 2012 – 2028 Core Strategy*. Available at: <https://www.richmondshire.gov.uk/media/5219/core-strategy-2012-28.pdf> [Accessed March 2026].
- Ref 5-16 Landscape Institute (2024). *Technical Guidance Note LITGN – 2024-01: Notes and Clarifications on Aspects of the 3rd Edition Guidelines on Landscape and Visual Impact Assessment (GLVIA3)*. Available at: https://www.landscapeinstitute.org/wp-content/uploads/2024/08/LITGN-2024-01-GLVIA3-NC_Aug-2024.pdf [Accessed March 2026].
- Ref 5-17 Landscape Institute (2019). *Residential Visual Amenity Assessment (Technical Guidance Note 02/19)*. Available at: <https://www.landscapeinstitute.org/technical-resource/rvaa/> [Accessed March 2026].



- Ref 5-18 Landscape Institute (2021). *Assessing landscape value outside of national designations (Technical Guidance Note 02/21)*. Available at: <https://www.landscapeinstitute.org/publication/tgn-02-21-assessing-landscape-value-outside-national-designations/> [Accessed March 2026].
- Ref 5-19 Landscape Institute (2019). *Visual Representation of Development Proposals (Technical Guidance Note 06/19)*. Available at: <https://www.landscapeinstitute.org/visualisation/> [Accessed March 2026].
- Ref 5-20 Christine Tudor, Natural England (2nd version March 2018). *An Approach to Landscape Character Assessment*. Available at: <https://assets.publishing.service.gov.uk/media/5aabd31340f0b64ab4b7576e/landscape-character-assessment.pdf> [Accessed March 2026].
- Ref 5-21 Civil Aviation Authority (2016) *CAP 764: Policy and Guidelines on Wind Turbines*. Available at: <https://www.caa.co.uk/our-work/publications/documents/content/cap-764/> [Accessed March 2026].
- Ref 5-22 NatureScot (2024). *Guidance on Aviation Lighting Impact Assessment*. Available at: <https://www.nature.scot/doc/guidance-aviation-lighting-impact-assessment> [Accessed March 2026].
- Ref 5-23 NatureScot (2025). *Guidance for Assessing the Effects on Special Landscape Qualities*. Available at: <https://www.nature.scot/doc/special-landscape-qualities-effects-assessment-slq-consultation> [Accessed March 2026].
- Ref 5-24 NatureScot (2021). *Assessing the Cumulative Impact of Onshore Wind Energy Developments*. Available at: <https://www.nature.scot/doc/guidance-assessing-cumulative-landscape-and-visual-impact-onshore-wind-energy-developments> [Accessed March 2026].
- Ref 5-25 NatureScot (2017) *Siting and Designing Wind Farms in the Landscape Version 3a*. Available at: <https://www.nature.scot/doc/siting-and-designing-wind-farms-landscape-version-3a> [Accessed March 2026].
- Ref 5-26 Planning Inspectorate (2024). *Nationally Significant Infrastructure Projects: Advice on Cumulative Effects Assessment*. Available at: <https://www.gov.uk/guidance/nationally-significant-infrastructure-projects-advice-on-cumulative-effects-assessment> [Accessed March 2026].
- Ref 5-27 Durham County Council (2008). *The County Durham Landscape Character Assessment*. Available at: <https://durhamlandscape.info/durham-landscape/the-landscape-character-assessment/> [Accessed March 2026].



- Ref 5-28 Chris Blandford Associates (2011). *North Yorkshire and York Landscape Characterisation Project*. Available at: <https://www.northyorks.gov.uk/environment-and-neighbourhoods/conservation/describing-and-understanding-our-landscape> [Accessed March 2026].
- Ref 5-29 Yorkshire Dales National Park Authority (2025). *Yorkshire Dales National Park Management Plan 2025-2030*. Available at: <https://www.yorkshiredales.org.uk/wp-content/uploads/sites/13/2025/12/Yorkshire-Dales-National-Park-Management-Plan-2025-2030-v4.pdf>. [Accessed March 2026].
- Ref 5-30 North Pennines National Landscape Partnership (2026). *Draft North Pennine National Landscape (AONB) Management Plan 2026-2031*. Available at: https://northpennines.org.uk/what_we_do/about-us/management-plan/ [Accessed March 2026].



6. Archaeology and Cultural Heritage

6.1. Introduction

6.1.1. This chapter of the Scoping Report sets out the baseline, the proposed scope and methodological approach for the cultural heritage chapter (including both archaeological remains and built heritage assets) of the Environmental Statement (ES). The chapter will assess the potential effects resulting from the construction, operation and maintenance and decommissioning of the Project on archaeology and cultural heritage assets, which include:

- World Heritage Sites;
- Scheduled Monuments;
- Listed Buildings;
- Registered Parks and Gardens;
- Registered Battlefields;
- Conservation Areas; and
- non-designated heritage assets, such as locally and regionally important heritage features.

6.1.2. The cultural heritage impact assessment will:

- identify cultural heritage assets that may be subject to significant effects, both within the Site and within defined Study Areas;
- establish the potential for currently unknown archaeological assets to survive as buried remains within the Site;
- assess the predicted effects on these assets; and
- propose a programme of mitigation where required, opportunities for enhancement where appropriate.

6.1.3. The assessment will consider direct effects (such as physical disturbance), indirect effects (such as changes in water draining patterns or vibrations which can indirectly affect the preservation of heritage materials), setting impacts (such as changes in the surrounding landscape that may alter the cultural significance of an asset) and cumulative effects (where assets affected by the Project are also likely to be affected by other unrelated development proposals).

6.1.4. Details of the construction, operation and maintenance, and decommissioning of the Project are set out in **Chapter 2: Project Description**.

6.1.5. There are interrelationships between the potential effects on archaeology and cultural heritage and other environmental topics. Therefore, this chapter should be read alongside the following chapter of this Scoping Report:

- **Chapter 5: Landscape and Visual**



6.1.6. This chapter is supported by the following Figures (provided in **Volume A**) and Appendices (provided in **Volume B**):

- Figures
 - **Figure 6.1:** Designated Heritage Assets
 - **Figure 6.2:** Non-designated Heritage Assets
- Appendices
 - **Appendix 6A:** Recorded Heritage Assets within the Site boundary
 - **Appendix 6B:** Heritage Appraisal Table

6.2. Study Area

6.2.1. For the cultural heritage assessment, a Study Area (**Figure 6.1**) of up to 10 km from the proposed wind turbine locations has been defined, which for the purposes of Scoping, has been informed by the indicative Site layout presented in **Figure 2.2**.

6.2.2. There is no guidance defining what the extent of an appropriate 'study area' should be for the cultural heritage assessment of wind farms, however experience shown in similar landscapes across the UK determines that a 10 km Study Area would be appropriate for the Project. The proposed Study Area, therefore, represents an exercise in professional judgement, projects of similar scale, using the Zone of Theoretical Visibility (ZTV) and the scale of the development, and will be refined to a point of agreement between stakeholders during consultation. Guidance on the use of preliminary ZTV studies, as well as the selection of viewpoints and preparation of visualisations, has been informed by NatureScot's published standards for visualisation good practice (Ref 6-1) and by the principles set out in Historic England's (HE) GPA3: The Setting of Heritage Assets (Ref 6-2), particularly its advice on understanding views and intervisibility within setting assessments.

6.2.3. Assets recorded within the Site and 1 km of the draft Order Limits will be analysed to inform the archaeological potential of the Site. The 1 km buffer from the draft Order Limits is not considered a Study Area but a parameter used to inform a model of predictability. For the purposes of Scoping, assets within the Scoping Boundary and 1 km of it have been identified to inform the archaeology and cultural heritage Scoping assessment.

6.2.4. The Project will continue to evolve through the EIA process as further design, assessment and consultation are undertaken. As the Scoping Boundary is refined, the Study Area for the EIA will be updated accordingly and defined with reference to the draft Order Limits.



6.3. Baseline Environment

Overview of Available Data Sources

- 6.3.1. The sources to be consulted in the production of the archaeology and cultural heritage ES chapter include, but are not limited to, those outlined in **Table 6-1**.

Table 6-1: Key sources of information for Archaeology and Cultural Heritage

Subject	Summary	Source
Designated cultural heritage assets	Data available from the database of Historic England (HE)	HE digital data download from the National Heritage List for England
Non-designated cultural heritage assets (local Historic Environment Record (HER))	HER data held by Durham County Council, North Yorkshire Council and Yorkshire Dales National Park Authority	Digital data purchased from relevant councils as downloads
Historic Mapping	Historic Ordnance Survey maps, relevant estate and tithe maps where available.	National Library of Scotland website; local records office
Unpublished reports	Grey literature, academic articles	Online; Archaeology Data Service, information from the Client
Published works of synthesis	Published sources that combine and interpret information from multiple primary or secondary materials to create an integrated overview or broad understanding of a topic	Online; libraries
Aerial Photography	HE	Aerial Photo Explorer (online)
Historic Landscape Characterisation	HE, local councils	HE or local council digital data download
LiDAR	Publicly available LiDAR data obtained from the Environment Agency National LiDAR Programme	Digital data download/Environment Agency website

Overview of Baseline Environment

Assets within the Site

- 6.3.2. There is one designated asset within the Site, comprising a Scheduled Monument, NHLE 1017427 Cairn near the summit of a low ridge, 850m south west of Cocker Stake Nook, Hope Moor.

- 6.3.3. The monument comprises a cairn located on Hope Moor, c.0.24km to the south-west of T10, measuring c.9m in diameter and 0.3m in height. The cairn is mostly grass-covered, though a central cluster of exposed stones marks the location of a cist¹. The cist measures 2.3 metres long, 1.4 metres wide, and up to 0.4 metres high, with stonework surviving up to three courses around a central void. Further Scheduled Monuments of a similar date and form extend beyond the Site to the north, forming part of a shared prehistoric monumental landscape comprised primarily of cairns, barrows and carved stones.
- 6.3.4. There are a further 61 non-designated assets within the Site. These assets are primarily related to the post-medieval industrial mining landscape of the 18th and 19th centuries, comprising mines, quarries and lead workings. The prehistoric period is also strongly represented within the HER, primarily concentrated within the northern section of the Site and along the course of Arndale Beck within the centre. These assets are largely comprised of cairns, cists and cup-marked stones.
- 6.3.5. Find spots representative of flint working are also recorded throughout the Site. It is assumed that individual finds recorded at these locations have been removed and were unlikely to have been within a secure context when identified.
- 6.3.6. All heritage assets within the Site are presented in **Appendix 6A**.

6.4. Proposed Approach to the Environmental Impact Assessment

Relevant Policy, Legislation and Relevant Guidance

- 6.4.1. The following legislation, policy and guidance are relevant to the consideration of the potential effects of the Project on archaeological and cultural heritage receptors. This list is not exhaustive, and other documents may be referred to as appropriate:
- Legislation
 - Planning (Listed Buildings and Conservation Areas) Act 1990 (Ref 6-3)
 - Ancient Monuments and Archaeological Areas Act 1979 (Ref 6-4)
 - National Policy
 - National Planning Policy Framework (NPPF) (Ref 6-5)
 - Planning Practice Guidance (PPG) (Ref 6-6)
 - National Policy Statements (NPS):

¹ A cist is a small, usually stone built box-like structure, often capped with a stone. It would have contained a burial (either inhumation or cremated remains) and are commonly associated with the Bronze Age, but there are examples from the Neolithic and into the early historic periods.



- Overarching National Policy Statement for Energy (EN-1) (Ref 6-7)
- National Policy Statement for Renewable Energy Infrastructure (EN-3) (Ref 6-8)
- Local Policy
 - County Durham Plan (Adopted 2020) (Ref 6-9). Relevant policies may include:
 - Policy 34: Wind Turbine Development; and
 - Policy 44: Historic Environment.
 - Emerging County Durham Plan (Ref 6-10)
 - Emerging North Yorkshire Council Local Plan (Ref 6-11)
 - Richmondshire Local Plan 2012-2028: Core Strategy (Adopted 2014) (Ref 6-12). Relevant policies may include:
 - Core Policy CP12: Conserving and Enhancing Environmental and Historic Assets.
- Guidance
 - Historic England Guidance:
 - GPA1: Understanding Place – Historic Area Assessments (Ref 6-13)
 - GPA2: Managing Significance in Decision-Taking in the Historic Environment (Ref 6-14)
 - GPA3: The Setting of Heritage Assets (Ref 6-15)
 - Conservation Principles, Policies and Guidance (Ref 6-16);
 - Advice Note 12, Statements of Heritage Significance (Ref 6-17); and
 - Commercial Renewable Energy Development and the Historic Environment (Ref 6-18)
 - Chartered Institute for Archaeologists (CIfA):
 - Standard and Guidance for Historic Environment Desk-Based Assessment (Ref 6-19);
 - IEMA, IHBC and CIfA: Principles of Cultural Heritage Impact Assessment in the UK (Ref 6-20).

Proposed Approach

- 6.4.2. Whilst **Chapter 3: Approach to EIA** provides an indicative EIA assessment method, it also identifies that assessment methodologies may differ in accordance with the prevailing technical area guidance. As such the following the sections provide a description of the assessment criteria and assessment methodologies of relevance to archaeology and cultural heritage, which are derived from best practice guidance and methods



applicable to this topic, and differ from those presented in the broader methodology chapter.

Scope of the Assessment

- 6.4.3. All nationally significant designated assets from the National Heritage List for England (NHLE) and the websites of the local authorities which provide details on the location and extent of conservation areas within the 10km Study Area will be subject to an initial setting assessment in order to determine any potential impacts (**Appendix 6B**). A final scope of assets that have the potential for significant effects as a result of the Project will be agreed with the relevant consultees and assessed in full within the ES.
- 6.4.4. In the absence of specific prescribed criteria for the assessment of impacts on built heritage², the methodology for establishing the relative value or importance of heritage assets ('heritage significance'), the magnitude of impact, and the level and significance of effect is drawn from the Design Manual for Roads and Bridges (DMRB) (Ref 6-21) and Principles of Cultural Heritage Impact Assessment in the UK (Ref 6-20). The details of the methodology will be agreed with Historic England, the Conservation Officers at Durham County Council, North Yorkshire Council, and the Yorkshire Dales National Park Authority.
- 6.4.5. The assessment of likely significant effects to sensitive receptors will consider the sensitivity of the receptor (henceforth referred to as cultural heritage significance) (on a scale of high, medium, low and negligible), as outlined in **Table 6-2** and the magnitude of change (on a scale of large, medium, small and negligible) as outlined in **Table 6-3** to determine the level of effect on a scale of major, moderate, minor and negligible, as outlined in **Table 6-4**. Significant effects will be determined following this through professional judgment, informed by an understanding of the heritage significance (sensitivity to change) of these assets and having regard to the DMRB (which advises that the effect on the cultural heritage resource is not significant when the impact does not substantially diminish the heritage interest of the cultural heritage resource).
- 6.4.6. Non-designated assets within the 1 km of the Site will be identified from the HER records of Durham County Council, North Yorkshire Council and Yorkshire Dales National Park Authority.
- 6.4.7. A final scope of assets that have the potential for significant effects as a result of the Project will be agreed with the relevant consultees and assessed in full within the ES.

² There is currently no universally agreed methodology for assessing the impact of development on heritage assets within an Environmental Statement. Historic England, for example, has not issued specific guidance for this purpose. The approach adopted here is widely accepted within the sector. While the referenced guidance originates from infrastructure projects such as roads and bridges, the principles it sets out for evaluating impacts on heritage assets are applicable to other forms of development, including wind farms. This includes the *Design Manual for Roads and Bridges (DMRB)* and *Principles of Cultural Heritage Impact Assessment in the UK* (July 2021)



Consultation

- 6.4.8. Based on the results of the baseline study, constraint mapping utilising GIS software identifies mapped designated heritage assets in relation to a ZTV (**Figure 6.1**). This filters out those assets that do not require further assessment as the Project progresses, as detailed in **Appendix 6B**. This is because either the asset, its approach or point of appreciation has no intervisibility with the Project; the setting of the asset does not contribute to its cultural significance; or it is not anticipated that the Project will change the setting of the asset to such an extent so as to cause harm to the ability to appreciate it. The figures and appraisal are provided to identify and agree on the most potentially sensitive assets, which may then require computer-generated visualisations to be produced as part of their assessment. Consultees (including HE, Durham County Council, North Yorkshire Council and the Yorkshire Dales National Park Authority) are invited to confirm they are agreeable to the current scope of assets to be assessed in the ES.
- 6.4.9. Additional follow up consultation, post-scoping, will be undertaken as required with HE and the local authorities to agree on the scope of assessment for the final design layout of the Project.

Zone of Theoretical Visibility

- 6.4.10. The setting impact assessment will be assisted by the ZTV³ as presented on **Figure 6.1**. The ZTV is based upon the maximum level of theoretical visibility, i.e. the maximum height of the wind turbine blade tips. Guidance on the use of preliminary ZTV studies, as well as the selection of viewpoints and preparation of visualisations, has been informed by NatureScot's published standards for visualisation good practice (Ref 6-1) and by the principles set out in Historic England's GPA3: The Setting of Heritage Assets (Ref 6-2), particularly its advice on understanding views and intervisibility within setting assessments

Assessment and Types of Impact

- 6.4.11. Impacts have the potential to be caused by the Project where it changes the baseline condition of either the asset itself or its setting; it being noted that change does not necessarily result in a negative impact.
- 6.4.12. A core area, which includes all land within the Site, will be subject to assessment for potential direct physical effects. This Study Area will be subject to a detailed walkover survey and archaeological remains that may be directly or indirectly impacted by the Project will be identified. In addition, a wider 1 km Study Area will be used to identify all known heritage assets and known previous archaeological interventions, to help inform the archaeological potential for unknown remains to be present within the Site.

³ A ZTV shows the predicted degree of visibility of a Project from all points within a proportionate, defined study area around the site, as would be seen from an average observer's eye level (2m above ground level)



- 6.4.13. The qualitative assessment will be carried out in accordance with: EN 1 Section 5.9: Historic Environment (Ref 6-7); Section 16 of the NPPF (Ref 6-5); Conservation Principles: Policies & Guidance (Ref 6-16); Historic Environment Good Practice Advice in Planning Note 2 - Managing Significance in Decision-Taking in the Historic Environment (Ref 6-14) and best practice documents and guidance published by the Chartered Institute for Archaeologists (CIfA) (Ref 6-19; Ref 6-20).
- 6.4.14. The assessment of likely significant effects to sensitive receptors will consider the sensitivity of the receptor (on a scale of high, medium, low and negligible) and the magnitude of impact (on a scale of large, medium, small and negligible) to determine the level of effect on a scale of major, moderate, minor and negligible. Significant effects will be determined following this through professional judgment.
- 6.4.15. The definition of impact is described below:
- Direct impacts (physical) occur where the physical fabric of the asset is removed or damaged, or where it is preserved or conserved, as a direct result of the Project. Such impacts would most likely occur during the construction phase and would most likely be permanent.
 - Indirect (physical) impacts are those which would affect the heritage significance of an asset by causing change to its fabric indirectly, such as increased changes in water draining patterns which could indirectly affect the preservation of heritage materials.
 - Setting impacts could result from the Project causing change within the setting of a heritage asset and subsequently affecting its cultural significance or the way in which it is appreciated. Such impacts are generally, but not exclusively, visual, occurring directly as a result of the appearance of the Project in the surroundings of the asset. Setting impacts may also relate to other senses or factors, such as noise, odour or emissions, or historical relationships that do not relate entirely to intervisibility, such as historic patterns of land-use and related historic features. Such impacts may occur at any stage of a Project's lifespan and may be permanent, reversible, or temporary, however setting impacts are generally considered as an effect of the operation of the wind farm array.
 - Cumulative impacts: can relate to the physical fabric or setting of assets. They may arise as a result of impact interactions, either of different impacts of the Project itself, or additional impacts resulting from incremental changes caused by the Project together with other projects that fall within the scope of the cumulative assessment area.
- 6.4.16. Impacts upon non designated heritage assets and unknown buried remains are generally considered an effect of construction.
- 6.4.17. Assessment will be undertaken separately for direct physical impact, indirect impact and direct setting impacts and will consider the level of their heritage significance (where known) and the magnitude (extent) of the identified impacts.



Cumulative Effects

- 6.4.18. The approach to the assessment of cumulative effects will be undertaken in accordance with the methodology outlined in **Chapter 3: Approach to EIA**. All developments considered as part of the cumulative assessment will be listed in full within the cultural heritage chapter of the ES.
- 6.4.19. For the purposes of the assessment of cumulative effects for archaeology and cultural heritage, assets with a moderate or higher significance of effect resulting from the Project in isolation will be considered for cumulative assessment, as these assets are most likely to be susceptible to significant cumulative effects.

Cultural Heritage Significance

- 6.4.20. The categories of cultural heritage significance to be referred to are presented in **Table 6-2**, which will act as an aid to consistency and provide a degree of transparency for others in evaluating the conclusions drawn.
- 6.4.21. The significance categories consider factors such as designation, status and grading. For non-designated assets, consideration will be given to their inherent heritage interests, evidential value, historical value (includes associative aspects), aesthetic value, and communal value. In relation to these assets, the assessment will consider their ability to contribute to an understanding of the past; their structural, decorative and field characteristics; their contribution to their monument class; and their associations with people, practices, events or historical and social movements. Assessments of the cultural significance of specific assets, where recorded within the HER, will be considered where appropriate.

Table 6-2: Cultural Heritage Significance

Cultural Heritage Significance	Example
Very High	World Heritage Sites; assets of international importance.
High	Scheduled Monuments; Grade I and II* Listed Buildings; Registered Parks and Gardens (Grade I); Conservation Areas of national importance; non-designated assets of demonstrable national importance.
Medium	Grade II Listed Buildings; Registered Battlefields; Registered Parks and Gardens (Grade II); Conservation Areas of regional/local importance; non-designated assets of regional or local importance.
Low	Assets of limited heritage interest; heavily altered or poorly preserved assets with limited contextual value.
Negligible	Assets with little or no heritage interest; assets whose significance has been lost or severely compromised.
Unknown	Assets where significance cannot be determined without further investigation.

- 6.4.22. In addition to identifying the cultural significance of a heritage asset, it is essential, where changes to setting are being assessed, to understand the contribution that setting makes towards the cultural significance of an asset. Elements of setting may make a positive, neutral, or negative contribution to the cultural significance of an asset. Therefore, in determining the nature and level of impact upon an asset and its setting by the Project, the contribution that setting makes to an asset's cultural significance and therefore its sensitivity to changes to its setting need to be considered.
- 6.4.23. This approach reflects national policy, as outlined in **Section 6.4**, which requires that change should avoid or minimise harm to the significance of a heritage asset, including any contribution made by its setting. It recognises that setting contributes to the understanding, appreciation, and ability to experience the significance of an asset, but that the extent and importance of this contribution can vary between assets. While some heritage assets derive a key part of their significance from their setting, others, even those of high or very high significance, may be less sensitive to changes within their wider surroundings.
- 6.4.24. The determination of an asset's relative sensitivity to changes to its setting is first and foremost reliant upon the determination of its setting and how setting aligns with other key characteristics which contribute to cultural significance. While cultural significance is defined by the criteria set out in **Table 6-2**, the sensitivity of setting criteria for each asset will be defined using professional judgement and, where appropriate, by a Site visit conducted by the assessor. The resulting sensitivity of setting will then be defined and referenced within the assessment to determine whether the resulting effects are in line with policy.

Magnitude of Impact

- 6.4.25. Determining the magnitude of impact includes consideration of the nature of the activities proposed during the construction, operational and decommissioning phases of the Project. Activities could potentially include ground disturbance, and result in visual change, as well as noise, vibration, smell, dust, traffic movements etc. which could result in changes to setting.
- 6.4.26. Considering all embedded mitigation measures, which will be developed throughout the design process, the magnitude of impact will be assessed with reference to the criteria set out in **Table 6-3**.

Table 6-3: Magnitude of Impact

Magnitude of Impact	Explanatory Criteria
High Beneficial	The Project would considerably enhance the cultural heritage significance of the affected asset, or the ability to understand, appreciate and experience the contributing factors to significance in line with GPA3.

Magnitude of Impact	Explanatory Criteria
Medium Beneficial	The Project would enhance, to a clearly discernible extent, the cultural heritage significance of the affected asset, or the ability to understand, appreciate and experience it.
Low Beneficial	The Project would enhance, to a minor extent, the cultural heritage significance of the affected asset, or the ability to understand, appreciate and experience it.
Very Low Beneficial	The Project would enhance, to a very minor extent, the cultural heritage significance of the affected asset, or the ability to understand, appreciate, and experience it.
Neutral/None	The Project would not affect the cultural heritage significance of the affected asset, or the ability to understand, appreciate and experience it.
Very Low Adverse	The Project would erode, to a very minor extent, the cultural heritage significance of the affected asset, or the ability to understand, appreciate and experience it. This level of setting impact would not be considered to substantially harm the cultural significance of the asset.
Low Adverse	The Project would erode, to a minor extent, the cultural heritage significance of the affected asset, or the ability to understand, appreciate and experience it. This level of indirect impact would rarely be considered to substantially harm the cultural significance of the asset.
Medium Adverse	The Project would erode, to a clearly discernible extent, the cultural heritage significance of the affected asset, or the ability to understand, appreciate and experience it. This level of indirect impact might be considered to substantially harm the cultural significance of the asset.
High Adverse	The Project would considerably erode the cultural heritage significance of the affected asset, or the ability to understand, appreciate and experience it. This level of indirect impact would probably be considered to substantially harm the cultural significance of the asset.

Significance of Effect

6.4.27. **Table 6-4** provides a matrix that relates the cultural significance of the asset to the magnitude of impact on its cultural significance, to produce an overall anticipated level of effect (significance of effect). Effects may be beneficial or adverse, and may be short term, long term or permanent.

Table 6-4: Significance of Effect

Magnitude of Impact	Cultural Significance (Excluding Unknown)				
	Highest	High	Medium	Low	Negligible
High beneficial	Major	Major	Moderate	Minor	Very Minor
Medium beneficial	Major	Moderate	Minor	Very Minor	Negligible
Low beneficial	Moderate	Minor	Very Minor	Very Minor	Negligible
Very low beneficial	Minor	Very Minor	Negligible	Negligible	Negligible
Neutral / None	Neutral/Nil	Neutral/Nil	Neutral/Nil	Neutral/Nil	Neutral/Nil
Very low adverse	Minor	Very Minor	Negligible	Negligible	Negligible
Low adverse	Moderate	Minor	Very Minor	Very Minor	Negligible
Medium adverse	Major	Moderate	Minor	Very Minor	Negligible
High adverse	Major	Major	Moderate	Minor	Very Minor

6.4.28. Once the anticipated effects of the Project upon cultural heritage assets are defined, professional judgement will be used to determine whether those effects would be determined to be either 'significant' or 'not significant' for the purposes of the Environmental Impact Assessment (EIA). As part of this determination process, regard will be given to any relevant guidance.

6.4.29. In line with the NPPF (Ref 6-5), Historic England has emphasised that harm to the significance of a designated heritage asset, whether substantial or less than substantial, must be clearly identified and addressed in the planning process, and that even low levels of change to setting may constitute harm where they affect the ability to understand, appreciate or experience an asset's cultural significance. Accordingly, the assessment will articulate effects both in EIA terms and, where relevant, in NPPF terms of heritage harm.

6.4.30. With reference to the matrix presented in **Table 6-4** Table 6-6:

- any effects identified as 'Substantial Harm', as outlined within the NPPF, would likely be considered 'significant in EIA terms;'
- any effects identified as 'Less than Substantial Harm' may also be considered 'significant' in EIA terms, recognising that even limited change or a "minor" effect can nevertheless constitute harm requiring consideration and balancing; the determination of EIA significance will therefore be informed by professional judgement, taking into account asset-specific circumstances and the contribution of setting to cultural significance; and any effects identified as 'No Harm' are unlikely to be



considered ‘significant,’ though again, professional judgement will be exercised.

- 6.4.31. A clear statement will be made in relation to all affected assets as to whether the identified effects upon them are considered to be ‘significant’ or ‘not significant’ for purposes of EIA and ‘Substantial Harm’ or ‘Less than Substantial Harm’ as per the NPPF (Ref 6-5).

Further Baseline Data

Desk Study

- 6.4.32. The ES chapter will include a desk-based study, based on the sources and methodology outlined above, and complimented by field surveys.

Planned Surveys

- 6.4.33. A targeted Site inspection will be carried out in relation to all recorded assets within the Site; the aim of this would be to establish the condition of any recorded assets and identify the potential for any additional presently unrecorded assets. Where areas are deemed unsafe for on-foot surveyors, an unmanned aerial vehicle (UAV) may be mobilised to assure these areas have been adequately assessed. Any use of an UAV will be carried out by an experienced and licenced UAV pilot under CAA (Civil Aviation Authority) guidelines and airspace regulations. This approach may be necessary based on the presence of mining shafts and shake holes within the Site, which would be a health and safety issue for surveyors.
- 6.4.34. Targeted field inspection of assets scoped in for further assessment due to potential impacts from changes to their setting as a result of the Project will also be undertaken following a desk-based comparison of asset mapping with ZTV and satellite imagery. This survey will inspect any designated heritage assets through an in-field settings assessment.

6.5. Design, Mitigation and Enhancement Measures

- 6.5.1. As part of the early design process for the Project, several embedded and standard mitigation measures are proposed to reduce the potential for impacts on archaeological and cultural heritage receptors. These are presented below. It is expected that these may evolve throughout the design evolution of the Project as the EIA progresses and in response to consultation.
- 6.5.2. The Applicant is committed to implementing these measures, and various standard sectoral practices and procedures. It is therefore considered that these measures are inherently part of the design and have been considered in the judgements as to which impacts can be scoped in / out of assessment presented in **Section 5.7** and **Section 6.7**.
- 6.5.3. As the Project progresses, opportunities for enhancement to archaeology and cultural heritage, including through the form of public benefit, will be



considered in line with relevant guidance^{4,5}, with any measures identified would be defined in the ES.

- 6.5.4. Suitable measures for minimising impacts through ground disturbance might include:
- The micro-siting of Project infrastructure, with due consideration for wider site constraints and engineering practicalities, away from sensitive locations;
 - The fencing off or marking out of heritage assets or features in proximity to construction activity to avoid disturbance where possible;
 - A programme of archaeological work where required, such as an archaeological watching brief during construction activities in or in proximity to areas of archaeological sensitivity, or excavation and recording where impact is unavoidable; and/or
 - A working protocol to be implemented should unrecorded archaeological features be discovered.
- 6.5.5. Suitable measures for mitigating any setting impacts during the iterative design process might include, but is not limited to, alteration of the proposed wind turbine layout, where technically possible.
- 6.5.6. Additional mitigation measures will be considered where significant effects are anticipated to remain after embedded design measures and standard good practice controls have been applied. If residual impacts persist, proportionate further actions, such as enhancement, remediation or compensation, will be identified to address those remaining effects
- 6.5.7. Further detail on the role of mitigation commitments, as part of a proportionate EIA approach, is provided in **Chapter 3: Approach to EIA**. A full description of the mitigation commitments identified so far is provided in **Appendix 3A: Draft Register of Environmental Actions and Commitments (REAC)**.
- 6.5.8. The requirement for, and feasibility of, any mitigation measures will be subject to consultation with consultees throughout the pre-application phase of the Project.

6.6. Potential Impacts Scoped In

Potential Sources of Direct Physical Impact within the Site

- 6.6.1. A range of potential impacts on archaeological and cultural heritage receptors have been identified which may occur during construction, operation and maintenance, and decommissioning phases. The assets that have been scoped into the EIA based on the potential for direct physical impacts are outlined in **Table 6-6** together with a description of any

⁴ Fredheim, H and Watson S. (2023). *Understanding public benefit from and development-led Archaeology*.

⁵ Mann, B. (2023). *Delivery of Public Benefit and Social Value Guidance for Archaeology in the Planning Process*.



- proposed additional data collection (e.g. site-specific surveys) and/or supporting analyses (e.g. modelling) to enable an assessment of the impact.
- 6.6.2. As stated above, there is one designated heritage asset within the Site. Designated heritage assets are protected by law; therefore, any direct physical impacts should be avoided and will be considered throughout the design process. Should direct physical impacts on designated heritage assets be unavoidable, Scheduled Monument Consent will be required.
- 6.6.3. The 61 non-designated assets recorded within the Site (**Appendix 6A**) have been confirmed via a full commercial HER search. This will be repurchased ahead of the submission of the application, in line with industry best practice. Whilst positioned outside of the current placement of the wind turbines, these known cultural heritage assets may be susceptible to direct impacts or as a result of the construction of the associated infrastructure (e.g. internal access tracks, substation) and any design changes will need to take into consideration the location of these assets to avoid any potential direct impacts on the heritage assets as far as possible. Depending on the nature of the asset, it may be susceptible to changes within its setting from the Project. Those where setting contributes to their cultural significance should be considered regarding any design changes.
- 6.6.4. Furthermore, there is the potential for direct impact on any unrecorded cultural heritage assets within the Site as a result of the construction process. A targeted site walkover, potentially supported by a drone survey, as outlined in **Section 6.4** is proposed, to visit the locations of the proposed wind turbines and other associated infrastructure and inspect for any visible unrecorded assets. The potential for impact on unrecorded cultural heritage assets will be assessed within the chapter.
- 6.6.5. Relevant mitigation measures will be embedded within the design of the Project as design progresses. Potential mitigation is discussed in **Section 6.5** of this Scoping Report chapter.
- 6.6.6. If there are any further ground-breaking works undertaken during operation or decommissioning of the wind farm (e.g., track widening), then there is the potential for further impact on recorded or unrecorded heritage assets. If this is the case, then further mitigation methods may be required.

Potential Sources of Impact outside the Site

- 6.6.7. Direct impacts to an assets setting are most likely to occur as part of the construction and operational phases of development.
- 6.6.8. To provide this preliminary list of assets that will be subject to a detailed assessment, designated assets that are within the scope of assessment and within the 10 km Study Area were subject to an initial appraisal (**Appendix 6B**). No designated heritage assets have been identified with long distance views which form part of their setting, which are considered to contribute to their cultural significance were identified beyond 10 km of the Project.



- 6.6.9. The initial appraisals provided in **Appendix 6B** are intended to create a proportionate scope for the assessment, and each asset will be subject to repeated appraisals throughout the EIA process, subject to changes to the proposed wind turbine layout. Assets that have been scoped in may be scoped out and vice versa, dependent on the final layout and as a result of consultee comments.
- 6.6.10. All designated cultural heritage assets within 10 km of the Scoping Layout, along with the ZTV indicating their visibility of the proposed wind turbines, are depicted on **Figure 6.1**.
- 6.6.11. Following the initial appraisal of assets set out in **Appendix 6B**, 70 designated cultural heritage assets have been identified as requiring a detailed settings assessment within the ES, as there is the potential for the Project to have a significant effect upon them through changes within their setting.
- 6.6.12. Given that the assets scoped into the settings assessment comprise two broad concentrations of prehistoric activity, each forming a coherent landscape in which shared characteristics contribute to their cultural significance, it is proposed that these assets are assessed as distinct groups. Assessing them in grouped form allows the evaluation to consider not only the significance of individual assets, but also the relationships between them and the combined contribution their settings make to understanding the prehistoric landscape as a whole. The assets proposed for such an assessment are outlined in **Table 6-5: Assets Scoped In for Further Assessment due to Potential for Settings Impacts**.
- 6.6.13. The assets scoped in for further assessment within the ES after the initial heritage appraisal are outlined in **Table 6-5: Assets Scoped In for Further Assessment due to Potential for Settings Impacts**. Furthermore, the locations of visualisations, in the form of photomontages, are proposed in **Table 6-5: Assets Scoped In for Further Assessment due to Potential for Settings Impacts**. For those assets proposed to be scoped in for assessment within a group, professional judgement has been exercised to determine the location of selected photomontage locations within these groups. As such visualisations will not be produced for each individual asset. If any viewpoints cannot be accessed and photos cannot be taken, wirelines will be produced. These visualisation locations are approximate, and final locations will depend on access and visibility of the final layout of the Project. Any changes in visualisation locations will be communicated to the appropriate consultees. The provided visualisations will include the developments considered for cumulative assessment in addition to current baseline developments.



Table 6-5: Assets Scoped In for Further Assessment due to Potential for Settings Impacts

Asset Reference	Asset Name	Type of Asset	Proposed Visualisation Location	Assessment Group
NHLE 1010540	How Tallon round barrow and cup marked stones	Scheduled Monument	NZ 05737 07413	N/A
NHLE 1012598	Ring cairn on Gayles Moor	Scheduled Monument	N/A	Group 1
NHLE 1014322	Cup marked stone on Gayles Plantation, 360m ENE of Shooters Well	Scheduled Monument	N/A	Group 1
NHLE 1014323	Cup marked stone on Gayles Plantation, 360m east of Shooters Well	Scheduled Monument	N/A	Group 1
NHLE 1014324	Cup marked stone on Gayles Plantation, 365m east of Shooters Well	Scheduled Monument	N/A	Group 1
NHLE 1014325	Cup marked stone on Gayles Plantation 370m ESE of Shooters Well	Scheduled Monument	N/A	Group 1
NHLE 1014326	Cup marked stone 565m NNE of the triangulation point on Feldom Rigg	Scheduled Monument	N/A	Group 1
NHLE 1014327	Cup and ring marked stone 440m NNE of the triangulation point on Feldom Rigg	Scheduled Monument	N/A	Group 1
NHLE 1014329	Ring cairn on Gayles Plantation, 390m ENE of Shooters Well	Scheduled Monument	NZ 10764 06118	Group 1
NHLE 1014331	Cup and ring marked stone 585m SSW of Jenny's Plantation	Scheduled Monument	N/A	Group 1



Asset Reference	Asset Name	Type of Asset	Proposed Visualisation Location	Assessment Group
NHLE 1014332	Cup and ring marked stone 530m NNW of the triangulation point on Feldom Rigg	Scheduled Monument	N/A	Group 1
NHLE 1014333	Cup marked stone 565m north of the triangulation point on Feldom Rigg	Scheduled Monument	N/A	Group 1
NHLE 1014334	Cup marked stone on Gayles Plantation, 370m ENE of Shooters Well	Scheduled Monument	N/A	Group 1
NHLE 1014335	Cup marked stone on Gayles Plantation, 440m ENE of Shooters Well	Scheduled Monument	N/A	Group 1
NHLE 1014336	Cup marked stone on Gayles Plantation 490m ENE of Shooters Well	Scheduled Monument	N/A	Group 1
NHLE 1014337	Cup marked stone 18m south of Stone Man Plantation	Scheduled Monument	N/A	Group 1
NHLE 1014340	Cup marked stone 370m NNW of north corner of Folly Plantation	Scheduled Monument	N/A	Group 1
NHLE 1014341	Cup and ring marked stone 650m SSE of Jenny's Plantation	Scheduled Monument	N/A	Group 1
NHLE 1014342	Cup marked stone 620m south of Jenny's Plantation	Scheduled Monument	N/A	Group 1
NHLE 1014343	Cup marked stone 495m south east of Jenny's Plantation	Scheduled Monument	N/A	Group 1



Asset Reference	Asset Name	Type of Asset	Proposed Visualisation Location	Assessment Group
NHLE 1014344	Cup and ring marked stone 435m south of Jenny's Plantation	Scheduled Monument	N/A	Group 1
NHLE 1014345	Cup marked stone 525m SSW of Jenny's Plantation	Scheduled Monument	N/A	Group 1
NHLE 1014346	Cup marked stone 505m south east of Jenny's Plantation	Scheduled Monument	N/A	Group 1
NHLE 1014360	Cup and ring marked stone 415m NNW of Folly Plantation	Scheduled Monument	N/A	Group 1
NHLE 1014361	Cup and ring marked stone 520m north east of the triangulation point on Feldom Rigg	Scheduled Monument	N/A	Group 1
NHLE 1014362	Cup and ring marked stone 350m north west of north corner of Folly Plantation	Scheduled Monument	N/A	Group 1
NHLE 1014363	Cup and ring marked stone 465m NNE of the triangulation point on Feldom Rigg	Scheduled Monument	N/A	Group 1
NHLE 1014364	Cup marked stone 495m NNE of the triangulation point on Feldom Rigg	Scheduled Monument	N/A	Group 1
NHLE 1014365	Cup marked stone 490m NNE of the triangulation point on Feldom Rigg	Scheduled Monument	N/A	Group 1
NHLE 1014366	Cup and ring marked stone on Gayles Plantation 410m north of the triangulation point on Feldom Rigg	Scheduled Monument	N/A	Group 1



Asset Reference	Asset Name	Type of Asset	Proposed Visualisation Location	Assessment Group
NHLE 1014834	Cup marked stone 165m NNE of Folly Plantation	Scheduled Monument	N/A	Group 1
NHLE 1014347	Cairn on Holgate How	Scheduled Monument	N/A	N/A
NHLE 1017408	Carved rock 380m ENE of Bragg House, Barningham Moor	Scheduled Monument	N/A	Group 2
NHLE 1017409	A rock with three grooves and five cups with rings, in Scale Knoll Allotment, 800m WSW of Haythwaite, Barningham Moor	Scheduled Monument	N/A	Group 2
NHLE 1017410	A cup marked rock with 13 cups and a groove, on a knoll in Scale Knoll Allotment, 700m north east of Black Hill Gate, Barningham Moor	Scheduled Monument	NZ N/A 04946 08739	Group 2
NHLE 1017411	A rock with cups and rings in Scale Knoll Allotment, 790m WSW of Haythwaite, Barningham Moor	Scheduled Monument	N/A	Group 2
NHLE 1017412	A cairn and a rubble bank in Scale Knoll Allotment, 510m WSW of Haythwaite, Barningham Moor	Scheduled Monument	N/A	Group 2
NHLE 1017413	A cairn and a carved rock on a prominent knoll, south of the road from Barningham to East Hope, 690m WSW of	Scheduled Monument	N/A	Group 2



Asset Reference	Asset Name	Type of Asset	Proposed Visualisation Location	Assessment Group
	Haythwaite, Barningham Moor			
NHLE 1017414	A cairn on a knoll east of Woodclose Gill, in Scale Knoll Allotment, 785m north east of Black Hill Gate	Scheduled Monument	N/A	Group 2
NHLE 1017415	A cup and groove marked rock, east of Woodclose Gill, 645m north east of Black Hill Gate, Barningham Moor	Scheduled Monument	N/A	Group 2
NHLE 1017416	Cairn, 625m SSE of Bragg House, Barningham Moor	Scheduled Monument	N/A	Group 2
NHLE 1017417	A carved rock between The Stang Forest boundary wall and Woodclose Gill, 750m south east of Far East Hope, Barningham Moor	Scheduled Monument	N/A	Group 2
NHLE 1017418	A carved rock within a large enclosure, 800m north east of Badger Way Stoop, Barningham Moor	Scheduled Monument	N/A	Group 2
NHLE 1017419	Cairnfield and associated remains, 250m south east of Bragg House, Barningham Moor	Scheduled Monument	N/A	Group 2
NHLE 1017420	Cairn, 545m ESE of Bragg House, Barningham Moor	Scheduled Monument	N/A	Group 2
NHLE 1017421	Carved rock and Romano-British settlement known as Greystone, 250m south of	Scheduled Monument	N/A	Group 2

Asset Reference	Asset Name	Type of Asset	Proposed Visualisation Location	Assessment Group
	Moorcock Farm, Barningham Moor			
NHLE 1017422	Carved rock and cairn in Rowley Intake, 410m south east of Cowclose House, Barningham Moor	Scheduled Monument	N/A	Group 2
NHLE 1017423	Unenclosed settlement, 260m south east of Cowclose House, Barningham Moor	Scheduled Monument	N/A	Group 2
NHLE 1017424	Ring cairn 350m east of Haythwaite, Barningham Moor	Scheduled Monument	N/A	Group 2
NHLE 1017425	Ring cairn at the northern end of Scale Knoll Allotment, 750m WNW of Haythwaite	Scheduled Monument	N/A	Group 2
NHLE 1017426	Cairn on the summit of Arndale Hill, Hope Moor	Scheduled Monument	NZ 02400 06720	N/A
NHLE 1017427	Cairn near the summit of a low ridge, 850m south west of Cocker Stake Nook, Hope Moor	Scheduled Monument	NZ 03556 06712	N/A
NHLE 1017428	Cairn, 650m SSE of Bragg House, Barningham Moor	Scheduled Monument	N/A	Group 2
NHLE 1017429	A carved rock with one cup, at the east side of Woodclose Gill, in Scale Knoll Allotment, 500m north east of Black Hill Gate, Barningham Moor	Scheduled Monument	N/A	Group 2



Asset Reference	Asset Name	Type of Asset	Proposed Visualisation Location	Assessment Group
NHLE 1017430	A carved rock and boulder walling, near the south wall of Scale Knoll Allotment, 500m north east of Black Hill Gate	Scheduled Monument	N/A	Group 2
NHLE 1017431	A cairn, a carved rock, and a rubble bank, in the south west corner of Scale Knoll Allotment, 800m south east of Far East Hope, Barningham Moor	Scheduled Monument	N/A	Group 2
NHLE 1017432	A cairn on the summit of a knoll, in the southwest corner of Scale Knoll Allotment, 800m south east of Far East Hope, Barningham Moor	Scheduled Monument	N/A	Group 2
NHLE 1017433	A rock with a cup and a groove, in the south west corner of Scale Knoll Allotment, 790m south east of Far East Hope, Barningham Moor	Scheduled Monument	N/A	Group 2
NHLE 1017434	A cairn and a carved rock west of Cowclose Gill, in Scale Knoll Allotment, 460m west of Haythwaite, Barningham Moor	Scheduled Monument	N/A	Group 2
NHLE 1017435	Cairnfield partly enclosed by a bank, on the east side of Woodclose Gill, Scale Knoll Allotment,	Scheduled Monument	N/A	Group 2

Asset Reference	Asset Name	Type of Asset	Proposed Visualisation Location	Assessment Group
	Barningham Moor, 550m south of Hurst Hill			
NHLE 1017436	Prehistoric enclosure 530m and a rubble bank 500m east of Haythwaite in Scale Knoll Allotment, Barningham Moor	Scheduled Monument	N/A	Group 2
NHLE 1017437	Prehistoric enclosure on the west side of Scale Knoll Gill, 400m WSW of Haythwaite, Barningham Moor	Scheduled Monument	N/A	Group 2
NHLE 1017438	A cairn, east of Scale Knoll Allotment, 260m south west of Haythwaite, Barningham Moor	Scheduled Monument	N/A	Group 2
NHLE 1017439	Carved rocks, cairnfield and rubble banks on the terrace south of Scale Knoll Allotment, immediately east of Black Hill Gate, Barningham Moor	Scheduled Monument	N/A	Group 2
NHLE 1017440	Carved rock and prehistoric enclosure on west side of Scale Knoll Gill, 410m south west of Haythwaite, Barningham Moor	Scheduled Monument	N/A	Group 2
NHLE 1017441	Prehistoric settlement and associated remains including carved rocks and a stone circle	Scheduled Monument	NZ 05568 07709	Group 2



Asset Reference	Asset Name	Type of Asset	Proposed Visualisation Location	Assessment Group
	400m north west of How Tallon Cairn, Barningham Moor			
NHLE 1017442	Prehistoric carved rocks and associated remains including cairns and a field system 800m south of Haythwaite, Barningham Moor	Scheduled Monument	NZ 05770 08343	Group 2
NHLE 1017443	Carved rock north of Washbeck Green, 570m south of Haythwaite, Barningham Moor	Scheduled Monument	N/A	Group 2
NHLE 1017444	Cairn south of Cross Gill, 645m south east of Black Hill Gate, Barningham Moor	Scheduled Monument	NZ 04767 07743	Group 2
NHLE 1017445	Cairnfield on a small knoll at Badger Way Stoop, Barningham Moor	Scheduled Monument	N/A	Group 2

Summary of Potential Impacts Scoped In

- 6.6.14. Cultural heritage assets both within the Study Area will be considered for the potential for direct, indirect, settings and cumulative impacts as a result of the Project. The potential for direct physical impacts will not be assessed outwith the Site.
- 6.6.15. The potential for direct impacts on yet unrecorded heritage assets will be considered within the EIA Report. If warranted, further mitigation will be agreed with the relevant local authority (Durham County Archaeology Section or North Yorkshire Council Archaeology Service).
- 6.6.16. As a result of the appraisals (**Appendix 6B**), the assets scoped in for further assessment to be included within the ES are outlined in **Table 6-6**.



**Table 6-6: Impacts proposed to be scoped into the assessment for
Archaeology and Cultural Heritage**

Impact	Description	Proposed Approach to Assessment Including Description of Any New Data Collation Required and Any Analyses (Such as Modelling)
Construction		
Direct physical impacts on designated heritage assets within the Site:	One designated heritage asset lies within the Site (NHLE 1017427). As designated assets are protected by law, direct physical impacts must be avoided throughout the design process. Where such impacts are unavoidable, Scheduled Monument Consent or Listed Building Consent will be required.	Avoidance of designated assets. Mitigation strategies will be presented within the ES. Relevant mitigation measures will be embedded within the design of the Project as design progresses. Potential mitigation is discussed in Section 6.5 of this Chapter.
Direct physical impacts on non-designated heritage assets within the Site	A range of potential impacts on archaeological and cultural heritage receptors may arise during construction. These include ground disturbance from wind turbine foundations, access tracks, crane pads, cabling, substation works, and associated infrastructure. There is also potential for direct impacts on previously unrecorded archaeological remains during construction activities.	Potential direct impacts will be assessed through a combination of: Data Collation and Desk-Based Work • A desk based assessment will be carried out to inform the baseline for the Site • Updated full commercial HER search prior to application submission. • Historic map regression and documentary review. • Re-consultation with the relevant Historic Environment Records. Site Inspection and Field Assessment • Targeted site walkover to visit proposed wind turbine and infrastructure locations. • Use of drone survey (if appropriate) to help identify unrecorded features. • Consideration of evaluative fieldwork (e.g. geophysical survey, trial trenching) if required to clarify archaeological potential

Impact	Description	Proposed Approach to Assessment Including Description of Any New Data Collation Required and Any Analyses (Such as Modelling)
		Relevant mitigation measures will be embedded within the design of the Project as design progresses. Potential mitigation is discussed in Section 6.5 of this Chapter.
Indirect effects on heritage assets within the Site	All designated heritage assets within the Site, may be subject to indirect physical impacts arising from construction-related activities such as vibration, changes to ground hydrology, and temporary or sustained dewatering. These processes have the potential to affect buried archaeological deposits, especially those that rely on stable hydrological or anaerobic conditions for their preservation. Vibration may cause movement, settlement, or micro-fracturing of fragile features, while dewatering may accelerate the deterioration of waterlogged remains or alter the preservation environment. Even where no direct physical disturbance is proposed, these indirect mechanisms can compromise the integrity, stability, or evidential value of archaeological assets.	The assessment of indirect effects will incorporate a review of construction methodologies, vibration-generating activities, and any works likely to alter groundwater levels. This will be supported by hydrogeological appraisal, geotechnical data, and, where appropriate, vibration modelling or zone-of-influence analysis. Assets identified as potentially sensitive to hydrological or vibratory change will be evaluated to determine their susceptibility, with mitigation embedded into the design where necessary, such as construction method adjustments, monitoring strategies, or preservation measures. If unavoidable risk remains, additional targeted investigations or protective measures may be recommended to ensure that archaeological receptors are safeguarded throughout construction, operation, and decommissioning.
Setting Effects	Short term change within the setting of designated heritage assets could affect the appreciation of their cultural significance. This could occur during construction and be associated with visual and audible changes associated	Historic England's guidance on assessing setting impacts has been used to determine which assets are potentially sensitive to change and which assets of this subgroup would experience an effect upon their cultural

Impact	Description	Proposed Approach to Assessment Including Description of Any New Data Collation Required and Any Analyses (Such as Modelling)
	with heavy plant (presence and movements) and earthwork	significance. Assets fitting these criteria have been scoped in for further assessment and are outlined in Table 6-5: Assets Scoped In for Further Assessment due to Potential for Settings Impacts .
Operation and Maintenance		
Direct physical impacts	Maintenance activities have the potential to result in direct physical impacts on archaeological and cultural heritage assets where additional ground disturbance is required during the operational lifespan of the wind farm. Such impacts may arise from works including track widening, excavation for repairs, ground-breaking required for replacement of buried cables or drainage infrastructure, and the establishment of temporary laydown or crane hardstanding areas.	If maintenance works require additional ground-breaking, the potential for further impact on recorded or unrecorded heritage assets will need to be considered. Where this occurs, further mitigation may be required, in line with the broader approach to embedded mitigation outlined for the Project. This would ensure that any maintenance-related works are informed by the presence of known assets and by the possibility of unrecorded remains within the Site, with measures implemented to avoid or reduce direct physical impacts wherever possible.
Settings effects on designated heritage assets	During the operational phase, the presence and movement of wind turbines may give rise to indirect impacts on the settings of heritage assets within the wider landscape. These impacts may occur where the visibility, character, or experience of an asset's surroundings contributes to its cultural significance.	Historic England's guidance on assessing setting impacts has been used to determine which assets are potentially sensitive to change and which assets of this subgroup would experience an effect upon their cultural significance. Assets fitting these criteria have been scoped in for further assessment and are outlined in Table 6-5: Assets Scoped In for Further Assessment

Impact	Description	Proposed Approach to Assessment Including Description of Any New Data Collation Required and Any Analyses (Such as Modelling)
		due to Potential for Settings Impacts .
Decommissioning		
No activities during this phase are scoped into the assessment as detailed in Table 6-7 .		
Cumulative		
Direct Effects on heritage assets within the Site	Ground disturbance affecting archaeological remains would add to the cumulative disturbance of remains in general.	The ES will consider the potential cumulative effects in accordance with the methods presented in Chapter 3: Approach to EIA of the Scoping Report.
Settings Effects	Cumulative impact through setting change caused by consented (but not built out) schemes and pending schemes could combine with any effects identified to cause a greater cumulative effect.	The ES will consider the potential cumulative effects in accordance with the methods presented in Chapter 3: Approach to EIA of the Scoping Report. Assets with a minor or higher significance of effect resulting from the Project in isolation will be considered for cumulative assessment, as these assets are most likely to be susceptible to significant cumulative effects.

6.7. Impacts Proposed to be Scoped Out

6.7.1. Of the assets included within the 10 km Study Area outlined in **Section 6.2** it is anticipated that the asset types listed below are unlikely to give rise to significant effect from the Project (i.e., their cultural significance is sustained). This is due to their cultural significance lying wholly / predominantly within their fabric and / or the lack of change which the Project would cause in respect to elements of setting which contribute towards their significance. Accordingly, the types of assets listed below are considered scoped out of further assessment:

- assets in built up areas for which cones of view to / from are not significant;
- churches / chapels and associated rectories whose significance draws from its architecture and churchyard settings, where there are also limited or distant views which would not affect an appreciation or understanding of the asset;

- industrial assets including former bakeries, public houses and former maltings, located within a built-up village area where understanding of function lies within the village setting;
- former / distant farmsteads, farmhouses and ancillary farm buildings to which an understanding and appreciation is restricted to the principal farmhouse, farmyard and / or the immediate rural backdrop which would be unaffected and / or with no historic links to the land within the footprint of the Site;
- distant cottages and houses to which rural setting is restricted with no historic link to the land within the Site; and
- Non-designated heritage assets within the Study Area.

6.7.2. Based on the baseline environmental information currently available and the Project description (outlined in **Chapter 2: Project Description**) several impacts are proposed to be scoped out the EIA for archaeology and cultural heritage. The impacts are outlined in **Table 6-7**, together with a justification for scoping them out.

Table 6-7: Impacts proposed to be scoped out of assessment for Archaeology and Cultural Heritage

Impact	Justification for Scoping Out
Construction	
Settings effects on designated heritage assets	Impacts on the setting of designated heritage assets as a result of construction activity are minimal at most and temporary in nature.
Operation and Maintenance	
Settings effects on designated heritage assets	As outlined in Section 6.6 , based on the work undertaken to date, the professional judgement of the cultural heritage team, and experience of other comparable projects it is considered that impacts on setting on Grade II Listed Buildings and Grade II Registered Parks and Gardens outside of 5km of the proposed wind turbines can be scoped out of the EIA in relation to cultural heritage with the exception of those wherein specific views are considered to contribute to their significance and/or to the ability to appreciate and experience them. Grade II Listed Buildings and Grade II Registered Parks and Gardens represent the lowest tier of national designation and are generally of modest national importance. Their significance may, however, be considered higher where consultees or supporting evidence indicate enhanced architectural, historic, or artistic value.
	In most cases, the significance of a Conservation Area derives from its character and the features and buildings that it contains, rather than the contribution of the wider landscape. As such, any Conservation Area beyond 5km of the Site has been scoped out, with the

Impact	Justification for Scoping Out
	justification that, even if visibility between the Project and the conservation areas may still occur, the conservation areas' significance would not be diminished. It is also considered that any assets that fall outside of the ZTV (and where important views associated those assets' approaches, and third points of appreciation also fall outside of the ZTV) can be scoped out of the EIA in relation to cultural heritage.
Decommissioning	
Direct Effects	On the basis that effects are likely to be similar to or less than construction effects, it is unlikely for there to be any direct impacts upon known heritage assets as a result of decommissioning. The effects of decommissioning will therefore not be taken forward for assessment within the ES chapter.
Cumulative	
Settings effects on designated heritage assets	Assets with a lower than minor significance of effect resulting from the Project in isolation will not be taken forward for assessment for cumulative impacts within the ES chapter, as these assets are unlikely to be susceptible to significant cumulative effects.

6.8. Summary of Next Steps

- 6.8.1. It is anticipated that the ES will reference a baseline in respect to a finalised layout. The baseline will include a full desk-based assessment using updated HER data, historic mapping and documentary sources, alongside targeted field survey of the Site, including UAV-assisted inspection where ground conditions present safety constraints.
- 6.8.2. The Study Area referenced to assess archaeological potential would be set at 1 km from the Site. This search area will be used for consultation with Durham County Council, North Yorkshire Council and the Yorkshire Dales National Park Authority Historic Environment record and is expected to represent the archaeological character of the area within the Site. Updated HER data will be acquired for the defined study areas, and any remaining targeted walkover survey or map regression work will be undertaken where this has not already been completed.

- 6.8.3. The scope of assets requiring detailed settings assessment will be confirmed through ongoing consultation with the relevant stakeholders. The heritage team will refine the list of assets requiring detailed settings assessment, incorporating consultee feedback and any design evolution, and will prepare full statements of significance for all scoped-in designated and non-designated assets. ZTV analysis and proposed viewpoint visualisations will be presented finalised to support settings assessments, including cumulative scenarios. Full statements of significance, detailed assessment of setting impacts, and any required mitigation strategies will then be developed for inclusion in the ES.
- 6.8.4. Where required, recommendations for archaeological evaluation will be developed in consultation with the relevant local authorities and Historic England. The findings will feed into the detailed ES, which will identify likely significant effects, propose mitigation measures, and confirm any required consent pathways. Engagement with consultees will continue throughout to ensure agreement on methodology, assessment scope, and visualisation locations prior to completion of the ES.

6.9. Further Consideration for Consultees

- 6.9.1. The following questions are provided to help frame consultee comments on the Scoping Report for Archaeological and Cultural Heritage:
- Q6.1: Do consultees agree with the methodology set out, including the use of UAV in areas which are assessed to be a health and safety issue for industry standard surveying?
 - Q6.2: Do consultees agree with assets and matters scoped out?
 - Q6.3: Are there any assets, not listed in the appraisal, that key consideration should be given to?
 - Q6.4: Do consultees have any specifications on further visualisations and their locations?

6.10. References

- Ref 6-1 NatureScot (2017). *Visual Representation of Wind Farms, Version 2.2*. Available at: <https://www.nature.scot/doc/visual-representation-wind-farms-guidance> [Accessed March 2026].
- Ref 6-2 Historic England (2017). *The Setting of Heritage Assets: Historic Environment Good Practice Advice in Planning* (GPA 3, 2nd edition). Available at: <https://historicengland.org.uk/images-books/publications/gpa3-setting-of-heritage-assets/> [Accessed March 2026].
- Ref 6-3 UK Government (1990). *Planning (Listed Buildings and Conservation Areas) Act 1990*. Available at: <https://www.legislation.gov.uk/ukpga/1990/9/contents> [Accessed March 2026].



- Ref 6-4 UK Government (1979). *Ancient Monuments and Archaeological Areas Act 1979*. Available at: <https://www.legislation.gov.uk/ukpga/1979/46/contents> [Accessed March 2026].
- Ref 6-5 UK Government (2024). *National Planning Policy Framework*. Available at: <https://www.gov.uk/government/publications/national-planning-policy-framework--2> [Accessed March 2026].
- Ref 6-6 UK Government (2014). *Planning Practice Guidance*. Available at: <https://www.gov.uk/government/collections/planning-practice-guidance> [Accessed March 2026].
- Ref 6-7 UK Government (2025). *Overarching National Policy Statement for Energy (EN-1)*. Available at: <https://www.gov.uk/government/publications/overarching-national-policy-statement-for-energy-en-1-2025/overarching-national-policy-statement-for-energy-en-1-2025-accessible-webpage> [Accessed March 2026].
- Ref 6-8 UK Government (2025). *National Policy Statement for Renewable Energy Infrastructure (EN-3)*. Available at: <https://www.gov.uk/government/publications/national-policy-statement-for-renewable-energy-infrastructure-en-3-2025> [Accessed March 2026].
- Ref 6-9 Durham County Council (2020). *County Durham Plan (Adopted 2020)*. Available at: <https://durham.gov.uk/media/34069/County-Durham-Plan-adopted-2020-/pdf/CountyDurhamPlanAdopted2020vDec2020.pdf> [Accessed March 2026].
- Ref 6-10 Durham County Council (emerging). *Emerging County Durham Plan*. Available at: <https://www.durham.gov.uk/cdp> [Accessed March 2026].
- Ref 6-11 North Yorkshire Council (2025). *North Yorkshire Local Plan: Our First Consultation*. Available at: <https://edemocracy.northyorks.gov.uk/documents/s52420/Appendix%201%20North%20Yorkshire%20Council%20First%20Conversation%20consultation.pdf> [Accessed March 2026].
- Ref 6-12 Richmondshire District Council (2014). *Richmondshire Local Plan 2012 – 2028 Core Strategy*. Available at: <https://www.richmondshire.gov.uk/media/5219/core-strategy-2012-28.pdf> [Accessed March 2026].
- Ref 6-13 Historic England (2017). *Understanding Place: Historic Area Assessments. Historic Environment Good Practice Advice in Planning (GPA 1)*. Available at: <https://historicengland.org.uk/images-books/publications/gpa1-understanding-place-historic-area-assessments/> [Accessed March 2026].



- Ref 6-14 Historic England (2015). *Managing Significance in Decision-Taking in the Historic Environment. Historic Environment Good Practice Advice in Planning* (GPA 2). Available at: <https://historicengland.org.uk/images-books/publications/gpa2-managing-significance/> [Accessed March 2026].
- Ref 6-15 Historic England (2017). *The Setting of Heritage Assets. Historic Environment Good Practice Advice in Planning* (GPA 3, 2nd edition). Available at: <https://historicengland.org.uk/images-books/publications/gpa3-setting-of-heritage-assets/> [Accessed March 2026].
- Ref 6-16 Historic England (2008). *Conservation Principles, Policies and Guidance for the Sustainable Management of the Historic Environment*. Available at: <https://historicengland.org.uk/images-books/publications/conservation-principles-sustainable-management-historic-environment/> [Accessed March 2026].
- Ref 6-17 Historic England (2020). *Statements of Heritage Significance. Historic England Advice Note 12*. Available at: <https://historicengland.org.uk/images-books/publications/statements-of-heritage-significance-advice-note-12/> [Accessed March 2026].
- Ref 6-18 Historic England (2021). *Commercial Renewable Energy Development and the Historic Environment. Historic England Advice Note 15*. Available at: <https://historicengland.org.uk/images-books/publications/commercial-renewable-energy-development-historic-environment-advice-note-15/> [Accessed March 2026].
- Ref 6-19 Chartered Institute for Archaeologists (CIfA) (2014; updated 2020). *Standard and Guidance for Historic Environment Desk-Based Assessment*. Available at: <https://www.archaeologists.net/sites/default/files/2023-11/CIfA-SandG-DBA-2020.pdf> [Accessed March 2026].
- Ref 6-20 Institute of Environmental Management and Assessment (IEMA), Institute of Historic Building Conservation (IHBC) and Chartered Institute for Archaeologists (CIfA) (2021). *Principles of Cultural Heritage Impact Assessment in the UK*. Available at: https://www.archaeologists.net/sites/default/files/2024-11/CIfA-IEMA-Principles-Cultural-Heritage-Impact-UK_2021.pdf [Accessed March 2026].
- Ref 6-21 National Highways (ongoing). *Design Manual for Roads and Bridges (DMRB)*. Available at: <https://www.standardsforhighways.co.uk/dmrp> [Accessed March 2026].



7. Ecology

7.1. Introduction

- 7.1.1. This chapter of the Scoping Report sets out the proposed scope and methodology of the ecological impact assessment of the Project. It identifies the potential likely significant effects arising from the construction, operation and management, and decommissioning of the Project, in isolation and cumulatively, on ecological receptors. This chapter also explains how likely significant effects would be assessed for the purposes of the EIA, and outlines potential for biodiversity enhancement measures, which will be integral to the project design.
- 7.1.2. Details of the construction, operation and maintenance, and decommissioning of the Project are set out in **Chapter 2: Project Description**.
- 7.1.3. There are interrelationships between the potential effects on ecology and other environmental topics. Therefore, this chapter of the Scoping Report should be read alongside the following chapters, which have later been cross referenced as necessary:
- **Chapter 8:** Ornithology;
 - **Chapter 9:** Hydrology and Hydrogeology;
 - **Chapter 10:** Geology, Soils and Ground Conditions; and
 - **Chapter 15:** Air Quality.
- 7.1.4. This chapter is supported by the following Figures (provided in **Volume A**) and Appendices (provided in **Volume B**):
- Figures
 - **Figure 7.1:** Statutory Designations Within 10 km;
 - **Figure 7.2:** Designated Sites within 2 km;
 - **Figure 7.3:** Ancient Woodland and Priority Habitats within 2 km (data.gov.uk datasets); and
 - **Figure 7.4:** UK Habitat Classification.
 - Appendices
 - **Appendix 7A:** Desk Study Details;
 - **Appendix 7B:** Kexwith Fish Survey Report (EPS Limited (2025)); and
 - **Appendix 7C:** White-clawed Crayfish Technical Report (EPS Limited (2025)).

7.2. Study Area

- 7.2.1. The scoping Study Area for ecology is based on the Project's realistic zone of influence and is tiered as follows:



- Scoping Boundary + 10 km (as shown in **Figure 7.1**): Special Areas of Conservation (SAC), Ramsar sites and statutory designated sites (SAC and/ or Sites of Special Scientific Interest (SSSI) for bats. It should be noted that Special Protection Areas (SPAs) have been excluded as they will be discussed in **Chapter 8: Ornithology** given that their qualifying features are exclusively avian related; and
- Scoping Boundary + 2 km (as shown in **Figure 7.2**): SSSIs, Local Nature Reserves (LNR), Local Wildlife Sites (LWS), ancient woodland and priority habitats (as shown on data.gov.uk datasets), protected and notable plant and faunal species.

7.2.2. This tiered approach ensures that:

- Highly sensitive or wide-ranging receptors (e.g. SAC features) are assessed at an appropriately broad scale;
- Local habitats and species are captured within a focused, proportionate search area;
- Assessment effort matches ecological risk, avoiding both under-scoping and unnecessary over-scoping; and
- The study remains aligned with regulatory expectations and established ecological assessment methodologies.

7.2.3. The Study Area for ecology has been defined for the purposes of Scoping using the Scoping Boundary. The Project will continue to evolve through the EIA process as design, assessment and consultation are undertaken. As the Scoping boundary is refined, the Study Area for the EIA will be updated accordingly and defined with reference to the draft Order Limits.

7.3. Baseline Environment

Overview of Available Data Sources

7.3.1. This scoping report has been prepared based upon desk study and field survey data gathered to date, as set out in **Table 7-1**. Certain surveys are ongoing/ scheduled to be undertaken in 2026, the results of these would also be used to inform the EIA.

Table 7-1: Key sources of information for Ecology

Source	Summary	Spatial Coverage of Study Area
Desk Study		
North and East Yorkshire Ecological Data Centre (NEYEDC)	For designated sites for wildlife, protected and notable species records. Data obtained March 2026.	Site +2 km.

Source	Summary	Spatial Coverage of Study Area
Environmental Records Information Centre North East (ERIC)	For designated sites for wildlife, protected and notable species records. Data obtained March 2026.	Site +2 km.
Data.gov.uk website	Ecological datasets, specifically relating to priority habitats and protected species.	Site +10 km.
MAGIC website	Ecological datasets, specifically relating to priority habitats and protected species.	Site +10 km.
North Yorkshire LNRS including the interactive plan at https://experience.arcgis.com/experience/85d9b3b1bb6a406f9cb276c6cfe3b9cc	The Local Habitat Map includes two key elements: Existing core sites - Areas of Particular Importance for Biodiversity (APIBs). Potential nature recovery areas - Areas that Could Become of Particular Importance for Biodiversity (ACBs).	Site +10 km.
Data from landowners	Details from the landowners in respect of biodiversity, forestry <i>and/ or</i> environmental schemes. This includes historic, current and aspirational projects.	Site +2 km
Field Survey		
Habitat / NVC survey	NVC habitat surveys were undertaken at the Wind Farm Array area in July and August 2024 and the Haul Route Search Area in June and July 2025. The vegetation was surveyed by suitably qualified and experienced botanical surveyors using the NVC scheme (Ref 7-1) and in accordance with NVC survey guidelines (Ref 7-2). The NVC scheme provides a standardised system for classifying and mapping semi-natural habitats and ensures that surveys are carried out to a consistent level of detail and accuracy. Homogeneous stands and mosaics of vegetation were identified and mapped by eye and drawn as polygons on high resolution aerial imagery field maps. These polygons were surveyed qualitatively to record dominant and constant species, sub-dominant species and other notable species present. The surveyors worked progressively across the survey area to ensure that no areas were missed, and that mapping was accurate. NVC communities were attributed to the mapped polygons using surveyor experience and matching field data against published floristic tables (Ref 7-1). Stands were classified to sub-community level where possible, although in many cases the vegetation was mapped to community level only because the vegetation was too	Entire Site where access allowed

Source	Summary	Spatial Coverage of Study Area
	species-poor or patches were too small to allow meaningful sub-community determination; or because some areas exhibited features or fine-scale patterns of two or more sub-communities. Quadrat sampling was not used in this survey because experienced NVC surveyors do not need to record quadrats in order to reliably identify NVC communities and sub-communities (Ref 7-2). Notes were made about the structure and flora of larger areas of vegetation in many places (such as the abundance and frequency of species, and in some cases condition and evident anthropogenic impacts). It can be better to record several larger scale qualitative samples than one or two smaller quantitative samples; furthermore, qualitative information from several sample locations can be vital for understanding the dynamics and trends in local (survey area) vegetation patterns (Ref 7-2). Due to small scale vegetation and habitat variability and numerous zones of habitat transitional between similar NVC communities, many polygons can represent complex mosaics of two or more NVC communities. Where polygons have been mapped as mosaics an approximate percentage cover of each NVC community within the polygon is given so that the dominant community and character of the vegetation could still be ascertained. The NVC and mapping data was also correlated to their equivalent habitats according to the Phase 1 habitat classification (Ref 7-3), considering the species composition and habitat quality. The Phase 1 characterisation has been utilised to allow a broader visual representation of the habitats within the survey area. Polygons or areas where there are mosaic NVC communities have generally been assigned a single Phase 1 classification based on the dominant NVC type (despite some polygons containing multiple Phase 1 types, often in low percentages). Therefore, the Phase 1 characterisation is generally a broader overview, and the NVC data should be referred to for further detail in any specific area. Update survey prior to submission is not proposed – the data age and coverage is anticipated to remain valid and other surveys undertaken in 2025 / planned for 2026 will confirm no changes in habitats.	

Source	Summary	Spatial Coverage of Study Area
UKHab ground truth and condition assessment	The 2024 NVC/ Phase 1 survey data was translated to the UKHab classification system, to better enable later entry in the Statutory Metric spreadsheet. This translation was then subject to ground truthing, and a condition assessment was undertaken as follows: Surveys involved walking and observing as much of the Site as possible in June and July 2025, observing the vegetation present in each polygon and the manner of its variation. Habitats were mapped and classified using the UK Habitat Classification (UKHab). This method enables more robust evaluation against nationally and internationally recognised categories (such as Section 41 Habitats and Annex 1 Habitats, which typically do not “match” Phase 1 or NVC descriptions but are actually more critical components of Site design and impact assessment). With the exception of rivers, the condition of each habitat parcel (or group of adjacent parcels of the same habitat type and condition) on the Site were assessed using the criteria produced by Natural England (Ref 7-4). The condition assessment included, for example, collecting information on the physical characteristics of the habitat, the presence of positive indicator species and the presence of invasive non-native species. Each habitat parcel was assigned a condition score of ‘poor’, ‘moderate’, or ‘good’ where applicable. Target notes were used to describe features of value including notable <i>and/ or</i> invasive species and/ or particularly interesting or important habitats where relevant.	Entire Site (where access allowed), excluding rivers
Bat Surveys	The proposed scope of survey work is designed to meet current NatureScot <i>et al.</i> (Ref 7-5) survey guidelines. These are applicable across the UK and are considered to be the most appropriate survey guidelines in this instance, based on the type of development and anticipated impacts. Bat activity surveys were initially conducted between April – October 2024, based on the scheme design at the time which included up to 19 turbines. To meet the requirements of the 23 turbine scheme that is now proposed, updated activity surveys are scheduled for 2026. Desk study and scoping Aerial images, maps and habitat survey information have been used to identify features of potential value	Site +200 m

Source	Summary	Spatial Coverage of Study Area
	to bats. A Site-based Assessment has been undertaken and will be supplemented by the data search for species records and designated sites for bats. Key features survey The NatureScot <i>et al.</i> (Ref 7-5) guidelines require key features that could support maternity / hibernation roosts or swarming sites within 200 m (plus rotor radius) of proposed turbine locations to be subject to further investigation. A search for any such features within the relevant areas has therefore been undertaken. Automated bat activity survey NatureScot <i>et al.</i> (Ref 7-5) guidelines require that <i>detectors should be placed within the developable area at ten potential turbine locations plus a third of additional potential turbine sites</i> (indicating 15 detectors would be required for the proposed 23 turbine development). The guidelines require 10 nights of recording in each of: spring (April-May), summer (June-mid-August) and autumn (mid-August-October). The NatureScot <i>et al.</i> (Ref 7-5) guidelines state that weather data, including wind speed, temperature and rainfall are important for the interpretation of bat activity data and should be recorded nightly for all types of bat survey. It is proposed to use publicly available data for Richmond from www.weatheronline.co.uk for rainfall and weather values for both works completed so far and 2026 updates. Bat calls have been and will be analysed using Kaleidoscope Pro or an equivalent automated bat call analysis programme. Analysis includes determining the total number of bat passes per night, per species (or species group), for all survey nights at each location, and the criteria by which a bat pass and bat species is defined. Where necessary bat calls will also be checked manually to confirm species identification. Thereafter, the standardised format for presenting bat activity data given in Appendix 1 of the NatureScot <i>et al.</i> (Ref 7-5) guidelines will be used. This will include a measure of relative bat activity obtained using the secure online tool Ecobat.	

Source	Summary	Spatial Coverage of Study Area
Protected mammal walkover survey	A combined ‘other protected mammals’ survey was undertaken for the majority of the Site in 2024, in accordance with standard methodologies as follows: • Scottish Badgers (Ref 7-6) for badger; • Chanin (Ref 7-7) for otter; and • Dean <i>et al.</i> (Ref 7-8) for water vole. Changes to the Site boundary following the 2024 survey to include the proposed Haul Route Search Area were surveyed using the same methods in July 2025. The surveys covered all areas in which infrastructure may be located plus a buffer zone of up to 50 m (terrestrial habitats) and 250 m (for potentially suitable habitat for otter/water vole) (where accessible). An otter survey requires one survey which can be undertaken at any time of year. Water vole guidelines require up to two surveys, however, the requirement for a second water vole survey was not considered necessary based on suboptimal habitat suitability, and lack of field evidence. Based on project details available at the time of writing and spatial coverage of the work to date, updated surveys for otter and water vole prior to submission are not proposed, due to a combination of lack of evidence and no anticipated significant adverse impacts to potentially suitable habitats.	Entire Site (where access allowed)
Fish Survey	A semi-quantitative electric-fishing assessment of the fish assemblage in the Arndale Beck and Moresdale Gill catchment was carried out in June 2024. The principal aims of the study were to ascertain the fish assemblage present within the watercourses in the area that could potentially be impacted by the Project. Full details of the method and results are included at Appendix 7B. No further surveys are proposed.	Moresdale Gill and Arndale Beck.
White-clawed crayfish survey	Habitat assessments were undertaken in July 2024 to identify areas of suitable habitat within the Site that had the potential to support white-clawed crayfish and further to that, manual search surveys to identify the presence of white-clawed crayfish were undertaken in October 2024. Full details of the method and results are included at Appendix 7C. No further surveys are proposed.	Moresdale Gill and Arndale Beck.



Source	Summary	Spatial Coverage of Study Area
River Condition Assessment (RCA)	The Site includes 20.9 km of watercourses, as shown on and measured from OS mastermap (indicated on Figure 7.4). These comprise the headwaters of the Holgate Beck, which is identified as a Priority Habitat in Natural England's datasets (data.gov.uk.). A RCA typically requires surveying at least 20% of the total river length within the Project Site. Due to the extent of watercourses present, in combination with the lack of anticipated impacts upon the vast majority of watercourses, a bespoke method is proposed. In this instance we propose to undertake the RCA assessment at all potential water course crossings, including two stretches up stream and two stretches down stream of each water crossing. The remaining watercourses will be subject to assessment as follows (refer to Figure 7.4 which shows the mapped extent of watercourses): • Arndale Beck main channel – 20% of mapped extent; • Low Easegill Beck main channel – 20% of mapped extent; • Smaller tributaries – will be assumed to match the condition of the nearest sample point on the main channel. Based on the habitat types present and the current and likely future land management at the Site, this level of information is considered sufficient to populate the Metric spreadsheet and complete the BNG assessment.	Selected water courses on Site.
Update walkover survey	Given the time elapsed between baseline data gathering and final submission, it is anticipated that an update walkover survey will be required to confirm that baseline data remains valid for informing the impact assessments.	Site +200 m.

7.3.2. On the basis of the current design of the Project, surveys for reptiles, amphibians, invertebrates and other priority mammal species are not proposed based on lack of significant impacts anticipated. This reflects the anticipated localised nature of any effects on these faunal groups, particularly once standard construction best practice and pollution-prevention measures (which will be detailed in the ES) are implemented. These measures will include, as a minimum, minimising the construction footprint, establishing buffers to watercourses, appointing an Ecological Clerk of Works (ECoW) for the duration of construction, and preparing a detailed Construction and Environmental Management Plan.

- 7.3.3. It should be noted that during all surveys, surveyors have noted/ will note the presence of protected, notable and/ or invasive plant or animal species.
- 7.3.4. Detailed survey results will be presented in a series of baseline survey reports, which will be appended to the ES.

Overview of Baseline Environment

General Context

- 7.3.5. The Site comprises inbye agricultural pastures with small woodland plantations and open upland habitats and watercourses. The area is managed for grouse shooting, cattle and sheep grazing.

Designated Sites

- 7.3.6. There are no designated sites for nature conservation within the Site. Refer to **Figures 7.1** and **7.2** for the location of designated sites in relation to the Site.
- 7.3.7. In summary, there is/ are:
- **International:** One SAC present within 10 km of the Site. North Pennine Moors SAC occurs c.3.2 km south-west of the Site. It is of importance for a range of habitats including dry heath, juniper scrub, blanket bog, petrifying springs, acidic rock outcrops and oak woodland. The SAC occurs within a separate water catchment from the Site, such that there are no hydrological links between the two. None of the notified features are mobile.
 - **National:** Two SSSIs within 2 km:
 - Brignall Banks SSSI 1.7 km north of the Site, and of importance for its upland mixed ash woods and upland oakwoods. It occurs adjacent to the Gill Beck, which has headwaters within the Site such that the two are hydrologically linked. None of the notified features are mobile.
 - Shaw Beck Gill SSSI 970 m to the south-west of the Site but is of geological importance and therefore not considered further.
 - **County:** Nine LWS/ SINC present within 2 km of the Site. This includes:
 - Low Easegill Grassland SINC (0 m, SSW);
 - Lockey Wood SINC (0 m, S);
 - Hud Scar/Hope Scar LWS (14 m, WNW);
 - Moresdale Beck Grassland SINC (145 m, S);
 - Hud Scar/Hope Scar LWS (333 m, NW);
 - Rispey Gill SINC (518 m, SSE);
 - East Bank SINC (1564 m, ESE);
 - Dalton Beck Grasslands SINC (1772 m, E); and



- Waitgate Pastures SINC (2030 m, ESE).

Habitats

- 7.3.8. Refer to **Figure 7.3** Ancient Woodland and Priority Habitats within 2 km (data.gov.uk datasets) and **Figure 7.4** UKHab Classification of Habitats for the location and extent of habitat types at the Site.
- 7.3.9. **Table 7-2** details the habitat types that are present on Site, those in bold type are considered to be Priority Habitat Types and those which are underlined are irreplaceable⁶. Full details in respect of the habitat surveys that have been undertaken will be provided as technical appendices to the ecology ES chapter.

Table 7-2: Habitats present on Site

UKHab primary code	UKHab label
c1c	Cereal crops
f	Wetland
f1a	<u>Blanket bog</u>
f1a6	Degraded blanket bog
f2	Fen, marsh and swamp
f2c	Upland flushes, fens and swamps
f2f	Other swamps
g1b	Upland acid grassland
g1b6	Other upland acid grassland
g1c	Bracken
g3c	Other neutral grassland
g3c5	Arrhenatherum neutral grassland
g3c7	Deschampsia neutral grassland
g3c8	Holcus-Juncus neutral grassland
g4	Modified grassland
h1b	Upland heathland
h1b5	Dry heaths (upland)
h1b6	Wet heathland with cross-leaved heath (upland)
h2a	Hedgerow (Priority Habitat)
h3e	Gorse scrub

⁶ As defined by the list of irreplaceable habitat for BNG in the Biodiversity Gain Requirements (Irreplaceable Habitat) Regulations 2024 (Ref 7-10).

UKHab primary code	UKHab label
h3f	Hawthorn scrub
h3h	Mixed scrub
r1	Standing open water and canals
r2a	Rivers (priority habitat)
s1a	Inland rock outcrop and scree habitats
s1d	Other inland rock and scree
u1	Built up areas and gardens
u1b5	Buildings
u1c	Artificial, unvegetated, unsealed surface
w1	Broadleaved, mixed and yew woodland
w1g7	Other broadleaved woodland types
w1h5	Other woodland; mixed, mainly broadleaved
w2c	Other coniferous woodland

Species

Bats

- 7.3.10. NEYEDC and ERIC have limited bat records for the surrounding area but confirmed the presence of common pipistrelle (*Pipistrellus pipistrellus*), brown long-eared bat (*Plecotus auritus*), Natterer's bat (*Myotis nattereri*), *Myotis* species and noctule (*Nyctalus noctula*). This includes roosting Natterer's bats and common pipistrelle bats at locations which are a short distance (<1 km) from the Site boundary (Barningham and Long Green Farm).
- 7.3.11. There are no trees, buildings or other structures within the Wind Farm Array area that offer roosting potential for multiple bats (i.e. no scope for maternity / hibernation roosts or swarming). Three potential roost features (two trees, one abandoned agricultural building) are present along the Haul Route Search Area; these are all in excess of 200 m from turbines (this being the key distance to refer to, in accordance with NatureScot et al. (Ref 7-5) see **Table 7-1**) and none are anticipated to be affected by the Project.
- 7.3.12. **Table 7-3** details the eight bat species confirmed present on the Site, as determined by the 2024 bat activity survey.

Table 7-3: Bat species at the Site

Species	Rarity Category for Northern England (CIEEM, 2025)	Collision Risk Category (NatureScot et al 2019)
Common pipistrelle	Widespread all geographies	High
Soprano pipistrelle (<i>Pipistrellus pygmaeus</i>)	Widespread all geographies	High
Nathusius' pipistrelle (<i>Pipistrellus nathusii</i>)	Rarer or restricted distribution	High
Brown long-eared bat	Widespread all geographies	Low
Daubenton's (<i>Myotis daubentonii</i>)	Widespread in many geographies, but not as abundant in all	Low
Natterer's bat	Widespread in many geographies, but not as abundant in all	Low
Whiskered bat (<i>Myotis mystacinus</i>)	Widespread in many geographies, but not as abundant in all	Low
Noctule	Widespread in many geographies, but not as abundant in all	High

- 7.3.13. According to the CIEEM Bat Mitigation Guidelines (Ref 7-9) method for assessing the importance of a bat assemblage, the above assemblage scores 14 out of a possible score of 22 and is assessed as being of Regional importance as a result.
- 7.3.14. The highest levels of bat activity were recorded in the vicinity of features of value to foraging and commuting bats such as woodland edges and watercourses.
- 7.3.15. Full details in respect of the bat surveys that have been undertaken will be provided as technical appendices to the ecology ES chapter. This will include use of the online EcoBat tool to compare the bat pass data against a large, regional, and national dataset, providing context on how activity at the Site compares with others.

Other mammal species

- 7.3.16. NEYEDC and ERIC confirmed the presence of brown hare (*Lepus europaeus*), badger (*Meles meles*), otter (*Lutra lutra*), red squirrel (*Sciurus vulgaris*), water vole (*Arvicola amphibius*) and hedgehog (*Erinaceus europaeus*) locally. The level of accuracy for many of the records means it is not possible to determine precise locations, however it seems most are associated with woodland at The Stang, the area near to Barningham village, and the watercourses north and south of the Site.

- 7.3.17. No evidence of protected species including, but not limited to, badger, otter or water vole has been recorded on the Site to date. Although the majority of habitats present offer some suitability for these species, as well as for red squirrel, they are generally considered suboptimal due to limited opportunities for foraging and/or shelter. These species are therefore assessed as likely absent at the time of survey
- 7.3.18. Habitat conditions are more favourable for brown hare and, in some areas, potentially also for hedgehog. It is considered possible that these species may be present within the Site; however, significant populations are considered unlikely.

Fish

- 7.3.19. A data search of the NBN Gateway was conducted in 2024 and focussed on the area within 5 km of the Site. The data search returned the following records; bullhead (*Cottus gobio*), brown trout (*Salmo trutta*), European eel (*Anguilla anguilla*) and Atlantic salmon (*Salmo salar*). The 2025 data returned by NEYEDC and ERIC confirmed this remained the case. None of the records returned were associated with watercourses within the Site.
- 7.3.20. Arndale Beck and Moresdale Gill were electro-fished in accordance with Environment Agency protocol for semi-quantitative methods for fisheries classification. The main findings were as follows:
- the survey showed that the watercourses on site contain healthy populations of brown trout;
 - populations of brown trout have undergone recruitment in each of the last three years;
 - presence of potentially three juvenile year classes of brown trout would suggest that the watercourses are an important spawning habitat for brown trout; and
 - trout populations are separated for significant parts of the year by dry valley section typical of the underlying karst limestone geology.
- 7.3.21. No other important fish populations were noted.

White-clawed crayfish

- 7.3.22. There are no records of white-clawed crayfish within the Site.
- 7.3.23. The nearest records are approximately 10 km downstream in the catchment at Marske Beck near Skelton (NGR: NZ 09763 01126).
- 7.3.24. No evidence of white-clawed crayfish (or any non-native crayfish) was found in any of the watercourses surveyed. Likely absence of white-clawed crayfish is assumed in all watercourses throughout the Site.

Other protected or notable species

- 7.3.25. NEYEDC and ERIC also returned records for a range other protected or notable species for the local area, including common lizard (*Zootoca vivipara*), common toad (*Bufo bufo*) and small heath (*Coenonympha pamphilus*) records from within the Site.



Summary of Important Ecological Features

- 7.3.26. **Table 7-4** outlines the important ecological features (IEF) that have been identified within the relevant Study Areas, or which based upon desk study information, habitat suitability or via more recent survey data are considered likely to be present within the relevant Study Areas, and which may be affected by the Project.
- 7.3.27. All remaining ecological features within the Study Area that are likely to be affected by the Project (amphibians, certain S41 mammal species) are assessed as being common and widespread at the local and national level. Therefore, they will not be taken forward for detailed assessment in the EclA.

Table 7-4: Important Ecological Features

Important Ecological Feature	Reason for Importance	Geographical Scale of Importance
North Pennine Moors SAC	Statutory Designated Site	International
Brignall Banks SSSI	Statutory Designated Site	National
LWS within 200 m of the Site, namely: • Low Easegill Grassland; • Locky Wood; • Hud Scar / Hope Scar; and • Moresdale Beck Grassland.	LWS	County
Habitats of conservation importance including: Blanket bog, degraded blanket bog, upland flushes, fens and swamps, upland heathland, dry heaths (upland), wet heathland with cross leaved heath, inland rock outcrop and scree habitats, hedgerows and rivers.	S41 habitats, parts of which (blanket bog) are also irreplaceable habitat. The habitats listed exist in close mixture or mosaic and are functionally linked. It has therefore not been considered helpful to consider them separately and they are here presented as a single important ecological feature of greater value than the individual parts.	Regional
Bat Assemblage	All UK bat species are European and UK protected species. Common pipistrelle, soprano pipistrelle, brown long-eared bat are S41 species. No major roosting or swarming sites are considered to be present at the Site, but a disused	Regional

Important Ecological Feature	Reason for Importance	Geographical Scale of Importance
	agricultural building and two trees along the Haul Route Search Area have potential to be used by roosting bats but will not be directly affected. Bat activity survey has confirmed the presence of eight species at the Site. The assemblage of bat species recorded to date is assessed as being of Regional value, based on CIEEM Bat Mitigation methodology (Ref 7-11).	
Otter	Otter is protected through its inclusion in Schedule 5 of the Wildlife and Countryside Act 1981 (WCA) (Ref 7-12) and in Schedule 2 of The Conservation of Habitats and Species Regulations 2017 (Ref 7-13), it is also S41 species. No evidence of otter has been recorded at the Site to date, but potential future presence cannot be entirely ruled out. Therefore, the species is taken forward in the assessment.	Local
Reptiles	All native reptiles are UK protected species (common lizard receives partial protection although the level of protection afforded to adder is currently subject to review and may increase) and recognised as a species of principal importance under Section 41 of the Natural Environment and Rural Communities Act 2006 (NERC Act) (Ref 7-14). Desk study data confirms that common lizard are recorded on the Site. The	Local

Important Ecological Feature	Reason for Importance	Geographical Scale of Importance
	population is considered at least of Local value, but is considered unlikely to be of value at the County scale, due to the abundance of suitable habitat and records elsewhere.	
Invertebrates	Potential for populations of Section 41 species and/ or Red Data Book (RDB) species associated with wetland habitats, heathland, hedgerows, woodland and bracken.	County, based upon the presence of regionally important suite of habitats, including an irreplaceable habitat type.
Brown trout population	Breeding population of brown trout present in the watercourses at and adjacent to the Site. This species is widespread locally, but faces threats from habitat degradation via climate change and water quality issues.	Local

7.4. Proposed Approach to the Environmental Impact Assessment

Relevant Policy, Legislation and Guidance

7.4.1. Scoping has been carried out with reference to the legislation, policy (National and Local) and guidance listed below. The list of guidance is not exhaustive and other relevant guidance documents may be referred as to appropriate.

- Legislation
 - Environment Act (2021) (Ref 7-15);
 - The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 (Ref 7-16);
 - The Conservation of Habitats and Species Regulations 2017 (as amended) (the Habitats Regulations) (Ref 7-13);
 - NERC Act 2006 (Ref 7-14);
 - Wildlife and Countryside Act (WCA) 1981 (as amended) (Ref 7-12);
 - Ramsar Convention (Ref 7-17);
 - Hedgerow Regulations 1997 (Ref 7-18);
 - Protection of Badgers Act 1992 (Ref 7-19);

- Salmon and Freshwater Fisheries Act 1975 (Ref 7-20);
- National Policy
 - National Policy Statements (NPS):
 - Overarching National Policy Statement for Energy (EN-1) (Ref 7-21); and
 - Renewable Energy Infrastructure (EN-3) (Ref 7-22);
 - National Planning Policy Framework December 2024 (Ref 7-23);
 - Biodiversity and geological conservation: Circular 06/05 (Ref 7-24);
- Local Policy
 - Durham County Council (DCC): County Durham Plan (Ref 7-25). Relevant policies may include:
 - Policy 34: Wind Turbine Development;
 - Policy 40: Trees, Woodlands and Hedges;
 - Policy 41: Biodiversity and Geodiversity;
 - Policy 42: Internationally Designated Sites; and
 - Policy 43: Protected Species and Nationally and Locally Protected Sites.
 - Emerging Durham Local Nature Recovery Strategy (LNRS) (Ref 7-26);
 - Emerging County Durham Plan (Ref 7-27)
 - Emerging North Yorkshire Council Local Plan (Ref 7-28)
 - Richmondshire Local Plan 2012-2028 Core Strategy (Ref 7-29). Relevant policies may include:
 - Core Policy CP3: Achieving Sustainable Development; and
 - Core Policy CP12: Conserving and Enhancing Environmental and Historic Assets.
 - North Yorkshire LNRS (Ref 7-30);
- Guidance
 - CIEEM Guidelines for Preliminary Ecological Appraisal, 2nd edition (Ref 7-31);
 - CIEEM Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.3. (Ref 7-32);
 - BS42020: Biodiversity – Code of Practice for Planning and Development (Ref 7-33);
 - Bats and Onshore Wind Turbines: Survey, Assessment and Mitigation (Ref 7-5);



- Bat Surveys for Professional Ecologist. Good Practice Guidelines (Ref 7-34);
- Chanin, P. (2003). Monitoring the Otter *Lutra lutra* (Ref 7-7);
- Dean, M., Strachan, R., Gow, D. and Andrews, R. (2016). The Water Vole Mitigation Handbook (Ref 7-35);
- Dean, M. (2021). Water Vole Field Signs and Habitat Assessment A Practical Guide to Water Vole Surveys (Ref 7-36);
- NatureScot (2003). Best Practice Guidance – Badger Surveys (Ref 7-37);
- UKHab Ltd (2023). UK Habitat Classification Version 2.0 (Ref 7-38); and
- Rodwell, J.S. (2006). National Vegetation Classification Users' Handbook (Ref 7-2).

Proposed Assessment Methodology

- 7.4.2. Whilst **Chapter 3: Approach to EIA** provides an indicative EIA assessment method, it also identifies that assessment methodologies may differ in accordance with the prevailing technical area guidance and specific requirements of receptor groups. As such the following sections provide a description of the assessment criteria and assessment methodologies of relevance to ecology, which are derived from best practice guidance documents applicable to this topic and differ from those presented in the broader methodology chapter.
- 7.4.3. The ecological evaluation and impact assessment approach used in this report is based on CIEEM Guidelines for Ecological Impact Assessment v1.3 in the United Kingdom and Ireland (“CIEEM guidelines”) (Ref 7-32), which are widely regarded as industry best practice.

Determining Importance

- 7.4.4. In accordance with the CIEEM guidelines (Ref 7-32), only ecological receptors which are considered to be IEF and potentially affected by the Project will be subject to detailed assessment. Ecological features can be important for a variety of reasons and the rationale used to identify them is explained here. Importance may relate, for example, to the quality or extent of the habitats within the Site; habitat and/ or species rarity; the extent to which such habitats and/ or species are threatened throughout their range, or to the habitats' and/ or species' rate of decline.
- 7.4.5. Important habitats are considered here to be those which:
- match descriptions of habitats listed on Annex 1 of the Habitats Directive (Ref 7-39), so far as it applies to the UK and as transposed by The Conservation of Habitats and Species Regulations 2017 (Ref 7-13);
 - match descriptions of habitats of principal importance for biodiversity under Section 41 (S41) of the NERC Act, 2006 (Ref 7-14);



- comprise irreplaceable habitats; such as (but not limited to) blanket bog, ancient woodland and veteran trees;
- meet the LWS selection criteria for North Yorkshire or County Durham; *and/ or*
- comprise a significant habitat resource for an important species (see below).

7.4.6. Important species are considered here to be those:

- of European conservation importance (as listed on Annexes II, IV and V of the Habitats Directive (Ref 7-39)) so far as it applies to the UK and as transposed by The Conservation of Habitats and Species Regulations 2017 (Ref 7-13);
- specially protected under the terms of the Wildlife and Countryside Act 1981 (Ref 7-12);
- of principal importance for biodiversity under S41 of the NERC Act 2006 (Ref 7-14);
- red listed or listed as near threatened using International Union for the Conservation of Nature (IUCN) criteria (IUCN, 2012 (Ref 7-40); IUCN, 2016 (Ref 7-41); IUCN 2019 (Ref 7-42)), e.g. in one of the UK Species Status Project reviews, or, where a more recent assessment of the taxonomic group has not yet been undertaken, listed in a Red Data Book;
- which are listed as a Nationally Rare or Nationally Scarce species (e.g., in one of the Species Status Project reviews) or listed as a nationally notable species where a more recent assessment of the taxonomic group has not yet been undertaken;
- endemic to a country or geographic location (it is appropriate to recognise endemic sub-species, phenotypes, or cultural behaviours of a population that are unique to a particular place); and/ or
- Meet the LWS selection criteria for North Yorkshire or County Durham.

7.4.7. The CIEEM guidelines (Ref 7-32) state that the importance of an ecological feature should be considered within a defined geographical context. The following frame of reference is used:

- International;
- National (i.e. England);
- Regional (i.e. North East England);
- County (i.e. North Yorkshire/ County Durham);
- Local (i.e. the Site plus circa 2 km); and
- Less than local.

7.4.8. For the purposes of this assessment only ecological features of local importance or greater and/ or subject to legal protection are included (and are referred to as IEFs). Effects on other ecological features of lower



importance are considered unlikely to be significant in legal or policy terms so are not subject to detailed assessment.

Identification and Characterisation of Impacts

- 7.4.9. The identification and characterisation of impacts on IEFs will be undertaken in accordance with the CIEEM guidelines (Ref 7-32) with reference made to magnitude (e.g. area or number of individuals to be impacted), extent, duration and reversibility as appropriate. Impacts will be considered during the construction, operational and decommissioning phases and will be assessed on the basis that a clearly defined range of avoidance and standard good practice measures are implemented.

Significant effects

- 7.4.10. CIEEM guidelines (Ref 7-32) define a 'significant effect' as an effect that either supports or undermines conservation objectives for IEFs or for biodiversity in general. Conservation objectives may be specific (e.g. for a designated site) or broad (e.g. national/ local nature conservation policy). Potentially significant effects identified will be expressed with reference to an appropriate geographic scale. For example, a significant effect on a nationally designated site is likely to be of national significance. However, the scale of significance does not necessarily always relate to the importance of an ecological feature. For example, an effect on a species which is considered of national importance, may not have a significant effect upon its national population.
- 7.4.11. Consideration of conservation status is important for evaluating the effects of impacts on habitats and species and assessing their significance. Conservation status is determined by the sum of influences acting on the habitat or species concerned that may affect its abundance and distribution within a given geographical area.
- 7.4.12. In relation to significance of effects on IEFs, this will be expressed within the ES chapter with reference to the regional, national or international scale (as relevant). The significance of effects at a local scale may also be assessed where sufficient information allows a meaningful assessment.

Cumulative assessment

- 7.4.13. The cumulative assessment will be conducted in accordance with the CIEEM Guidelines (Ref 7-32), with specific reference to the section related to cumulative impacts and effects.
- 7.4.14. Cumulative effects will be assessed for all ecological receptors for which detailed assessment has been undertaken, based upon residual effects. The cumulative assessment will be based on consideration of residual effects of other schemes also i.e. assuming that consented or proposed schemes will deliver the mitigation and compensation measures described in their application/ consent.
- 7.4.15. For habitats and species outside of designated sites, the approach will depend on whether the feature is mobile or not. For mobile features (such



as bats) the proposed approach is to use the core foraging range/ core sustenance zone for each species included in the assessment, taken from most recent relevant guidance for the species in question, to determine the spatial extent of the cumulative assessment. For example, for a bat species with a maximum core foraging range of 4 km, other relevant plans or projects within 8 km will be included in the cumulative assessment. Where impacts on aquatic receptors are possible then other developments within the same sub-catchment will be considered in the cumulative assessment. For other ecological receptors cumulative effects are unlikely beyond 2 km, therefore only development within 2 km will be included.

Further Baseline Data

Planned Surveys

- 7.4.16. As set out in **Section 7.3 Table 7-1**, further surveys are planned in 2026 to include:
- River Condition Assessment;
 - Bat Activity Survey; and
 - Update walkover survey to confirm baseline data remains valid for the purpose of informing the EIA.
- 7.4.17. Results from these surveys, plus previously gathered field survey data and any other publicly available ecological data that is available at the time of writing will be used to inform the EcIA.

Consultation

- 7.4.18. No consultation has been undertaken to date with respect to ecology. Consultation is anticipated with Natural England, Durham County Council, North Yorkshire Council and the Environment Agency to:
- confirm the scope of surveys is adequate to inform the EcIA and that all potential impact pathways have been identified;
 - confirm agreement with the Important Ecological Features subject to assessment;
 - discuss the approach to mitigation and/ or compensation, in particular in relation to loss of irreplaceable and/ or priority habitats, potential downstream impacts to salmonid fish populations and operational impacts to bats; and
 - confirm the detail in respect of meeting statutory requirements for BNG.

7.5. Design, Mitigation and Enhancement Measures

- 7.5.1. As part of the design process for the Project, several embedded and standard mitigation measures are proposed to reduce the potential for impacts on ecological receptors. These are presented below. It is expected that these may evolve throughout the design evolution of the Project as the EIA progresses and in response to consultation.



- 7.5.2. The Applicant is committed to implementing these measures, and also various standard sectoral practices and procedures. It is therefore considered that these measures are inherently part of the design and have been considered in the judgements as to which impacts can be scoped in/ out of assessment presented in **Section 5.7** and **Section 7.7**.

Table 7-5: Embedded design and applied mitigation measures

Parameter	Mitigation Measures
General	
Project Design	Careful turbine siting and track alignments to avoid key areas of ecological sensitivity, including wetland habitats (especially those associated with peat), wherever possible. Cabling to be installed within the earthworks extent: • At all watercourse crossings; and • In all areas where important habitat is crossed or occurs immediately adjacent. Cable routing to avoid the root protection zone (RPZs) of all retained trees and woodland. A 50 m bat buffer (distance between turbine blade tip and woodland) has been applied to all woodland and trees in respect of turbine locations, in accordance with NatureScot guidelines.
Construction	
Vegetation Clearance and Other Construction Works	Full details of construction mitigation measures will be provided in a Construction Environmental Management Plan (CEMP); an outline CEMP will form part of the application for development consent. Good practice measures in relation to pollution risk, sediment management and watercourse crossings to be adopted during the construction and operation phases are also set out in Chapter 9: Hydrology and Hydrogeology, and further details on peat management during construction are set out in Chapter 10: Geology, Soils and Ground Conditions. General Measures General good practice measures to protect important ecological features either known to be present or with the potential to be present will be set out in the outline CEMP and will be implemented during the construction phase. These will include: • Micro-siting of project elements will be used to avoid important ecological features, where possible. • Where appropriate protective fencing will be installed around retained habitats of importance and retained trees located directly adjacent to working areas (in accordance with recommendations in BS 5837:2012 (Ref 7-43)). • All temporary construction areas will be reinstated to their original condition in terms of vegetation cover, except where they are to be enhanced.

	• All disturbed habitats that will not be permanently lost will be reinstated as soon as possible after construction. • As advised by the ECoW (see below) and where practically possible, cutting of vegetation (by strimming or flailing) to a height of 10 cm will be undertaken in all areas of suitable reptile habitat during the reptile active period of March to October, prior to works starting. All places of shelter shall be moved and checked for the presence of reptiles – log piles, rock piles etc. by hand where possible, with use of machinery only where objects are too heavy or unwieldy to move by hand and only under direct supervision of the ECoW. In exceptional cases, if work must start between November and March in areas that were not cut prior to the end of October, the vegetation should be cut under the supervision of the ECoW, taking care to locate and not to disturb any potential refugia. If refugia are present, they would be searched by the ECoW prior to their removal. If any reptiles are found, they would only be moved during suitable weather conditions and would not be moved when in a state of torpor. • All potentially dangerous substances or materials within the temporary construction compound would be carefully stored to reduce accidental pollution risk and prevent them causing any harm to otters or other mammal species which may enter the compound at night. • During construction, all excavations greater than 0.5 m depth would either be temporarily covered at night or designed to include a ramp to allow reptiles and other animals a means of escape should they fall in. • A speed limit of no greater than 15 mph would be implemented onsite to reduce the risk of road traffic collisions with wildlife. Ecological Clerk of Works (ECoW) A suitably qualified ECoW team will be employed for the duration of the construction and reinstatement periods, to oversee the safeguarding of important habitats and species and the implementation of ecological mitigation, compensation or enhancement measures, although this may not necessarily be a full-time role throughout. The role of the ECoW team will be defined in the CEMP include the following tasks: • Give toolbox talks to all staff onsite, so staff are aware of the ecological sensitivities on the Site and the legal implications of not complying with agreed working practices; • Agree and monitor measures designed to minimise damage to retained habitats; • Undertake pre-construction surveys and checks and advise on ecological issues where required; • During the construction period and in advance of work, undertake inspections of areas which require protected species mitigation (such as for reptiles or breeding birds) and carry out an appropriate level of supervision during vegetation clearance; and

	Oversee vegetation and habitat reinstatement on areas subject to disturbance during construction. The ECoW team will also undertake additional roles, such as advising on drainage and reinstatement and establishing/monitoring appropriate exclusion areas (see Chapter 9: Hydrology and Hydrogeology and Chapter 8: Ornithology). Pre-construction Surveys Pre-construction surveys for protected species whose distribution could have changed since the baseline surveys would be undertaken to update the baseline and inform the implementation of any mitigation necessary. Additional checks for the presence of badger, otter and other protected or notable species will also be carried out by the ECoW immediately prior to vegetation clearance. In the unlikely event that protected species not recorded at the Site previously are identified during the pre-construction surveys and/ or ECoW checks, appropriate mitigation measures would be identified, agreed with NE (if licences are required) and implemented.
Biosecurity and Invasive Non-Native Species (INNS) Method Statement	All construction work will be undertaken in accordance with a Biosecurity and INNS Management Plan (BIMP), an outline version of which will be included within the outline CEMP, which will form part of the application for development consent, which will set out the principles to be followed when the BIMP is finalised.
Pollution Prevention and Emergency Incident Response	Construction practices will incorporate measures to prevent pollution: All construction work will be undertaken in accordance with the CEMP, which will include a Pollution Prevention and Emergency Incident Response Plan setting out the pollution prevention measures, and emergency incident responses, which will be implemented by the Applicant and its contractors during construction. An outline Pollution Prevention and Emergency Incident Response Plan (PPEIRP) will be provided as part of the outline CEMP, which will form part of the application for development consent, and will set out the principles to be followed when the PPEIRP is finalised.
Best Practice	All construction work will be undertaken in accordance with the outline CEMP, which will form part of the application for development consent, and relevant good practice guidance including, but not limited to: - CIRIA Control of Water Pollution from Construction Sites: Guidance for Consultants and Contractors (C532) (Ref 7-44); - CIRIA SuDS Manual (C753) (Ref 7-45); - No discharge to main river watercourses will occur without permission from the EA (SuDS Manual Ref 7-45)), or from the lead local water authority in the case of ordinary watercourses; - Wheel washers, or alternative measures to minimise the transfer of detritus onto the highway, and dust suppression measures (if required), to be used as appropriate to prevent the migration of pollutants (SuDS Manual (Ref 7-45));

	• Regular cleaning of roads of any construction waste and dirt to be carried out (SuDS Manual (Ref 7-45)); and • Surface water drainage arrangements to be submitted for approval by the LPA as a requirement of the consent.
Operation and Maintenance	
General	The operational wind farm will include machinery that contains potential pollutants which could include cooling oils, lubricants, fuels, greases, etc. The design, maintenance and operation of the facility will follow good practice in line with the prevailing/future guidance and legislation with regard to measures such as the storage and management of potentially polluting substances, emergency spill response procedures, clean up and control of any potentially contaminated surface water runoff and routine inspection to prevent or contain leaks of any pollutants. In line with current good practice, feathering, i.e. the reduction of rotation speed while the turbine is idling (based on the findings of Arnett <i>et al.</i> (Ref 7-46), will be considered and implemented, depending upon the findings of detailed assessment, throughout wind farm operation. In respect of feathering the current NatureScot <i>et al.</i> guidelines (Ref 7-5) state: <i>“The reduction in speed resulting from feathering compared with normal idling may reduce fatality rates by up to 50%. As this option does not result in any loss of output, as best practice, it is recommended wherever it is practically possible and there remains uncertainty over the risk posed to bats. It can be applied at any site with a blade pitch control system which can be automated using SCADA data”</i>. The relevant measures in both respects would be set out in an Operational Phase Environmental Management Plan (OPEMP), an outline of which will be submitted with the application and the requirement for a final OMP will be secured in the DCO. An integral part of the Project will be the production and implementation of a long-term compensation and enhancement measures for biodiversity (including ornithological as well as ecological interests) and agreed with relevant consultees, prior to the construction of the Project commencing. Outline details of these measures would be included within the outline Landscape and Ecology Management Plan (LEMP), which will form part of the application for development consent. Production of a final version of the LEMP would be secured by a requirement in the DCO, stipulating that the final version must be substantially in accordance with the outline LEMP. A detailed Habitat Management Plan (HMP) may subsequently be prepared and secured as a Requirement linked to the LEMP, or form part of the LEMP, to provide detailed prescriptions for habitat management, monitoring and long-term biodiversity objectives during operation.
Decommissioning	
General	Development of, and adherence to a Decommissioning Plan. An outline Decommissioning Plan will be produced, which will detail measures envisaged to be implemented to avoid or reduce impacts during the decommissioning of the Project. An outline Decommissioning Plan will be submitted with the application for development consent, and the

	production of a final Decommissioning Plan will be secured via a Requirement in the DCO granted for the Project, stipulating that the final version of the Decommissioning Plan must be carried out substantially in accordance with the outline Decommissioning Plan.

- 7.5.3. Additional mitigation measures will be considered where significant effects are anticipated to remain after embedded design measures and standard good practice controls have been applied. If residual impacts persist, proportionate further actions, such as mitigation and compensation will be identified to address those remaining effects.
- 7.5.4. Further detail on the role of mitigation commitments, as part of a proportionate EIA approach, is provided in **Chapter 3: Approach to EIA**. A full description of the mitigations commitments identified so far is provided in **Appendix 3A: Draft Register of Environmental Actions and Commitments (REAC)**.
- 7.5.5. The requirement for, and feasibility of, any mitigation measures will be subject to consultation with consultees throughout the pre-application phase of the Project.

7.6. Potential Impacts Scoped In

- 7.6.1. A range of potential impacts on ecological receptors have been identified which may occur during construction, operation and maintenance, and decommissioning phases. The impacts that have been scoped into the EIA are outlined in **Table 7-6**, together with a description of any proposed additional data collection (e.g. site-specific surveys) and/ or supporting analyses (e.g. modelling) to enable an assessment of the impact.

Table 7-6: Impacts proposed to be scoped into the assessment for Ecology

Impact	Description	Proposed Approach to Assessment Including Description of Any New Data Collation Required and Any Analyses (Such as Modelling)
Construction		
Indirect impacts North Pennine Moors SAC	North Pennine Moors SAC occurs c.3.2 km south-west of the Site. It is of importance for a range of habitats including dry heath, juniper scrub, blanket bog, petrifying springs, acidic rock outcrops and oak woodland. The SAC occurs within a separate water catchment from the Site, such that there are no hydrological	Data in respect of construction traffic and any associated air quality impacts will be used to determine potential for adverse effects at the SAC. Natural England's conservation advice for Protected Sites: North Pennine Moors SAC (Ref 7-47) will be used to inform the EIA and HRA.

Impact	Description	Proposed Approach to Assessment Including Description of Any New Data Collation Required and Any Analyses (Such as Modelling)
	links between the two. None of the notified features are mobile. Air quality impacts from construction traffic could result in impacts to the SAC, depending on routes to site and number of vehicle movements. The SAC is scoped into the EIA as a result and a Habitats Regulations Assessment will be included as part of the application.	
Permanent and temporary loss or degradation of important habitat via excavation, through hydrological/hydrogeological changes or via degradation from dust deposition/air quality impacts.	At the on-site substation, turbine bases, crane pads and access tracks there will be permanent loss of habitat due to the construction footprint of this element of the project. Temporary habitat loss during construction, such as to enable creation of Site compounds or working areas around infrastructure, may also result in temporary (and depending on habitat type perhaps permanent) habitat loss. Degradation could result from altering water tables (hydrological degradation) and edge effects (e.g., drying out or waterlogging, or dust deposition). Key considerations are likely to be loss of areas that may support irreplaceable, Annex 1 habitats and/ or which support protected and notable species.	The results from post-scoping high resolution peat depth surveys and condition assessment will be used in combination with baseline habitat data (NVC and UKHab) to determine the potential presence of irreplaceable blanket bog habitat, and other important habitat types present. Hydrological, hydrogeological and geological data will be used to determine potential impact pathways that could affect important habitats, and the extent over which such impacts may have adverse effects. The assessment of impacts will be undertaken in accordance with CIEEM Guidelines (Ref 7-32), as described at Section 7.4. Detailed discussion is anticipated with key consultees in respect of compensation requirements for any loss of areas of irreplaceable habitat.
Impacts upon protected or otherwise notable terrestrial species or upon	The potential exists for protected species to be directly impacted by construction	No additional data is required for the purpose of impact assessment.

Impact	Description	Proposed Approach to Assessment Including Description of Any New Data Collation Required and Any Analyses (Such as Modelling)
their resting or breeding sites	activities either physically or from indirect disturbance via light, noise and human presence.	Field survey and desk study data gathered to date indicates no evidence for the presence of protected animal species at the Site (with the exception of foraging/commuting bats). However, due to the mobile nature of many protected species that are known to be present locally, their future presence cannot be entirely ruled out and mitigation is therefore proposed in order to minimise impacts, and minimise the risk of an offence under the protecting legislation. The assessment of impacts will be undertaken in accordance with CIEEM Guidelines (Ref 7-32), as described at Section 7.4 .
Habitat fragmentation and species isolation	There is potential for permanent habitat fragmentation and species isolation as a result of turbine and infrastructure construction. Temporary habitat fragmentation and species isolation may also result from construction requirements.	No additional data is required for the purpose of impact assessment. Field survey and desk study data gathered to date will be used for the assessment. The assessment of impacts will be undertaken in accordance with CIEEM Guidelines (Ref 7-32), as described at Section 7.4 .
Spread of invasive non-native species (INNS)	There is potential for the presence of INNS which could be spread by construction activities.	Field survey and desk study data gathered to date and in 2026 will be used for the assessment. The assessment of impacts will be undertaken in accordance with CIEEM Guidelines (Ref 7-32), as described at Section 7.4 .
Accidental Pollution	The impact of pollution including accidental spills and contaminant releases	Field survey and desk study data gathered to date and in

Impact	Description	Proposed Approach to Assessment Including Description of Any New Data Collation Required and Any Analyses (Such as Modelling)
	associated with the construction of infrastructure may lead to direct or indirect disturbance or damage to designated sites, species and/or habitats.	2026 will be used for the assessment. The assessment of impacts will be undertaken in accordance with CIEEM Guidelines (Ref 7-32), as described at Section 7.4 .
Operation and Maintenance		
Killing and injury to high collision* risk bat species recorded at the Site (common pipistrelle, soprano pipistrelle, Nathusius' pipistrelle, noctule). * in this context the term "collision" is taken to mean any form of injury or mortality associated with the operation of wind turbines, i.e. it includes mortality due to barotrauma	Operational turbines represent a potential risk to bats which may fly within the swept rotor area. The frequency and likelihood of a collision occurring depends on a range of factors. These include aspects of the behaviour of the bat species (including their use of a site), the nature of the surrounding environment, and the structure and layout of the wind turbines.	Field survey and desk study data gathered to date and in 2026 will be used for the assessment. The assessment of impacts will be undertaken in accordance with the NatureScot <i>et al</i> guidelines, and the CIEEM Guidelines (Ref 7-32), as described at Section 7.4 .
Disturbance via maintenance	Maintenance during the operation of the windfarm is likely to be highly localised with a minimal likelihood of disturbance expected to the adjacent habitats and species.	Field survey and desk study data gathered to date and in 2026 will be used for the assessment. The assessment of impacts will be undertaken in accordance with CIEEM Guidelines (Ref 7-32), as described at Section 7.4 .
Decommissioning		
Decommissioning impacts: similar in nature to those during construction but would be more limited in geographical extent and timescale.	It is proposed that the onsite substation electrical infrastructure and turbine components would be removed as part of the decommissioning phase. Closer to the time of decommissioning, it may be decided that removal of certain infrastructure would lead to greater environmental impacts	Update surveys would be required to inform the decommissioning process.

Impact	Description	Proposed Approach to Assessment Including Description of Any New Data Collation Required and Any Analyses (Such as Modelling)
	than leaving components in situ, in which case certain components may be left buried. The decommissioning methodology cannot be finalised until immediately prior to decommissioning; but would be in line with relevant policy and learnings at that time.	
Cumulative		
For ecological features potential cumulative impacts are only likely to be significant for other developments which: • Are directly adjacent or very close to the Site and may affect the same habitats and species; • Are located within the same hydrological catchment(s) so may be affected by water-borne sedimentation or pollution events, e.g brown trout; or • Are located within the regular range of more mobile species, e.g. bats.	The short list of other developments for the cumulative assessment will therefore be restricted to other development projects within 2 km, or within 5 km and within the same surface water catchment, or within the Core Sustenance Zone distance of the most widely ranging bat species recorded at the Site. The cumulative assessment will be based on consideration of residual effects, assuming that proposed mitigation and compensation measures for other projects are implemented.	The cumulative assessment will be conducted in accordance with the CIEEM Guidelines (Ref 7-32), with specific reference to the section related to cumulative impacts and effects.

7.7. Impacts Proposed to be Scoped Out

- 7.7.1. Based on the baseline environment information currently available and the Project description (outlined in **Chapter 2: Project Description**) a number of impacts are proposed to be scoped out the EIA for ecology. The impacts are outlined in **Table 7-7**, together with a justification for scoping them out.

Table 7-7: Impacts proposed to be scoped out of assessment for Ecology

Impact	Justification for Scoping Out
Construction	

Impact	Justification for Scoping Out
Indirect impacts Brignall Banks SSSI	Brignall Banks SSSI 1.7 km north of the Site, and of importance for its upland mixed ashwoods and upland oakwoods. It occurs adjacent to the Gill Beck, which has headwaters within the Site such that the two are hydrologically linked. None of the notified features are mobile. Although the Site is hydrologically connected to the SSSI, the embedded mitigation measures are considered sufficient to reduce potential risks to notified features to negligible levels. As a result, impacts on the SSSI's notified features are assessed as not significant.
Impacts to certain LWS - those >200 m from the site boundary and with no mobile notified features (e.g. bats) and/ or no hydrological connection	Potential impacts to LWS >200 m from the site are not anticipated.
Impacts to otter, water vole, badger.	Although known to be present locally, the need for further survey and assessment for these species has been scoped out on the basis of lack of evidence to date, relative lack of suitable habitat within the Site, and lack of potential significant impacts through (for example) habitat loss, disturbance or accidental pollution.
Impacts to white-clawed crayfish	Baseline desk and field survey has determined that this species is likely absent from the Site and the area downstream. No impacts are therefore anticipated to this species.
Operation and Maintenance	
Killing and injury to low collision risk bat species recorded at the Site (brown long-eared bat, Daubenton's bat, Natterer's bat, whiskered bat)	NatureScot et al guidelines (Ref 7-5) state these species are at low risk from collision and the populations are of low vulnerability. Potential impacts to these populations are therefore assessed as not significant.
Decommissioning	
An ecological impact assessment of the decommissioning phase is scoped into the assessment as detailed in Table 7-6 .	
Cumulative	
A cumulative ecological impact assessment is scoped into the assessment as detailed in Table 7-6 .	

7.8. Summary of Next Steps

- 7.8.1. The next steps comprise commencing consultation with key stakeholders and undertaking the additional surveys as previously described.

7.9. Further Consideration for Consultees

- 7.9.1. The following questions are provided to help frame consultee comments on the Scoping Report for ecology:
- Q7.1: Are there any additional baseline data sources that should be used to inform the assessment?
 - Q7.2: Do consultees agree that the scope of the surveys undertaken and proposed will be sufficient to inform the assessment?
 - Q7.3: Are the consultees in agreement with the identification of Important Ecological Features taken forward for detailed assessment?
 - Q7.4: Are the consultees content to scope out the effects in **Table 7-7**?

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[Accessed March 2026].



8. Ornithology

8.1. Introduction

- 8.1.1. This chapter of the Scoping Report sets out the baseline, the proposed scope and methodology of the ornithology assessment of the Project and provides indication of how mitigation and enhancement measures could be identified. It identifies the potential likely significant effects arising from the construction, operation and management, and decommissioning of the Project, in isolation and cumulatively, on ornithological features. This chapter also explains how likely significant effects would be assessed for the purposes of the Environmental Impact Assessment (EIA).
- 8.1.2. Details of the construction, operation and maintenance, and decommissioning of the Project are set out in **Chapter 2: Project Description**.
- 8.1.3. There are interrelationships between the potential effects on ornithology and other environmental topics. Therefore, this chapter should be read alongside the following chapter of this Scoping Report:
- **Chapter 7: Ecology.**
- 8.1.4. This chapter is supported by the following Figures (provided in **Volume A**):
- **Figure 8.1:** Statutory Designations within 20 km;
 - **Figure 8.2:** Flight Activity Survey Area April 2022 – August 2024;
 - **Figure 8.3:** Breeding and Wintering Bird Survey Areas April 2022 – August 2024;
 - **Figure 8.4:** Flight Activity Survey Area 2026 Breeding Season; and
 - **Figure 8.5:** Bird Survey Areas 2026 Breeding Season.

8.2. Study Area

- 8.2.1. The ornithology chapter of the Environmental Statement (ES) will adopt the following Study Areas and within which, baseline information in relation to ornithological features will be compiled and impacts considered:
- Designated sites – 20 km buffer around final turbine locations for Special Protection Areas (SPAs), Ramsar sites and Sites of Special Scientific Interest (SSSI) with ornithological qualifying features, and which is considered to sufficiently capture the maximum core dispersal and/or foraging distance of ornithological qualifying features of such sites and establish the potential for functional linkage, defined with reference to NatureScot guidance (SNH⁷, Ref 8-1);
 - Collision Risk Analysis Area (CRAA) – 500 m buffer around final turbine locations plus rotor radius to identify “at collision risk” flight activity and

⁷ Scottish Natural Heritage (SNH), the former operating name of NatureScot.



estimate collision mortality risks, defined with reference to NatureScot guidance (Ref 8-2);

- Scarce breeding birds⁸ – 2 km buffer around final turbine locations, and a 1 km buffer around all other proposed infrastructure, defined with reference to NatureScot guidance (Ref 8-3) and Goodship and Furness⁹ (Ref 8-4);
- Black grouse – 1.5 km buffer around final turbine locations and 750 m around all other infrastructure, defined with reference to NatureScot guidance (Ref 8-3) and Goodship and Furness (Ref 8-4); and,
- Breeding moorland and wintering birds – a 500 m buffer around all infrastructure for additional breeding and wintering bird species likely to be sensitive to onshore wind farm developments, defined with reference to NatureScot guidance (Ref 8-3) and Goodship and Furness (Ref 8-4).

8.2.2. The Study Area for ornithology has been defined for the purposes of Scoping using the Scoping Boundary. The Project will continue to evolve through the EIA process as design, assessment and consultation are undertaken. As the Scoping boundary is refined, the Study Area for the EIA will be updated accordingly and defined with reference to the draft Order Limits.

8.3. Baseline Environment

- 8.3.1. The undertaking of baseline ornithology studies and subsequent assessment of potential likely significant effects upon ornithological features will have regard to current standing advice published by Natural England on '*Wild birds: surveys and monitoring for onshore wind farms*' (Ref 8-5) and '*Guidelines for Ecological Impact Assessment (EclA)*' published by the Chartered Institute of Ecology and Environmental Management (Ref 8-6).
- 8.3.2. Comprehensive guidance issued by NatureScot relating to wind farm impacts on birds (Ref 8-7), which is recognised as providing a more detailed and up to date framework for the assessment of onshore wind developments on bird species in the UK, will however be the primary reference for the basis of survey design, data analysis and impact assessment and is referred to here. The likely future evolution of the baseline in the absence of the Project, based on available information on future plans and knowledge of historic land uses, will be set out in the ES.

Overview of Available Data Sources

- 8.3.3. Baseline ornithology studies to inform the design evolution and EIA of the Project were commenced in April 2022 and are ongoing.

⁸ Including all raptor and owl species listed on Annex 1 of the European Council (EC) Directive 2009/147/EEC (the 'Birds Directive') and/or Schedule 1 of the Wildlife and Countryside Act 1981 (as amended).

⁹ Guidance on recommended disturbance avoidance buffers for select species in Scotland.



- 8.3.4. Studies will comprise both a desk study review of existing ornithological information for the Site and surrounding area, together with ornithological field surveys and consultation with stakeholders. This will provide both site-specific ornithological data and wider contextual information for the surrounding Study Areas (see **Section 8.2**).
- 8.3.5. Target species for survey and the associated collation of existing information for, have been identified with reference to legislative protection, conservation status and known or likely susceptibility to effects from onshore wind farms, including collision risk and displacement.
- 8.3.6. Primarily, target species selection has been informed by the following key lists:
- Annex 1 of the European Council (EC) Directive 2009/147/EEC (the 'Birds Directive') (Ref 8-8);
 - Schedule 1 of the Wildlife & Countryside Act 1981 (as amended) (Ref 8-9); and
 - Red-listed Birds of Conservation Concern (as per Stanbury *et al.*, 2021 (Ref 8-10) and 2024 (Ref 8-11); and
 - Species considered priorities under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 (Section 41 Priority Species) (Ref 8-12).
- 8.3.7. The list has then been refined to focus on those target species (hereafter referred to as features) which are considered most likely to be sensitive to the effects of onshore wind farm development, particularly those species that utilise open habitats, undertake regular flight activity at turbine rotor heights and/or are associated with nearby statutory designated sites. In refinement and considering the predominant upland moorland nature of the Site, reference is made to '*Priority bird species for assessment when considering the development of onshore wind farms in Scotland*' (Annex 1 of NatureScot guidance, Ref 8-13) and which the assessment of most wind farms can be reasonably limited to.
- 8.3.8. Where appropriate, confidential information relating to the breeding, roosting or lekking sites of protected (or otherwise sensitive species) will be used to inform the assessment and requirement for mitigation, but will be reported separately within a confidential volume of the ES.
- 8.3.9. The presentation of third-party data within the ES will be reviewed and where required, will be restricted in line with the conditions of any data sharing agreements entered into with data providers.

Desk Study

- 8.3.10. Key sources consulted for existing ornithological information are summarised in **Table 8-1** which includes statutory designated site datasets and local biological record centre information.
- 8.3.11. The following additional sources will also be consulted to obtain existing ornithological records within at least 2 km of the Site:



- British Trust for Ornithology;
- Natural England;
- Yorkshire Dales National Park Authority
- Durham Upland Bird Study Group;
- Northern England Raptor Forum;
 - Durham Upland Bird Study Group;
 - North York Moors Upland Bird Study Group;
 - Yorkshire Dales and Nidderdale Raptor Study Group;
- Durham County Bird Recorder; and
- North Yorkshire County Bird Recorder.

8.3.12. Publicly available information from consented, operational and other proposed wind farm developments will also be reviewed from within adopted cumulative Study Areas.

Table 8-1: Key sources of existing information for Ornithology

Source	Summary	Study Area
Multi-Agency Geographic Information for the Countryside (MAGIC) (Ref 8-14)	Statutory designated sites.	20 km from the Site.
Environmental Records Information Centre (ERIC) – North East	Ornithological species records and non-statutory designated sites.	2 km from the Site.
North and East Yorkshire Ecological Data Centre (NEYEDC)	Ornithological species records and non-statutory designated sites.	2 km from the Site.
Royal Society for the Protection of Birds (RSPB) Data Unit	Ornithological species records.	2 km from the Site
Data from landowners	Details from the landowners in respect of biodiversity, forestry and/ or environmental schemes. This includes historic, current and aspirational projects.	Site and wider landownership boundaries.

Ornithology Field Surveys

- 8.3.13. Ornithological field surveys for the Project commenced in April 2022, with two full consecutive years of surveys completed in February 2024, as recommended within NatureScot guidance (Ref 8-3).
- 8.3.14. **Table 8-2** provides a summary of field surveys completed.
- 8.3.15. Field survey areas are shown in **Figures 8.2** and **8.3**. These provided coverage of the maximum turbine layout and ancillary infrastructure within

the Site applicable at the time of survey completion, together with recommended survey-specific buffers set out within NatureScot guidance (Ref 8-3).

- 8.3.16. All field surveys followed recommended methods set out within NatureScot guidance (Ref 8-3) (version of guidance applicable at the time of survey completion), including species-specific survey methods as set out in Hardey *et al.* (Ref 8-15) and Gilbert *et al.* (Ref 8-16).
- 8.3.17. The selection of target species for surveying and recording was informed by preliminary site visits and NatureScot guidance (Ref 8-3 and Ref 8-13) (versions of guidance applicable at the time of survey completion).
- 8.3.18. Full details of all baseline survey methodologies will be presented within the ornithology chapter of the ES, associated Appendices and Figures.

Table 8-2: Summary of completed baseline ornithological field surveys

Survey	Survey Seasons	Survey Area
Flight activity	2022 Breeding Season 2022/2023 Non-breeding Season 2023 Breeding Season 2023/2024 Non-breeding Season	Three Vantage Point (VP) locations (VP 1-3). VP locations and associated viewshed coverage are presented within Figure 8.2 .
Scarce breeding bird	2022 Breeding Season 2023 Breeding Season	Based on a 2km buffer from a preliminary development boundary, as shown in Figure 8.3 .
Black grouse	2022 Breeding Season 2023 Breeding Season	Based on a 1.5 km buffer from a preliminary development boundary, as shown in Figure 8.3 .
Moorland breeding bird	2022 Breeding Season 2023 Breeding Season	Based on a 500 m buffer from a preliminary development boundary, as shown in Figure 8.3 .
Nightjar	2022 Breeding Season	Based on a 500 m buffer from a preliminary development boundary, as shown in Figure 8.3 .
Winter walkover	2022/2023 Non-breeding Season 2023/2024 Non-breeding Season	Based on a 500 m buffer from a preliminary development boundary, as shown in Figure 8.3 .



Overview of Baseline Environment

- 8.3.19. The following section provides a summary of the baseline ornithological conditions compiled to May 2026 i.e. completed desk study and field surveys.
- 8.3.20. Full details of all baseline study findings, including additional desk study and additional field survey work proposed (see **Section 8.4**) will be presented within the Ornithology chapter of the ES, associated Appendices and Figures.

General Context

- 8.3.21. The Site comprises undulating, open upland habitats traversed by several watercourses. It is currently managed as a grouse moor, as well as raising sheep and cattle.

Designated Sites

- 8.3.22. Statutory designated sites with ornithological qualifying features (or cited ornithological interests) identified within 20 km of the Site are illustrated in **Figure 8.1** and summarised in **Table 8-3**.
- 8.3.23. In review of information provided by the Environmental Records Information Centre (ERIC) and North East and the North and East Yorkshire Ecological Data Centre (NEYEDC) there are no non-statutory designated sites with cited ornithological features located within 2 km of the Site.

Table 8-3: Ornithological designated sites with ornithological features.

Designation	Distance	Ornithological Qualifying Features
North Pennine Moors SPA	3.86 km	• Hen harrier (Breeding) • Merlin (Breeding) • Peregrine falcon (Breeding) • Golden plover (Breeding)
Arkengarthdale, Gunnerside and Reeth Moors SSSI	3.86 km	• Assemblages of breeding birds - Upland moorland and grassland with water bodies
Bowes Moor SSSI	5.74 km	• Assemblages of breeding birds - Upland moorland and grassland with water bodies
Lovely Seat - Stainton Moor SSSI	6.64 km	• Aggregations of breeding birds - Golden plover • Aggregations of breeding birds - Merlin • Assemblages of breeding birds - Upland moorland and grassland without water bodies

Designation	Distance	Ornithological Qualifying Features
Cotherstone Moor SSSI	10.40 km	Assemblages of breeding birds - Upland moorland and grassland without water bodies
Bollihope, Pikestone, Eggleston and Woodland Fells SSSI	14.14 km	- Aggregations of breeding birds - Golden plover - Aggregations of breeding birds - Merlin - Assemblages of breeding birds - Upland moorland and grassland with water bodies
Mallerstang-Swaledale Head SSSI	14.78 km	Assemblages of breeding birds - Upland moorland and grassland with water bodies.
Lune Forest SSSI	14.86 km	Assemblages of breeding birds - Upland moorland and grassland without water bodies
Swale Lakes SSSI	18.07 km	Assemblages of breeding birds - Lowland open waters and their margins
Upper Teesdale SSSI	18.60 km	Assemblages of breeding birds - Upland moorland and grassland with water bodies
Teesdale Allotments SSSI	18.91 km	Assemblages of breeding birds - Upland moorland and grassland without water bodies

Flight Activity Surveys

- 8.3.24. Flight activity surveys have been undertaken over four consecutive survey seasons between April 2022 and February 2024, to quantify the level and distribution of target species activity within proximity to proposed turbine locations.
- 8.3.25. A summary of flight activity survey effort (hours) completed over the course of surveys completed between April 2022 and February 2024 is summarised in **Table 8-4**. This comprises 36 hours per season per VP and which is in accordance with NatureScot guidance (Ref 8-3).
- 8.3.26. Over the course of surveys completed, a total of 15 target species were recorded. These are summarised as follows, with the number of flights recorded over the survey period presented in brackets:
- Curlew (16 flights);
 - Dunlin (1 flight);
 - Golden plover (67 flights);
 - Greylag goose (44 flights);

- Hen harrier (13 flights);
- Herring gull (14 flights);
- Hobby (1 flight);
- Lapwing (32 flights);
- Marsh harrier (10 flights);
- Merlin (15 flights);
- Osprey (1 flight);
- Peregrine falcon (19 flights);
- Pink-footed goose (5 flights);
- Red kite (97 flights); and
- Short-eared owl (4 flights).

8.3.27. Collision risk analysis using the NatureScot Collision Risk Model (CRM) ; Ref 8-17, Ref 8-18, Ref 8-19 and Ref 8-2) will be carried out following the completion of additional flight activity surveys (see **Section 8.4**) and confirmation of the final turbine layout, which will form the basis for assessment presented in the ES. Full details of analysis, together with worked examples, will be presented within an appendix to the ES.

Scarce Breeding Birds

- 8.3.28. Scarce breeding bird surveys to identify breeding locations, and where possible the breeding outcomes of breeding Annex 1 and/or Schedule 1 raptors and owls were completed during the 2022 and 2023 breeding seasons.
- 8.3.29. Surveys recorded breeding evidence of the following species:
- Barn owl – one probable breeding/roosting location; and,
 - Merlin – two confirmed breeding locations.
- 8.3.30. Observations of hobby, hen harrier, marsh harrier, peregrine falcon, red kite and short-eared owl were also recorded over the course of surveys during the 2022 and 2023 breeding seasons, although no evidence of breeding was recorded.
- 8.3.31. Consultation with ERIC (see **Table 8-1**) has provided additional historical¹⁰ breeding information on goshawk, merlin, peregrine falcon and kestrel within 2 km of the Site.
- 8.3.32. Detailed information relating to the locations of breeding Schedule 1 raptors, will not be presented within any publicly available part of the ES, given such species inclusion on the England sensitive species list¹¹. Such information will be contained within a confidential volume of the ES.

¹⁰ Records greater than five years old, defined with reference to the 'Duration of Survey Period' set out in NatureScot guidance (Ref 8-3).

¹¹ Available at: <https://docs.nbnatlas.org/sensitive-species-list/> (Ref 8-20).



Black Grouse

- 8.3.33. Black grouse surveys to identify and characterise black grouse lek locations were carried out in the 2022 and 2023 lekking seasons.
- 8.3.34. Surveys over the 2022 and 2023 lekking seasons did not record any black grouse lekking locations within the Site.
- 8.3.35. Four lekking locations were however recorded within the wider survey area. This included one lek which was recorded across both years and supported a maximum of seven lekking males with up to two females also present.
- 8.3.36. All other lek locations were recorded in only one year and supported up to three males, with single females also recorded.
- 8.3.37. Detailed information relating to the locations of black grouse lek sites will not be presented within any publicly available part of the ES, given the species inclusion on the England sensitive species list¹². Such information will be contained within a confidential volume of the ES.

Moorland Breeding Birds

- 8.3.38. Moorland breeding bird surveys to record the presence, number and distribution of open country species (including waders, gulls and wildfowl species) were undertaken during the 2022 and 2023 breeding season.
- 8.3.39. Surveys will also be undertaken during the 2026 breeding season (see **Section 8.4**).
- 8.3.40. Surveys undertaken during the 2022 and 2023 breeding season recorded an assemblage of breeding waders and gulls within the survey area, which included black-headed gull, curlew, lapwing, dunlin, golden plover, considered priority species for assessment in relation to onshore wind farm developments (as per Annex 1 of NatureScot guidance, (Ref 8-13)).
- 8.3.41. Grey partridge, oystercatcher, redshank, snipe and woodcock were also noted to form part of the breeding wader assemblage within the survey area.
- 8.3.42. A single black-tailed godwit was also recorded in April 2023 however, no further breeding evidence or observations of the species was recorded, with the bird likely to have been on passage.

Nightjar

- 8.3.43. Suitable breeding habitat for nightjar is provided by plantation forestry, outside of and to the north of the Site. Surveys for breeding nightjar were therefore undertaken in June and July 2022.
- 8.3.44. Over the course of surveys, no observations of nightjar were recorded within the Site however male nightjar were recorded churring at four locations to the north of the Site. The location of suitable breeding habitat

¹² Available at: <https://docs.nbnatlas.org/sensitive-species-list/> (Ref 8-20).



and churring males were over 100 m from any currently proposed turbine location.

Wintering (Non-breeding) Birds

- 8.3.45. Winter walkover surveys, including observation times around dusk and dawn, were conducted over the 2022/2023 and 2023/2024 non-breeding seasons to record any aggregations of foraging migratory waterfowl and waders and the potential for roosting non-breeding target raptor and owl species.
- 8.3.46. With the exception of barn owl, no evidence of non-breeding target raptor or owl roost locations were recorded over the survey period. Hen harrier, marsh harrier, merlin, peregrine falcon, short-eared owl and red kite were only infrequently recorded either hunting or transiting through the survey area.
- 8.3.47. No aggregations of foraging migratory waterfowl were recorded, but flocks of curlew, golden plover, lapwing and snipe were recorded within the survey area.

8.4. Proposed Approach to the Environmental Impact Assessment

Relevant Policy, Legislation and Relevant Guidance

- 8.4.1. The potential effects of the Project on ornithological receptors will be considered in the relevant topic-specific ES chapter, which will cross-reference, as appropriate, key pieces of relevant legislation, policy and guidance including:
- Legislation
 - Conservation of Habitats and Species Regulations 2017 (as amended) (the 'Habitats Regulations') (Ref 8-21);
 - Wildlife and Countryside Act 1981 (as amended) (Ref 8-9);
 - Countryside and Rights of Way (CROW) Act 2000 (Ref 8-22);
 - Environment Act 2021 (Ref 8-23);
 - Natural Environment and Rural Communities (NERC) Act 2006 (Ref 8-12);
 - National Policy
 - National Policy Statements (NPS):
 - Overarching National Policy Statement for Energy (EN-1) (Ref 8-24); and
 - Renewable Energy Infrastructure (EN-3) (Ref 8-25);
 - National Planning Policy Framework December 2024 (Ref 8-26);
 - Local Policy
 - County Durham Plan (Adopted 2020) (Ref 8-27). Relevant policies may include:



- Policy 41 (Biodiversity and Geodiversity);
- Policy 42 (Internationally Designated Sites); and
- Policy 43 (Protected Species and Nationally and Locally Protected Sites).
- Emerging County Durham Plan (Ref 8-28);
- Emerging North Yorkshire Council Local Plan (Ref 8-29)
- Richmondshire Local Plan 2012-2028 Core Strategy (Ref 8-30).
Relevant policies may include:
 - Core Policy CP3: Achieving Sustainable Development; and
 - Core Policy CP12: Conserving & Enhancing Environmental & Historic Assets.
- Guidance
 - National Planning Practice Guidance (NPPG) (Ref 8-31);
 - ‘Natural Environment’
 - ‘Appropriate Assessment’
 - ‘Biodiversity Net Gain’
 - ‘Renewable and Low Carbon Energy’
 - County Durham ‘Biodiversity: Supplementary Planning Document’ (SDP) (Ref 8-32).
 - Guidance on the survey and assessment of birds and onshore wind farms:
 - Field survey; Bird Survey & Assessment Steering Group (Ref 8-33); Natural England (Ref 8-5), NatureScot (Ref 8-3), Hardey *et al.*, (Ref 8-15), Gilbert *et al.* (Ref 8-16).
 - Impact assessment; Natural England (Ref 8-5), NatureScot (Ref 8-34, Ref 8-7, Ref 8-13, Ref 8-35 and Ref 8-36) and CIEEM (Ref 8-6);
 - Connectivity with designated sites; NatureScot (Ref 8-1);
 - Collision mortality risk; NatureScot (Ref 8-37, NatureScot, Ref 8-2, Ref 8-38), Band *et al.* (Ref 8-17, Ref 8-19 and Ref 8-18); and,
 - Construction and disturbance: Natural England (Ref 8-39), Goodship & Furness (Ref 8-4).

Proposed Assessment Methodology

- 8.4.2. Whilst **Chapter 3: Approach to EIA** provides an indicative EIA assessment method, it also identifies that assessment methodologies may differ in accordance with prevailing technical guidance and established industry practice. As such the following sections provide a description of the



assessment criteria and assessment methodologies of relevance to ornithology and the assessment of likely significant effects arising from onshore wind farm developments.

- 8.4.3. The assessment of impacts upon ornithological features arising from the Project will therefore be undertaken adopting an established and current approach to the assessment of onshore wind farm developments, as recommended in NatureScot guidance (Ref 8-13, Ref 8-35 and Ref 8-36) and based on impact assessment guidance published by the Chartered Institute of Environmental and Ecological Management (CIEEM) (Ref 8-6).
- 8.4.4. The approach to assessment will take account of existing guidance and published scientific literature in relation to birds and wind farms, together with professional judgement.
- 8.4.5. The assessment will focus on those impacts upon ornithological features that have a higher conservation interest, or additional legislative protection and/or that utilise habitats or have flight behaviours, which may be impacted by wind farms (see **Section 8.3**). This will therefore principally include those species established as being a priority for assessment in relation to onshore wind developments (as set out in Annex 1 of NatureScot guidance, (Ref 8-13)) and which will comprise Important Ornithological Features (IOFs) for the purposes of assessment.
- 8.4.6. The assessment will have the following stages:
- identification of potential impacts associated with the Project and the likelihood of occurrence of impacts;
 - identification of the sensitivity of an ornithological feature to potential impacts based on the feature's Nature Conservation Importance (NCI) and conservation status;
 - characterisation of impact magnitude (both spatially and temporally);
 - determination of effect significance, and whether or not it is significant with respect to the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the 'EIA Regulations') (Ref 8-40);
 - outline of mitigation and enhancement measures to avoid and reduce any potentially significant effects to a non-significant level; and
 - determination of the significance of any residual effects after such measures.

Feature Sensitivity

- 8.4.7. The sensitivity of ornithological features within or near to the Site of the Project will be assessed in line with good practice guidance, legislation, statutory designation information and/or professional judgement.
- 8.4.8. Determination of the overall level of sensitivity of an ornithological feature, adopted for the purposes of assessment, will therefore be based on a combination of the feature's NCI and conservation status, together with professional judgement.



- 8.4.9. Three levels of NCI are detailed in **Table 8-4** for adoption within the assessment. IOFs, for the purposes of assessment, would primarily be taken as those ornithological features of ‘high’ or ‘medium’ NCI.

Table 8-4: Ornithological feature sensitivity criteria.

Sensitivity	Description
High	Populations receiving protection by a Special Protection Area (SPA), proposed SPA, Ramsar Site, Site of Special Scientific Interest (SSSI) or which would otherwise qualify under selection guidelines. Species present in nationally important numbers (>1 % national breeding or wintering population).
Medium	Breeding species listed on Schedule 1 of the Wildlife and Countryside Act 1981 (Ref 8-9). Species listed in Annex I of the Birds Directive (Ref 8-8) (but population does not meet the designation criteria under selection guidelines). Rare, Red-listed breeding species noted on the latest Birds of Conservation Concern (‘BoCC’) Red list (Stanbury <i>et al.</i> , Ref 8-10 and Ref 8-11) or breeding Section 41 Priority Species. Regularly occurring migratory species, which are either rare or vulnerable, or warrant special consideration on account of the proximity of migration routes, or breeding, moulting, wintering or staging areas in relation to the Project. Species present in regionally important numbers (>1 % regional breeding population).
Low	All other species’ populations not covered by the above categories.

- 8.4.10. The conservation status of a species can be considered as the sum of influences acting on a species, and which may affect its ability to maintain its distribution and abundance on a long-term basis, at a given geographical scale e.g. at a regional, national or international population level.
- 8.4.11. Conservation status is considered by NatureScot (Ref 8-7) to be ‘favourable’ under the following circumstances:
- “population dynamics indicate that the species is maintaining itself on a long-term basis as a viable component of its habitats;
 - the natural range of the species is not being reduced, nor is likely to be reduced for the foreseeable future; and
 - there is (and probably will continue to be) a sufficiently large habitat to maintain its population on a long-term basis.”
- 8.4.12. A potential impact may therefore be judged as of concern if it would adversely affect the existing favourable conservation status of a species, or prevent a species recovering to a favourable conservation status at a relevant (and definable) geographical scale.

Identification and Characterisation of Impacts

- 8.4.13. The identification and characterisation of impacts on IEFs will be undertaken in accordance with the CIEEM guidelines (Ref 8-6) with reference made to magnitude (e.g. area or number of individuals to be impacted), extent, duration and reversibility as appropriate. Impacts will be considered during the construction, operational and decommissioning phases and will be assessed on the basis that a clearly defined range of avoidance and standard good practice measures are implemented.
- 8.4.14. In determining the magnitude of impacts within the ornithology assessment, the resilience of a population to recover from temporary adverse conditions will be considered.
- 8.4.15. The sensitivity of individual species to anthropogenic activities will also be considered when determining spatial and temporal magnitude of an effect and is proposed to be primarily assessed using disturbance avoidance buffers described in Goodship & Furness (Ref 8-4).
- 8.4.16. Impacts will be judged in terms of magnitude in space and time. Five levels of spatial and temporal impact magnitude are proposed for adoption within the ornithology assessment as detailed in **Table 8-5** and **Table 8-6** respectively.

Table 8-5: Impact magnitude.

Spatial Magnitude	Description
Very high	Total / near total loss of a bird population due to mortality or displacement. Total/near total loss of productivity in a bird population due to disturbance. Guide: >80 % of population lost or increase in additive mortality.
High	Major reduction in the status or productivity of a bird population due to mortality or displacement or disturbance. Guide: 21 to 80 % of population lost or increase in additive mortality. Partial reduction in the status or productivity of a bird population due to mortality or displacement or disturbance. Guide: 6 to 20 % of population lost or increase in additive mortality.
Medium	Partial reduction in the status or productivity of a bird population due to mortality or displacement or disturbance. Guide: 6 to 20 % of population lost or increase in additive mortality.
Low	Partial reduction in the status or productivity of a bird population due to mortality or displacement or disturbance. Guide: 6 to 20 % of population lost or increase in additive mortality.

Spatial Magnitude	Description
Negligible	Very slight (or no discernible) reduction in the status or productivity of a bird population due to mortality or displacement or disturbance. Reduction barely discernible, approximating to the “no change” situation. Guide: <1 % of population lost or increase in additive mortality.

Table 8-6: Duration of impact.

Spatial Magnitude	Description
Permanent	Effects continuing indefinitely beyond the span of one human generation (taken as approximately 25 to 30 years), except where there is likely to be substantial improvement after this period. Where this is the case, long-term may be more appropriate.
Long-term	Approximately 15 to 25 years or longer (see above).
Medium-term	Approximately 5 to 15 years.
Short-term	Up to approximately 5 years.
Negligible	<12 months.

Significance of Effect

- 8.4.17. CIEEM (Ref 8-6) guidelines define a ‘significant effect’ as an effect that either supports or undermines the conservation objectives of an ecological (or ornithological) feature or for biodiversity in general.
- 8.4.18. The potential significance of an effect will be determined through a standard method of assessment based on the consideration of conservation status, professional judgement, feature sensitivity and magnitude of effect as detailed in **Table 8-7**.
- 8.4.19. Major and moderate effects would be considered ‘significant’ in the context of the EIA Regulations (Ref 8-40).
- 8.4.20. The significance of effects on IOFs, will be expressed within the ES chapter with reference to an appropriate geographical population scale (as relevant) e.g. regional, national or international. The significance of effects at a local scale may also be assessed where sufficient information allows a meaningful assessment.

Table 8-7: Significance of Effect

Significance of Effect	Description
Major	The impact is likely to result in a long-term significant effect on the integrity of a feature.
Moderate	The impact is likely to result in a medium term, potentially significant effect on the integrity of a feature.

Significance of Effect	Description
Minor	The impact is likely to affect a feature at an insignificant level by virtue of its limitations in terms of duration or extent, but there will probably be no effect on its integrity.
Negligible	No material effect.

Cumulative assessment

- 8.4.21. Cumulative effects will be assessed for all IOFs for which detailed assessment has been undertaken, based upon residual effects.
- 8.4.22. The cumulative assessment will be based on consideration of residual effects of other relevant schemes also i.e. assuming that consented or proposed schemes will deliver the mitigation and compensation measures described in their application/ consent.

Further Baseline Data

Planned Surveys

- 8.4.23. Additional surveys during the 2026 breeding season covering the extended area are being carried out and are anticipated to provide confirmation of bird distributions and activity patterns within proximity to the Project in-line with existing survey data.
- 8.4.24. The purpose of additional survey work during the 2026 breeding season will therefore be to:
- Provide complete coverage of revised infrastructure layouts not previously surveyed; and
 - Confirm that bird distribution, activity levels and target species use remain consistent with those already characterised by the existing baseline dataset.
- 8.4.25. In review of the current baseline survey data set, additional areas requiring coverage include turbine locations with immediately open adjacent moorland and areas of lower elevation farmland, predominantly adjacent existing road and access networks. A single additional breeding season of survey is therefore considered to be a proportionate and sufficient approach to complete the ornithological baseline and support a robust assessment of likely significant effects upon ornithological features.
- 8.4.26. The following surveys are being undertaken during the 2026 breeding season, and as summarised in **Table 8-8**:
- Flight activity surveys;
 - Scarce breeding bird surveys;
 - Black grouse surveys; and
 - Moorland breeding bird surveys.



- 8.4.27. The selection of target species for surveying and recording has been informed by previous survey completion and NatureScot guidance (Ref 8-3 and Ref 8-7).
- 8.4.28. Field surveys will again follow recommended methods set out within NatureScot guidance (Ref 8-3), including species-specific survey methods as set out in Hardey *et al.* (Ref 8-15) and Gilbert *et al.* (Ref 8-16).
- 8.4.29. Moorland breeding bird surveys will additionally be undertaken with regard to the Bird Survey & Assessment Steering Group guidance (Ref 8-33), with six visits proposed as standard between late March and early July, with an additional visit in early March for early returning golden plover.
- 8.4.30. Full details of all baseline survey methodologies will be presented within the ornithology chapter, associated Appendices and Figures of the ES.

Table 8-8: Summary of planned ornithological field surveys

Survey	Surveyed Seasons	Survey Area
Flight activity	2026 Breeding Season	Four Vantage Point (VP) locations (VP 1-4). VP locations and associated viewshed coverage is presented within Figure 8.4 .
Scarce breeding bird	2026 Breeding Season	Based on a 2 km buffer from the Project, as shown in Figure 8.5 .
Black grouse	2026 Breeding Season	Based on a 1.5 km buffer from the Project, as shown in Figure 8.5 .
Moorland breeding bird	2026 Breeding Season	Based on a 500 m buffer from the Project, as shown in Figure 8.5 .

Desk Study

- 8.4.31. Ongoing consultations will occur with the following organisations in relation to the collation of existing ornithological records for the Site and surrounding area:
- British Trust for Ornithology;
 - Natural England;
 - Yorkshire Dales National Park Authority;
 - Northern England Raptor Forum;
 - Durham County Bird Recorder; and
 - North Yorkshire County Bird Recorder.

Consultation

- 8.4.32. Consultation is also anticipated with Natural England, RSPB, Durham County Council and North Yorkshire Council to:
- confirm the scope of surveys carried out is adequate to inform an assessment of likely significant effects on ornithological features;
 - confirm the scope of impacts to be assessed;
 - confirm agreement on IOFs to be subject to detailed assessment and appropriate geographical population scales upon which to conclude effect significance;
 - confirm agreement on designated site qualifying ornithological features and connectivity;
 - discuss the approach to mitigation and/ or compensation, in particular for potential operational displacement impacts; and
 - discuss opportunities for biodiversity enhancement measures aimed at positively affecting bird species.

8.5. Design, Mitigation and Enhancement Measures

- 8.5.1. Baseline study findings have been used to identify ornithological constraints and define precautionary disturbance buffers for infrastructure siting, with reference to recognised disturbance guidance (e.g. Goodship and Furness, (Ref 8-4)).
- 8.5.2. Additionally all connecting cables within the Site are proposed to be laid underground, which will minimise potential collision risks (with other infrastructure) for bird species.
- 8.5.3. As part of the design process for the Project, several further embedded and standard mitigation measures are proposed to reduce the potential for impacts on ornithological receptors. These are presented below. It is expected that these may evolve throughout the design evolution of the Project as the EIA progresses and in response to consultation.
- 8.5.4. The Applicant is committed to implementing these measures, and also various standard sectoral practices and procedures. It is therefore considered that these measures are inherently part of the design and have been considered in the judgements as to which impacts can be scoped in / out of assessment presented in **Section 5.7** and **Section 7.7**.
- 8.5.5. Additional mitigation measures will be considered where significant effects are anticipated to remain after embedded design measures and standard good-practice controls have been applied. If residual impacts persist, proportionate further actions, such as enhancement, remediation or compensation, will be identified to address those remaining effects.
- 8.5.6. Standard embedded measures adopted as part of the Project and of specific relevance to ornithology will include:
- A Construction Environmental Management Plan (CEMP); an outline CEMP will form part of the application for development consent. This



will set out all measures and procedures to be adopted during the construction of the Project to avoid, minimise, and manage potential environmental impacts. Good practice measures in relation to mitigating pollution risks are also set out in **Chapter 9: Hydrology and Hydrogeology**;

- The appointment of an Ecological Clerk of Works (ECoW) for the duration of construction and reinstatement periods, to oversee the safeguarding of important habitats and species, implementation of ecological mitigation and to ensure that all reasonable precautions are taken to avoid disturbance to birds and comply with environmental legislation. The ECoW will advise on all ornithological (and ecological) matters and where necessary (with the assistance of suitably qualified/licence ornithologists) will undertake pre-commencement surveys (or appoint such), monitoring and briefing with regards ornithological (and ecological) sensitivities. The role and responsibilities of the ECoW will be defined within the outline CEMP, which will form part of the application for development consent; and
- All construction work will be undertaken in accordance with a Bird Disturbance Management Plan (BDMP) secured as part of the CEMP. As outline BDMP will be provided within the outline CEMP, which will form part of the application for development consent, that sets out the principles to be followed when the final BDMP is finalised. This will ensure that precautions are taken in order to comply with legislation in regard to the protection afforded to wild birds and be informed by pre-commencement surveys and/or consultations with relevant recording groups.
- An integral part of the Project will be the production and implementation of a long-term compensation and enhancement measures for biodiversity (including ornithological as well as ecological interests) and agreed with relevant consultees, prior to the construction of the Project commencing. Outline details of these measures would be included within the outline Landscape and Ecology Management Plan (LEMP), which will form part of the application for development consent. The outline LEMP will identify proposed management prescriptions and monitoring requirements, that will demonstrate how any additional mitigation required to address potentially significant effects on ornithological features and provide habitat enhancement for specific bird species will be delivered over the lifetime of the Project. Production of a final version of the LEMP would be secured by a requirement in the DCO, stipulating that the final version must be substantially in accordance with the outline LEMP. A detailed Habitat Management Plan (HMP) may subsequently be prepared and secured as a Requirement linked to the LEMP, or form part of the LEMP, to provide detailed prescriptions for habitat management, monitoring and long-term biodiversity objectives during operation.

8.5.7. Further detail on the role of mitigation commitments, as part of a proportionate EIA approach, is provided in **Chapter 3: Approach to EIA**. A



full description of the mitigation commitments identified so far is provided in **Appendix 3A: Draft Register of Environmental Actions and Commitments (REAC)**.

- 8.5.8. The requirement for, and feasibility of, any mitigation and enhancement measures will be subject to consultation with consultees throughout the pre-application phase of the Project. Detailed measures and the areas over which they would be delivered, would be refined following consent, through consultations with relevant stakeholders, land managers and landowners and informed through any necessary further site investigations and/or trials as required.

8.6. Potential Impacts Scoped In

- 8.6.1. A range of potential impacts on ornithological features have been identified which may occur during construction, operation and maintenance, and decommissioning phases. The impacts that have been scoped into the EIA are outlined in **Table 7-6**, together with a description of any proposed additional data collection (e.g. site-specific surveys) and/or supporting analyses (e.g. modelling) to enable an assessment of the impact.
- 8.6.2. It is proposed that detailed assessment would be focused on the consideration to IOFs i.e. those considered sensitive to onshore wind farm developments and/or whose conservation importance may increase its susceptibility to development impacts.
- 8.6.3. The assessment will additionally focus on those IOFs for which baseline studies identify the potential for impact pathway and likely significant effects, to ensure that the EIA remains proportionate.
- 8.6.4. As set out in **Section 8.5** some mitigation measures will inherently form part of the Project, including the implementation of a CEMP and BDMP, and appointment of an ECoW, and which have been considered as to which impacts can be scoped in / out of the assessment.

Designated Sites

- 8.6.5. In relation to the assessment of impacts upon ornithological qualifying features (or otherwise notified interests) of statutory designated sites, these would be scoped into assessment where a credible pathway for effect is identified, through disturbance, displacement of collision mortality risk.
- 8.6.6. This would have regard to species potential ranging behaviour from designated sites, indicating possible use of the Site by qualifying features and therefore connectivity.
- 8.6.7. In review of ornithological designated sites located within 20 km of the Site (see **Table 8-3** and the potential for spatial connectivity¹³, it is proposed

¹³ Based on a precautionary assumption of core foraging ranges from designated site boundaries being up to 10 km for breeding hen harrier, merlin, peregrine falcon, golden plover and components of breeding bird assemblages.



that the assessment would include consideration of likely significant effects on the qualifying ornithological features of the following:

- North Pennine Moors Special Protection Area (SPA);
- Arkengarthdale, Gunnerside and Reeth Moors Site of Special Scientific Interest (SSSI);
- Bowes Moor SSSI; and
- Lovely Seat - Stainton Moor SSSI.

8.6.8. The ES will provide sufficient information to allow the competent authority to undertake a Habitats Regulations Assessment (HRA) of the Project in relation to the North Pennine Moors SPA (and underpinning SSSI), with the scope of information agreed in consultation with Natural England, if required prior to submission.

Wider Countryside Bird Species

- 8.6.9. At this stage, detailed assessment of wider countryside bird species is anticipated to include breeding waders, particularly those associated with upland habitats including curlew and golden plover, together with merlin, red kite and black grouse.
- 8.6.10. Additional species will be taken forward where baseline evidence indicates a credible pathway for potentially significant effects.
- 8.6.11. In relation to the assessment of impacts upon such features that do not comprises qualifying features (or otherwise notified interests) of a designated site, the geographical scale at which the potential significance of effects will be assessed, will comprise the smallest ecologically meaningful population scale.
- 8.6.12. In review of the locality of the Site and predominant upland moorland habitats it supports, impacts on ornithological features not associated with sites are proposed to be assessed at a county or other relevant and definable regional population scale, where sufficient information is available e.g. Yorkshire Dales or North Pennine Moors, depending on species.
- 8.6.13. Where sufficient information is not readily available (e.g. from county bird atlases), alternative geographical population levels for the purposes of assessment will be agreed in consultation with Natural England, prior to submission.



Table 8-9: Impacts proposed to be scoped into the assessment for ornithology

Impact	Description	Proposed Approach to Assessment Including Description of Any New Data Collation Required and Any Analyses (Such as Modelling)
Construction		
Direct loss of Habitat loss	The direct loss of habitat that would occur through the construction of the Project, including turbine bases, access tracks, Haul Route, substation infrastructure, borrow pit excavation and other temporary construction working areas.	Direct habitat loss impacts will be assessed by quantifying the area and type of habitat affected by the Project, relative to its availability within the Site and wider geographical scales of assessment. The assessment will consider habitat reinstatement measures in addition to biodiversity enhancement measures to be included as part of the Project within a LEMP.
Disturbance caused by construction activity	Construction activity could result in direct mortality, destruction of active nests and eggs and/or temporarily disturb nesting, roosting and foraging birds, as a result of human presence, machinery movements, noise and habitat disturbance, with the potential for effects on breeding success, survival and local distribution.	A species-specific assessment of construction disturbance will be undertaken with reference to baseline study findings, timing and duration of works, species sensitivity and habitat use. The assessment will consider whether disturbance for any notable breeding or regularly occurring species may occur and whether embedded mitigation (see Section 8.5), would sufficiently avoid the potential for significant effects. Reference will be made based on current good-practice and/or species-specific guidance, including Goodship and Furness (Ref 8-4).
Operation and Maintenance		
Disturbance /Displacement	The operation and maintenance of the Project may result in the	A species-specific displacement assessment will



Impact	Description	Proposed Approach to Assessment Including Description of Any New Data Collation Required and Any Analyses (Such as Modelling)
	temporary disturbance or longer-term displacement of bird species from habitat areas used for breeding, roosting, foraging and commuting through turbine (or other key infrastructure) presence, blade movement, maintenance access or other associated human activity. This will include for any potential barrier effects i.e. resulting from birds moving around operational turbines between roosting, breeding and/or foraging areas, diverting from baseline patterns.	be undertaken, informed by baseline study findings, considering species sensitivity, habitat use and availability of alternative habitat at a relevant population scale. The assessment will draw upon relevant published guidance and literature, including Goodship and Furness (Ref 8-4).
Collision Mortality Risk	Operational turbines may present a collision mortality risk to birds, where flight activity occurs within the rotor swept zone of the Project. Potential effects will depend upon the species present and the nature of flight activity, including flight height, frequency and spatial pattern.	Collision mortality risks will be assessed for species identified as being potentially vulnerable to turbine collision, and for which baseline activity identify the potential for such. The NatureScot collision risk model (Band (Ref 8-17) and (Ref 8-18), Band <i>et al.</i>, (Ref 8-19) and NatureScot, Ref 8-2), adopting current avoidance rates, species-specific and project-specific parameters, will be used to estimate potential collision mortality risks for target species. Assessment would then focus on species of higher conservation importance and for which collision mortality risks could materially affect baseline mortality rates at an applicable population scale.
Decommissioning		
Disturbance	Decommissioning activity may cause temporary disturbance to nesting, foraging and roosting	Potential decommissioning effects will be assessed with reference to construction-

Impact	Description	Proposed Approach to Assessment Including Description of Any New Data Collation Required and Any Analyses (Such as Modelling)
	birds, as a result of human presence, machinery movements, noise and temporary habitat disturbance.	phase disturbance effects and would similarly recognise that such effects would be temporary and whether embedded mitigation (see Section 8.5), would sufficiently avoid the potential for significant effects.
Cumulative		
Collision Mortality Risk	Bird populations may experience cumulative effects where other operational, consented or proposed wind farms (or other major infrastructure developments) contribute to combined collision mortality risk and/or displacement effects.	A cumulative assessment will therefore be undertaken where other relevant developments are identified to overlap with a species applicable population area and for which interaction could give rise to potentially significant effects.
Displacement		

8.7. Impacts Proposed to be Scoped Out

Designated Sites and Species Scoped Out

8.7.1. Based on the baseline environment information currently available and the Project description (outlined in **Chapter 2: Project Description**), the designated and species and species discussed below are proposed to be scoped out of the EIA for ornithology.

Designated Sites

8.7.2. The potential for significant effects on the following statutory designated sites located within 20 km of the Site are considered unlikely and proposed to be scoped out of assessment, on the basis of spatial separation and reference to NatureScot guidance (Ref 8-1); (with 10km being beyond the core foraging range of most ornithological qualifying features) and embedded mitigation measures (see **Section 8.5**) and therefore absence of credible connectivity and pathway for effect:

- Cotherstone Moor SSSI;
- Bollilhope, Pikestone, Eggleston and Woodland Fells SSSI;
- Mallerstang-Swaledale Head SSSI;
- Lune Forest SSSI;

- Swale Lakes SSSI;
- Upper Teesdale SSSI; and
- Teesdale Allotments SSSI.

Barn Owl

- 8.7.3. Barn owl is proposed to be scoped out of assessment, on the basis of the adoption of embedded mitigation measures during construction and decommissioning (see **Section 8.5**, including the implementation of a BDMP) and the generally accepted low sensitivity of the species to displacement or collision mortality risks from onshore wind farm developments due to their low altitude foraging habits (Ref 8-41).

Nightjar

- 8.7.4. Nightjar is proposed to be scoped out of assessment, reflecting the spatial separation of suitable breeding habitat from the Site and adoption of embedded mitigation measures during construction and decommissioning (see **Section 8.5**, including the implementation of a BDMP) and on the basis of current studies and evidence (including from the Clocaenog, Pen Y Cymoedd and Brechfa Wind Farms¹⁴ and as recently reviewed by Nicklin *et al.*, (Ref 8-43)) indicating that the species is not significantly displaced or likely to experience significant collision mortality risks from onshore wind farm developments.

Passerines

- 8.7.5. Passerine species (together with wood pigeon and stock dove) are proposed to be scoped out of assessment, given their low susceptibility to collision and availability of alternative comparable habitats to support any likely localised impacts, with embedded mitigation measures applied during construction and decommissioning works (see **Section 8.5**, including the implementation of a BDMP).

Gulls

- 8.7.6. Additional gull species will only be taken forward for detailed assessment where baseline studies identify regular flight activity, with a clear functional link to local breeding, foraging or commuting behaviour.
- 8.7.7. Embedded mitigation (see **Section 8.5**, including the implementation of a BDMP) would otherwise be considered sufficient to avoid the potential for significant effects.

Migratory Waterfowl

- 8.7.8. Impacts on migratory waterfowl are proposed to be scoped out of detailed assessment on the basis that the Project is not located within 20 km of any designated site for such interests, baseline surveys completed to date have not identified any regular use of the turbine area or notable flight activity

¹⁴ Summarised within Chapter 7: 'Ornithology' of the Mynydd Maen Wind Farm ES (Ref 8-42).



through the Site by such species. As such no clear functional connectivity with surrounding habitats is established.

- 8.7.9. In this context and in view of the typical high avoidance rates assigned to such species for use with the NatureScot collision risk model, the potential for significant effects arising through disturbance, collision risk or displacement are not considered likely.

Other Species

- 8.7.10. Species for which only occasional transient records are identified during baseline studies will also not be subject to detailed assessment, given such activity would suggest a limited functional link.
- 8.7.11. Embedded mitigation (see **Section 8.5**, including the implementation of a BDMP) would be considered to avoid the potential for significant effects.

Other Impacts Scoped Out

Aviation Lighting

- 8.7.12. Baseline studies have not identified the Site as being important for species susceptible to elevated risks to collisions with lit turbines (Ref 8-34) and, as such, impacts upon ornithological features relating to turbine, or any other infrastructure lighting can be scoped out.

8.8. Summary of Next Steps

- 8.8.1. Ornithological baseline work will continue through the completion of ongoing surveys and desk study.
- 8.8.2. Baseline findings will be used to confirm IOFs requiring detailed assessment, refine the approach to impact assessment where necessary, and identify any additional mitigation measures or habitat enhancement opportunities, in consultation with consultees and other stakeholders as required.
- 8.8.3. Standard inherent mitigation measures, including those secured through a CEMP, appointment of an ECoW and BDMP (see **Section 8.5**), will continue to inform the iterative design and assessment process.

8.9. Further Consideration for Consultees

- 8.9.1. The following questions are provided to help frame the consultees comments on the Scoping Report for ornithology:
- Q8.1: Do consultees agree that the desk study extent, survey scope and survey methods are proportionate to the likely ornithological interests relevant to the Project? If not, please specify any additional survey requirements and provide justification.
 - Q8.2: Do consultees agree with the ornithological features proposed to be scoped in to detailed assessment at this time? If not, please identify which designated sites, species or species-groups and explain the evidence basis for their inclusion.



- Q8.3: Do consultees agree with the ornithological features proposed to be scoped out of detailed assessment at this time, including the justification provided for designated site connectivity, migratory waterfowl and common or otherwise low-sensitivity species? If not, please identify where alternative conclusions are considered necessary and provide justification.
- Q8.4: Are consultees aware of any additional data sources, recent records, local evidence, or unpublished information that should be considered in relation to the identification or ornithological features or designated site connectivity?
- Q8.5: Do consultees have any specific expectations regarding mitigation, monitoring or habitat enhancement measures that should be considered at this stage of the EIA process for the Project?
- Q8.6: Do consultees consider that any species-specific disturbance buffers or construction controls should be anticipated beyond standard inherent mitigation measures?
- Q8.7: Are there any specific cumulative developments or recent planning decisions that consultees consider should be incorporated within the assessment of cumulative impacts?

8.10. References

- Ref 8-1 SNH (2016a) Assessing Connectivity with Special Protection Areas (SPAs). Version 3 - June 2016. Scottish Natural Heritage (SNH) Guidance. [Online]. Available at: <https://www.nature.scot/doc/assessing-connectivity-special-protection-areas> [Accessed 22 April 2024].
- Ref 8-2 NatureScot (2024a). Guidance on using an updated collision risk model to assess bird collision risk at onshore wind farms. Updated April 2025. NatureScot. Available at: <https://www.nature.scot/doc/guidance-using-updated-collision-risk-model-assess-bird-collision-risk-onshore-wind-farms> [Accessed 22 April 2026].
- Ref 8-3 NatureScot (2025a). Recommended bird survey methods to inform impact assessment of onshore windfarms. Updated March 2025. NatureScot. Available at: <https://www.nature.scot/doc/recommended-bird-survey-methods-inform-impact-assessment-onshore-windfarms> [Accessed 22 April 2026].
- Ref 8-4 Goodship, N.M. and Furness, R.W. (2022). Disturbance Distances Review: An updated literature review of disturbance distances of selected bird species. NatureScot Research Report 1283. [Online]. Available at: <https://www.nature.scot/doc/naturescot-research-report-1283-disturbance->



[distances-review-updated-literature-review-disturbance](#) [Accessed 22 April 2026].

- Ref 8-5 Natural England (2015) Wild birds: Surveys and Monitoring for onshore Wind Farms [Online]. Available at: <https://www.gov.uk/guidance/wild-birds-surveys-and-monitoring-for-onshore-wind-farms> [Accessed 22 April 2026].
- Ref 8-6 CIEEM (2018). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Version 1.3, September 2024. Chartered Institute of Ecology and Environmental Management (CIEEM), Winchester.
- Ref 8-7 NatureScot (2025b). Wind farm impacts on birds [Online]. Available at: <https://www.nature.scot/professional-advice/planning-and-development/planning-and-development-advice/renewable-energy/onshore-wind-energy/wind-farm-impacts-birds> [Accessed 22 April 2026].
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- Ref 8-9 UK Government (1981). *Wildlife and Countryside Act 1981 (as amended)*. Available at: <https://www.legislation.gov.uk/ukpga/1981/69/contents> [Accessed April 2026].
- Ref 8-10 Stanbury, A., Eaton, M., Aebischer, N., Balmer, D., Brown, A., Douse, A., Lindley, P., McCulloch, N., Noble, D., and Win I. (2021). The status of our bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain. *British Birds*, 114, pp. 723-747
- Ref 8-11 Stanbury, A.J., Burns, F., Aebischer, N.J., Baker, H., Balmer, D.E., Brown, A., Dunn, T., Lindley, P., Murphy, M., Noble, D.G, Owen, R. and Quinn, L. (2024) The status of the UK's breeding seabirds: an addendum to the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain. *British Birds*, 117, pp 471-487.
- Ref 8-12 UK Government (2006). *Natural Environment and Rural Communities Act 2006*. Available at: <https://www.legislation.gov.uk/ukpga/2006/16/contents> [Accessed March 2026].
- Ref 8-13 NatureScot (2025c). Assessing the significance of impacts on bird populations from onshore wind farms that do not affect protected areas. Updated March 2025. NatureScot. Available at: <https://www.nature.scot/doc/guidance-note-assessing-significance->



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- Ref 8-15 Hardey, J., Crick, H., Wernham, C., Riley, H., Etheridge, B. & Thompson, D. (2013). *Raptors: a field guide to survey and monitoring*. 3rd Edition. The Stationery Office, Edinburgh.
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9. Hydrology and Hydrogeology

9.1. Introduction

- 9.1.1. This chapter of the Scoping Report sets out the proposed scope and methodology of the hydrology and hydrogeology assessment of the Project. It identifies the potential likely significant effects arising from the construction, operation and maintenance, and decommissioning of the Project, in isolation and cumulatively, on hydrology and hydrogeology. This chapter also explains how likely significant effects would be assessed for the purposes of the EIA.
- 9.1.2. Details of the construction, operation and maintenance, and decommissioning of the Project are set out in **Chapter 2: Project Description**.
- 9.1.3. There are interrelationships between the potential effects on hydrology and hydrogeology and other environmental topics. Therefore, this chapter should be read alongside the following chapters of the Scoping Report:
- **Chapter 7:** Ecology; and
 - **Chapter 10:** Geology, Soils and Ground Conditions.
- 9.1.4. This chapter is supported by the following Figures (provided in **Volume A**):
- **Figure 9.1:** Hydrological Setting;
 - **Figure 9.2:** Watercourses and Flooding; and
 - **Figure 9.3:** Hydrogeological Setting.

9.2. Study Area

- 9.2.1. The hydrology and hydrogeology scoping assessment presented in this chapter has been undertaken within the Study Area presented within this Section. The Study Area for hydrology and hydrogeology is shown in **Figure 9.1**.
- 9.2.2. The Study Area has been defined for the purposes of Scoping as including the Site and a 500 m buffer around the Scoping Boundary, and encompasses the areas over which all desk based, and field data will be gathered to inform assessment. This buffer reflects professional judgement and industry best practice based on the likely Zone of Influence (Zol) on the water environment for onshore wind projects.
- 9.2.3. However, it is also possible, without suitable mitigation, for impacts on the water environment to extend further downstream. The distance in which impacts may occur is influenced by various factors i.e. watercourse characteristics, channel flow, pollutant type, etc. The water environment baseline will be further developed at later stages of assessment, and consideration of any other downstream surface water receptors will be identified at this stage. A precautionary distance of 2 km downstream from the Project will be considered, however this will be kept under review as further information around the baseline and Project is obtained.



- 9.2.4. The Study Area for hydrology and hydrogeology has been defined for the purposes of Scoping using the Scoping Boundary. The Project will continue to evolve through the EIA process as design, assessment and consultation are undertaken. As the Scoping boundary is refined, the Study Area for the EIA will be updated accordingly and defined with reference to the draft Order Limits.

9.3. Baseline Environment

Overview of Available Data Sources

- 9.3.1. The data sources that have been used to inform this Chapter of the Scoping Report are presented within **Table 9-1**, and were accessed in March 2026. These data sources will be taken forward and used to inform the EIA, alongside any additional data sources or Site-specific data that will be collected for the Project.

Table 9-1: Key sources of information for Hydrology and Hydrogeology

Source	Summary	Spatial Coverage of Study Area
Google Earth aerial imagery (Google Earth, 2026)	Used to identify existing land uses and sensitive receptors within the Study Area.	Full coverage of the Study Area.
Ordnance Survey (Ordnance Survey, 2026)	Ordnance Survey mapping for identification of topography, watercourses, springs, lakes and other water features.	Full coverage of the Study area.
Environment Agency and data.gov.uk website (Environment Agency, 2026)	Flood zone mapping; spatial flood defence data and mapping; flood warning and flood alert areas; main rivers; ordinary watercourses; groundwater Source Protection Zones (SPZ); Water Framework Directive (WFD) surface water and groundwater classification data.	Full coverage of the Study Area.
British Geological Survey (BGS) Mapping (British Geology Survey, 2026)	Geology (artificial ground, superficial deposits, bedrock); borehole/ well data; aquifer designation and groundwater vulnerability.	These are national datasets providing full coverage of the Study Area.
Department for Environment Food and Rural Affairs (Defra) magic website/ Natural England (Defra, 2026)	Statutory and non-statutory environmental designations.	These are national datasets providing full coverage of the Study Area.

Overview of Baseline Environment

Current Baseline

- 9.3.2. The following Section provides a summary of the current baseline for the Study Area.

Geology

- 9.3.3. The geology of the Study Area has been presented below in order to provide context with regard to hydrogeology. The geology is also described in detail in **Chapter 10: Geology, Soils and Ground Conditions**.
- 9.3.4. The Site is underlain by two Carboniferous age sedimentary formations of the Yoredale Group, the Alston Formation and the Stainmore Formation. The northern extent of the Site is primarily underlain by the Alston Formation, with the southern extent of the Site primarily underlain by the Stainmore Formation.
- 9.3.5. The Wind Farm Array is largely underlain by Richmond Chert (of the Stainmore Formation) in the south, and the Great Limestone Member (of the Alston Formation) in the north. The Haul Route Search Area is primarily underlain by the Alston Formation.
- 9.3.6. Superficial deposits are predominantly absent in the south and east of the Wind Farm Array, except isolated areas of peat. The centre and west of the Wind Farm Array is underlain by widespread peat deposits. The northern extent of the Wind Farm Array is partially underlain by a band of hummocky (moundy) glacial deposits, till and glaciolacustrine superficial deposits. The Haul Route Search Area is primarily underlain by superficial deposits comprising glacial till.
- 9.3.7. No made ground deposits are present within the Study Area.

Hydrogeology

- 9.3.8. The bedrock geology underneath the Study Area is designated as a Secondary A aquifer. Secondary A aquifers generally comprise permeable layers that can support local water supplies and may form an important source of base flow to rivers, although yield amounts may be limited.
- 9.3.9. The superficial deposits of peat and glaciolacustrine clay and silt are not designated as aquifers. In contrast, the superficial deposits of till and hummocky glacial deposits are classified as Secondary (undifferentiated) Aquifers. The alluvial deposits (clay, silt, sand, and gravel) and the glaciofluvial deposits of sand and gravel are both designated as Secondary A aquifers.
- 9.3.10. Two groundwater SPZs are present within the Study Area. These are both located within the north of the Study Area, to the east of the Haul Route Search Area and are shown on **Figure 9.3**.
- 9.3.11. The most sensitive areas, SPZ1 (Inner Protection Zone), are located around the abstraction point, with one SPZ1 present to the south of Newsham and one to the north. The SPZ1 to the south of Newsham is also



associated with an area of SPZ2 (Outer Protection Zones), which provides a wider area of protection to safeguard groundwater quality at this abstraction point.

Local Hydrology

- 9.3.12. The local hydrology for the Study Area is shown on **Figure 9.1**.
- 9.3.13. The Study Area is located within three surface water operational catchments. The majority of the Study Area lies within the Upper Swale operational catchment. The western extent of the Study Area is located within the Middle Swale operational catchment. Both of these operational catchments form part of the wider Humber River Basin District.
- 9.3.14. A small area of the northern part of the Study Area is located within Tees Middle operational catchment, which is part of the wider Northumbria River Basin District.
- 9.3.15. On a smaller scale, several WFD assessed river water bodies are present within the Study Area, including:
- Gill Beck from Source to Greta;
 - Marske Beck from Source to River Swale;
 - Aldbrough Beck from Source to Clow Beck; and
 - Skeeby/Holme/Dalton Beck from Source to River Swale.
- 9.3.16. There are no Environment Agency Main Rivers located within the Study Area.
- 9.3.17. Numerous ordinary watercourses drain the Study Area, including:
- The Arndale Beck, which drains eastwards from west of the Study Area, flowing across the centre of the Study Area before turning southwards. It then joins the Kexwith Beck and subsequently the Moresdale Beck, approximately 750 m south of the central indent of the southern Scoping Boundary;
 - The Low Easegill Beck, which is present within the south-west extent of the Study Area, and drains southwards into the Moresdale Beck, with the confluence located approximately 25 m south of the Scoping Boundary;
 - The Moresdale Beck, which flows eastwards, approximately 25 m south of the southern Scoping Boundary;
 - The Sker Burn, which flows eastwards across the access track located within the north-east of the Study Area, approximately 900 m west of Newsham; and
 - Numerous unnamed smaller tributaries and drainage channels which are also present within the Study Area.
- 9.3.18. The current (2019) status of the WFD surface water bodies within the Study Area are presented in **Table 9-2**.



Table 9-2: WFD Cycle 3 (2019) water bodies within the Study Area

Water Body Name	Ecological Status	Chemical Status
Gill Beck from Source to Greta	Poor	Fail
Marske Beck from Source to River Swale	Moderate	Fail
Aldbrough Beck from Source to Clow Beck	Moderate	Fail
Skeeby/Holme/Dalton Beck from Source to River Swale	Moderate	Fail

Flood Risk

- 9.3.19. Flood zone mapping for the Study Area is shown in **Figure 9.2**.
- 9.3.20. Fluvial flood risk mapping indicates that only minimal areas of Flood Zone 2 and 3 are present within the Study Area. These areas are primarily associated with Arndale Beck, Kexwith Beck, and Moresdale Beck located towards the south of the Study Area. These flood zones are largely constrained to the immediate watercourse corridors and do not form wider floodplains. A further small area of Flood Zone 2 and 3 is located to the north-east of the Haul Route Search Area, associated with the Sker Burn.
- 9.3.21. The Study Area is remote from the coast and therefore the risk of flooding from tidal sources is considered to be negligible.
- 9.3.22. Surface water (pluvial) flood mapping generally indicates risk concentrated on field drainage ditches, tributaries, and along the corridors of existing watercourses. The mapping also identifies several notable overland flowpaths within the Study Area associated with these tributaries and field drainage ditches.
- 9.3.23. A desk-based review of the geology and hydrogeology within the Study Area indicates that the geology is unlikely to contain significant amounts of groundwater, and is largely overlain by low permeability superficial deposits. Any local groundwater levels are also likely to be in continuum with the local watercourses, meaning that during periods of overbank flow it is not possible to distinguish between the two flood sources. The risk of flooding from groundwater is therefore considered to be low.
- 9.3.24. Given the remote nature of the Study Area, it is not anticipated that any significant sewer or drainage infrastructure is located in the Study Area, and therefore the risk of flooding from sewers is considered to be low.
- 9.3.25. As identified by Environment Agency mapping, there are no formal flood defences identified within the Study Area.

Water Abstractions

- 9.3.26. It is anticipated that private water supplies are present within the Study Area. This will be further investigated as part of specific data requests and site-surveys.

Designated Sites

- 9.3.27. The statutory designated sites located within proximity to the Site are shown on **Figure 9.1**.
- 9.3.28. There are no environmentally designated sites located within the Study Area.
- 9.3.29. Brignall Banks Site of Special Scientific Interest (SSSI) lies approximately 1.9 km northwest of the Site at its closest point and is designated for its upland mixed ash woods and upland oakwoods. It occurs adjacent to Gill Beck, which has headwaters within the Site and therefore is hydrologically linked to the Site. However, the habitat is not considered to be water dependent, and we would not anticipate any effects on the water environment at this distance from the Site.

Summary of Sensitive Receptors

- 9.3.30. Based on the desk study undertaken above, the key receptors within the hydrology and hydrogeology Study Area have been identified as follows.

Hydrology

- 9.3.31. The key water environment receptors are the watercourses, including WFD water bodies, within the Study Area as illustrated in **Figure 9.1**.
- 9.3.32. These features have several attributes that could be affected, including water quality, flow conveyance, and hydromorphology. Watercourses are monitored by the Environment Agency under the WFD as surface waterbodies. Watercourses may also support existing water interests such as abstractions providing water supplies, receiving discharges and transporting/ and diluting waste waters. This will be confirmed through further assessment work post-scoping.

Hydrogeology

- 9.3.33. Groundwater within Secondary A aquifers have been identified within the Study Area. Groundwater can form a key linkage into baseflow for rivers, provide a water supply resource and support ecological habitat. Groundwater is monitored by the Environment Agency under the WFD as groundwater bodies.
- 9.3.34. Groundwater SPZs are mapped within the Study Area. These areas are associated with drinking water abstraction points, such as a wells, boreholes, or springs. Groundwater SPZs or any other registered or licenced groundwater abstractions are considered to be key groundwater receptors.
- 9.3.35. The presence of any Groundwater Dependent Terrestrial Ecosystems (GWDTEs) will be identified through review of results of ecological surveys conducted post-scoping and will be assessed as part of the ES.



9.4. Proposed Approach to the Environmental Impact Assessment

Proposed Assessment Methodology

- 9.4.1. The EIA will follow the overarching methodology outlined in **Chapter 3: Approach to EIA**. While those principles provide the foundation for this assessment, this chapter explains how they will be applied and, where necessary, adapted to address the specific requirements of the hydrology and hydrogeology assessment in the ES.
- 9.4.2. A Flood Risk Assessment (FRA) and WFD Assessment will be prepared as technical appendices to the ES and will inform the assessment of impacts in the hydrology and hydrogeology chapter.
- 9.4.3. A separate Schedule of Watercourse Crossings will be prepared as a technical appendix to the ES identifying all points where proposed access tracks will cross existing waterbodies.

Relevant Policy, Legislation and Relevant Guidance

- 9.4.4. This Section describes the legislation, key national policy (as set out in National Policy Statements), local policy and guidance that is specific to hydrology and hydrogeology. The ES chapter will demonstrate compliance with the relevant legislation, policy and guidance.
- Legislation
 - The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 (Ref 9-1);
 - Environmental Permitting (England and Wales) Regulations 2016 (Ref 9-2);
 - Flood and Water Management Act 2010 (Ref 9-3);
 - Water Resources Act 1991 (Amendment) (England and Wales) Regulations 2009 (Ref 9-4);
 - Land Drainage Act 1991 (Ref 9-5);
 - Environment Act 1995 (Ref 9-6);
 - Private Water Supplies Regulations 2009 (Ref 9-7);
 - Private Water Supplies (England) Regulations 2016 (Ref 9-8);
 - Environment Act 2021 (Ref 9-9);
 - Environmental Protection Act 1990 (Ref 9-10);
 - Water Act 2014 (Ref 9-11);
 - Groundwater (England and Water) Regulations 2009 (Ref 9-12); and
 - Environmental Permitting (England and Wales) Regulations 2016 (Ref 9-13).
 - National Policy



- National Policy Statements (NPS):
 - Overarching National Policy Statement for Energy (EN-1) (Ref 9-14); and
 - National Policy Statement for renewable electricity generation (EN-3) (Ref 9-15).
- National Planning Policy Framework (NPPF) (Ref 9-16).
- Local Policy
 - Richmondshire Local Plan 2012-2028 Core Strategy (Ref 9-17). Relevant policies may include:
 - Core Policy CP2 – Responding to Climate Change;
 - Core Policy CP3 – Achieving Sustainable Development; and
 - Core Policy CP4 – Supporting Sites for Development.
 - Emerging North Yorkshire Council Local Plan (Ref 9-18);
 - County Durham Plan (Adopted 2020) (Ref 9-19). Relevant policies may include:
 - Policy 26 - Green Infrastructure;
 - Policy 34 - Wind Turbine Development;
 - Policy 35 - Water Management; and
 - Policy 36 - Water Infrastructure.
 - Emerging County Durham Plan (Ref 9-20).
- Guidance
 - Control of Water Pollution from Construction Sites (C532) (Ref 9-21);
 - Environmental Good Practice on Site (C811 (Ref 9-22);
 - The Environment Agency's approach to groundwater protection, version 1.2 (Ref 9-23);
 - The SuDS Manual (C753) (Ref 9-24);
 - The Environment Agency's Land Contamination Risk Management 2023 (Ref 9-25);
 - North Yorkshire Council, Sustainable Drainage Systems Guidance (Ref 9-26);
 - North Yorkshire Council, Culverting Works and Drainage Maintenance Protocol (Ref 9-27); and
 - Durham County Council, Sustainable Drainage Systems (SuDS) Adoption Guide (Ref 9-28).

9.4.5. In the absence of relevant English guidance in relation to wind farm developments, the following guidelines produced by SEPA will be adopted:



- Guidance on Assessing the Impacts of Development on Groundwater Dependent Terrestrial Ecosystems (Ref 9-29); and
- Guidance on Assessing the Impacts of Development on Groundwater Abstractions (Ref 9-30).

Significance Evaluation Methodology

- 9.4.6. The significance level attributed to each effect will be assessed based on the 'sensitivity' of the affected receptor and the magnitude of change resulting from the development. The level of significance is then determined by the combination of receptor sensitivity and magnitude of change.
- 9.4.7. Receptor sensitivity is assessed on a scale of High, Medium, Low and Very Low, whilst magnitude of change is assessed on a scale of High, Medium, Low and Negligible. These criteria are defined and applied based on professional judgement, using recognised approaches to classification relevant to the receptor types, including WFD, the National Planning Policy Framework (NPPF) and Design Manual for Roads and Bridges (DMRB), all of which represent good practice for water environment assessments within EIAs.

Sensitivity of Receptor

- 9.4.8. The sensitivity of the receiving environment (i.e. the baseline quality of the receiving environment as well as its ability to absorb the effect without perceptible change) will be considered through a set of pre-defined criteria, outlined in **Table 9-3**.

Table 9-3: Definitions of Receptor Sensitivity

Sensitivity	Criteria	Description
High	Aquatic environment feature with a high quality and rarity at an international scale, with little potential for substitution. Water resources supporting human health and economic activity at a regional scale. Property and infrastructure with a very high vulnerability to flooding.	Watercourses, waterbodies and tributaries of national importance. Watercourses or waterbodies supporting highly sensitive large abstractions. Watercourses or waterbodies of good chemical status/ high ecological status and/ or high-quality targets under the WFD. Watercourses or waterbodies protected under international legislation, with an environmental designation for ecological/ conservation value, for example SAC, SPA, Ramsar. Aspects of the Project are classified as highly vulnerable to flood risk. Flood Zone 3 floodplains within the Flood Map for Planning, which are narrow and floodplains where a small increase in volume results in a relatively large increase in flood levels.

Sensitivity	Criteria	Description
		Public potable water supply from either surface or groundwater source. Aquifer is a Principal Aquifer providing regionally important potable water supply and classified as a groundwater SPZ.
	Aquatic environment feature with a high yield and/ or quality and rarity at a national scale, with a limited potential for substitution. Water resources supporting human health and economic activity at a local scale. Property and infrastructure with a high vulnerability to flooding.	Watercourses, waterbodies and tributaries of district or regional importance. Watercourses or waterbodies supporting moderately sensitive abstractions. Watercourses or waterbodies of good chemical status/ moderate to good ecological status and/ or moderate to high quality targets under the WFD. Watercourses or waterbodies protected under national conservation designations, for example SSSI, National Nature Reserve (NNR), where the designation is based specifically on aquatic features. Flood Zone 2 floodplains within the Flood Map for Planning with limited constraints to the watercourse. Private Water Supply (PWS) from a watercourse or waterbody for potable use or non-drinking water abstraction for agricultural use from either surface or groundwater source. Aquifer is a Principal Aquifer not designated as SPZ.
Low	Aquatic environment feature with a medium yield and/ or quality at a regional scale, or good quality at a local scale, with some potential for substitution. Water resources supporting human health and economic activity at household or individual business scale. Property and infrastructures with a moderate to low vulnerability to flooding.	Watercourses, waterbodies and tributaries of local importance. Watercourses or waterbodies supporting abstractions of limited sensitivity. Watercourses or waterbodies with a chemical water quality status classed as 'fail' or an ecological water quality status classed as 'poor' and/ or moderate quality targets under the WFD. Watercourses or waterbodies protected under local conservation designations, for example LNR, County Wildlife site, where the designation is based specifically on aquatic features. Receptors classified as 'less vulnerable' to flood risk. Flood Zone 1 or 2 floodplains within the Flood Map for Planning, where any floodplain is wide and a large increase in volume results in a small increase in flood levels.



Sensitivity	Criteria	Description
		Aquifer is a Secondary A or Secondary B Aquifer.
Very Low	Aquatic environment feature with a low yield and/or quality at a local scale, with good potential for substitution. Water resources that do not support human health, and of only limited economic benefit. Property and infrastructure that are resilient to flooding.	Small artificial, or heavily modified watercourses or waterbodies of limited local importance, with low habitat potential. Watercourses or waterbodies supporting no recorded abstractions. Watercourses or waterbodies with a chemical water quality status classed as 'fail' and an ecological water quality status classed as 'poor', and/ or low quality targets under the WFD. Unlicensed non-potable surface water abstractions.

Magnitude of Change

- 9.4.9. The magnitude of impact upon hydrology and hydrogeology receptors is determined by defining the duration and reversibility of the change, and relevant legislation, policy standards and guidance. Magnitude of change may be either beneficial or adverse.

Significance of Effect

- 9.4.10. The likelihood of an effect occurring also needs to be considered in any assessment and is evaluated on professional judgement and past experience of similar developments.
- 9.4.11. The effect's significance is determined by correlating the potential magnitude of the impact and sensitivity of the receptor, as defined in the matrix presented at **Table 9-4**.
- 9.4.12. The final assessment for each effect is based upon professional judgement, after taking likelihood into consideration. Effects assessed as Major will be considered significant and reported as such in the ES. Effects assessed as Moderate will be considered potentially significant and will be subject to further investigation during the assessment process, following refinement of design information. Effects assessed as Minor or Negligible are deemed to be not significant in EIA terms.

Table 9-4: Significance of Effect Matrix

Sensitivity/ Magnitude	High	Medium	Low	Negligible
High	Major	Major	Moderate	Negligible
Medium	Major	Moderate	Minor	Negligible
Low	Moderate	Minor	Minor	Negligible
Very Low	Negligible	Negligible	Negligible	Negligible



Cumulative Effects

- 9.4.13. The assessment will also consider potential cumulative effects associated with other developments within 5 km of the Site and in the same surface water catchments as the Project. A cumulative effect is considered to be the effect on a hydrological and hydrogeological receptor arising from the Site in combination with other developments within the cumulative Study Area which are likely to affect surface water and groundwater.

Further Baseline Data

- 9.4.14. A number of site walkovers will be undertaken to inform the EIA. This will enable a visual survey of the Site to verify existing features but to also identify any outstanding hydrological or hydrogeological related issues or features, particularly those not readily apparent from desk-based assessments or existing mapping.
- 9.4.15. In addition to the walkover survey, further data collection will be undertaken to fully assess the potential impacts of the Project on the water environment within the hydrology and hydrogeology Study Area. This will include targeted data requests to the Environment Agency and local planning authorities to obtain essential information, such as flood risk mapping, data relating to water users (licenced abstractions or registered private water supplies), groundwater data and hydrological studies.
- 9.4.16. Properties within the Study Area that are not registered private water supply users and are not within an area currently supplied by mains water will be identified via a programme of site-specific field investigation. This will involve contacting and visiting (should permission be granted) the properties within the Study Area, enquiring about their water use and source, and mapping any water abstraction locations.

Consultation

- 9.4.17. Consultation will be undertaken and recorded throughout the pre-application stages of the Project, with the following key consultees:
- Environment Agency;
 - Natural England; and
 - North Yorkshire Council and Durham County Council inclusive of their Lead Local Flood Authorities (LLFAs).
- 9.4.18. The aim of this consultation will be to discuss findings with a view of reaching agreement on issues prior to submission of the application. Where required, this will also include discussion on details of assessment methods.
- 9.4.19. Consultation will be reviewed throughout the assessment process. Additional consultees such as local or specialist groups will be contacted should a requirement to consult with other bodies arises. Engagement with the key consultees will continue post submission.



9.5. Design, Mitigation and Enhancement Measures

- 9.5.1. As part of the early design process for the Project, several embedded and standard mitigation measures are proposed to reduce the potential for impacts on hydrology and hydrogeology. These are presented below. It is expected that these may evolve throughout the design evolution of the Project as the EIA progresses and in response to consultation.
- 9.5.2. Measures adopted as part of the Project will include, but not be limited to, the following:
- Embedded design measures including, but not limited to:
 - Existing access tracks and watercourse crossings will be utilised as part of the Project where technically possible, and any new tracks will be designed to limit the amount of watercourse crossings required;
 - A buffer of 50 m will be applied to watercourses shown on 1:10,000 scale mapping;
 - Avoid areas with significant floodplains or large extents shown to be at risk of flooding where possible;
 - Design to avoid impacts on private water supply sources and areas of GWDTEs where possible;
 - Development of, and adherence to, an outline Construction Environmental Management Plan (CEMP), which will form part of the application for development consent, which would include, but not be limited to the following:
 - outline Pollution Prevention and Emergency Incident Response Plan, which would set out the pollution prevent measures, and emergency incident responses, which would be implemented during the construction phase of the Project;
 - setting out principles for storage and handling of oils, fuels or other potentially polluting substances;
 - good practice measures for the management of erosion and sedimentation;
 - water quality monitoring requirements before, during and immediately post-construction; and
 - drainage principles, including the incorporation of SuDS and good practice in relation to the management of surface water runoff rates and volumes.
 - During operation, an Operational Phase Environmental Management Plan (OPEMP) will be developed to describe the overarching principles and measures through which environmental impacts associated with the operational and maintenance phase, as identified in the EIA, would be appropriately managed. An outline OPEMP will form part of the application for development consent and will set out the principles to be followed when the final OPEMP is finalised.



- Development of, and adherence to, a Decommissioning Plan, which would be prepared for the Project prior to decommissioning in accordance with the latest available guidance and legislation. An outline Decommissioning Plan will form part of the application for development consent and will set out the principles to be followed when the final Decommissioning Plan is finalised. The hydrology and hydrogeology measures would be consistent with those applied during construction but would be proportionate to the nature of the decommissioning activities.

- 9.5.3. The Applicant is committed to implementing these measures, and also various standard sectoral practices and procedures. It is therefore considered that these measures are inherently part of the design and have been considered in the judgements as to which impacts can be scoped in/ out of assessment presented in **Section 5.7** and **Section 9.7**.
- 9.5.4. Additional mitigation measures will be considered where significant effects are anticipated to remain after embedded design measures and standard good practice controls have been applied. If residual impacts persist, proportionate further actions, such as enhancement, remediation or compensation, will be identified to address those remaining effects.
- 9.5.5. Further detail on the role of mitigation commitments, as part of a proportionate EIA approach, is provided in **Chapter 3: Approach to EIA**. A full description of the mitigation commitments identified so far is provided in **Appendix 3A: Draft Register of Environmental Actions and Commitments (REAC)**.
- 9.5.6. The requirement for, and feasibility of, any mitigation measures will be subject to consultation with consultees throughout the pre-application phase of the Project.

9.6. Potential Impacts Scoped In

- 9.6.1. A range of potential impacts on hydrology and hydrogeology have been identified which may occur during construction, operation and maintenance, and decommissioning phases. The impacts that have been scoped into the EIA are outlined in **Table 9-5** together with a description of any proposed additional data collection (e.g. site-specific surveys) and/ or supporting analyses (e.g. modelling) to enable an assessment of the impact.



Table 9-5: Impacts proposed to be scoped into the assessment for Hydrology and Hydrogeology

Impact	Description	Proposed Approach to Assessment Including Description of Any New Data Collation Required and Any Analyses (Such as Modelling)
Construction		
Impacts on surface water and groundwater quality from pollution from fuel, oil, concrete or other hazardous substances.	Construction activities involving fuel storage, refuelling, concrete pouring, and other hazardous substances carry a risk of accidental spills. These incidents could result in the contamination of surface water or groundwater, potentially affecting downstream water quality.	A review of proposed construction activity will be used to inform input into an outline CEMP with regard to control of fuel, oil, concrete or other hazardous substances.
Discharge of sediment laden runoff to drainage systems and watercourses.	Ground excavation and the creation of exposed surfaces during construction can increase suspended sediment concentrations in surface runoff. This sediment laden runoff may enter drainage systems or nearby watercourses, resulting in degraded water quality and potential impacts on downstream receptors.	A review of proposed construction activity will be used to inform input into an outline CEMP with regard to control of surface water runoff and entrainment of sediments.
Increased flood risk to areas downstream of the Site during construction through increased surface runoff.	Construction activities such as vegetation removal, soil compaction, and the creation of temporary impermeable surfaces can increase the rate of surface runoff. These changes reduce natural infiltration and floodplain storage, thereby elevating flood risk to downstream areas.	A separate FRA and a schedule of watercourse crossings will be prepared as technical appendices to the ES.
Changes in groundwater levels or groundwater flow paths in areas of GWDTEs.	Localised construction activities may temporarily alter groundwater levels or flow paths, which can potentially affect GWDTEs.	Site-specific surveys will be carried out to confirm the presence and assess potential impacts on GWDTEs.
Potential adverse impacts to licenced and private water supplies.	Ground disturbances and alterations to groundwater flow pathways during construction may affect both the quantity	Site-specific surveys will be carried out to assess impact

Impact	Description	Proposed Approach to Assessment Including Description of Any New Data Collation Required and Any Analyses (Such as Modelling)
	and quality of water feeding licensed abstractions and private water supplies.	on private water supplies as outlined in Section 9.4 .
Disturbance and or pollution resulting from borrow pit formation and use.	Excavation of borrow pits can alter local drainage patterns, create large areas of exposed material, and generate significant sources of sediment-laden runoff. The use of heavy machinery and fuels within the pit also increases the risk of pollution from hazardous substances, which may lead to deterioration of water quality in nearby surface water and groundwater receptors.	Borrow pit feasibility reporting will be undertaken, as part of Chapter 10: Geology, Soils and Ground Conditions , to inform on potential risks from development of borrow pits on hydrological and hydrogeological receptors.
Operation and Maintenance		
Increased runoff rates and flood risk, resulting from increases in areas of impermeable hardstanding areas.	Changes to fluvial or surface water flood risk associated with a loss of floodplain storage and/or change in floodplain flow conveyance.	A separate FRA and schedule of watercourse crossings will be prepared as a technical appendix to the ES.
Increased flood risk from restriction of flow at permanent watercourse crossings.	Permanent watercourse crossings may introduce localised constrictions to channel flow. This can reduce conveyance capacity, increasing upstream water levels and contributing to elevated flood risk during high-flow conditions.	A separate FRA and schedule of watercourse crossings will be prepared as a technical appendix to the ES.
Changes in natural surface water drainage patterns.	Vegetation removal, soil compaction, and the creation of impermeable surfaces can alter surface water drainage patterns. These changes can impede natural drainage pathways.	The ES will include a commitment to development of a surface water drainage strategy to manage runoff during the operation and maintenance phase of the development.
Changes to groundwater levels and groundwater movement.	Operational infrastructure may alter groundwater recharge patterns or impede subsurface flow pathways. These changes can lead to localised variations	Potential impact on groundwater will be assessed within the ES.

Impact	Description	Proposed Approach to Assessment Including Description of Any New Data Collation Required and Any Analyses (Such as Modelling)
	in groundwater levels or flow direction.	
Longer term impacts on abstractions for water supplies, particularly any supplies dependent on groundwater.	Longterm operation may alter groundwater recharge and subsurface flow pathways and may also influence groundwater quality. These changes can affect the long-term yield and water quality of licensed abstractions or private water supplies that depend on groundwater.	Site-specific surveys will be carried out to assess impact on private water supplies.
Decommissioning		
No activities during this phase are scoped into the assessment as detailed in Table 9-6 .		
Cumulative		
Cumulative effects on hydrological and hydrogeological receptors.	A review of other existing and proposed developments near the Project will be undertaken and potential impacts on Hydrology and Hydrogeology will be assessed to identify cumulative impacts.	The cumulative effects on hydrological and hydrogeological receptors will be assessed using the surface water catchments within the Study Area, with a maximum downstream distance of 5 km from the Site boundary.

9.7. Impacts Proposed to be Scoped Out

- 9.7.1. Based on the baseline environment information currently available and the Project description (outlined in **Chapter 2: Project Description**) a number of impacts are proposed to be scoped out the EIA for hydrology and hydrogeology. The impacts are outlined in **Table 9-6**, together with a justification for scoping them out.

Table 9-6: Impacts proposed to be scoped out of assessment for Hydrology and Hydrogeology

Impact	Justification for Scoping Out
Construction	
Potential adverse impacts to water dependent designated sites.	It is proposed to scope out the effects on water dependent designated sites because there are no hydrologically connected designated sites within the Study Area or within 1 km downstream of the Study Area.

Impact	Justification for Scoping Out
Operation and Maintenance	
An assessment of the potential effects on hydrology and hydrogeology from operation and maintenance activities is scoped into the assessment as detailed in Table 9-5 .	
Decommissioning	
Potential decommissioning effects.	Decommissioning the Project will be carried out in accordance with an approved decommissioning plan which will be expected to include the same safeguards as those provided during the construction stage of the Project which will be outlined in the EIA.
Cumulative	
A cumulative effects assessment is scoped into the hydrology and hydrogeological assessment as detailed in Table 9-5 .	

9.8. Summary of Next Steps

- 9.8.1. This scoping assessment has been undertaken based on desk-based information. Further information and data will be required to identify the potential impacts upon hydrology and hydrogeology in relation to the Study Area. This will include a detailed review and assessment of the Site.
- 9.8.2. A full walkover survey of the Site, including all adjacent watercourses will be carried out to support this assessment. Findings of the assessment will be set out in the hydrology and hydrogeology ES chapter. The assessment will highlight any areas that would warrant further, more detailed assessment. Where potential adverse effects are identified, either during the construction phase or the operation of the scheme, the proposed measures for controlling these will be discussed. The assessment will then set out the level of residual risk posed to local hydrological and hydrogeological receptors.
- 9.8.3. An FRA will also be undertaken for the Project. This will assess the risk of flooding posed to the development and detail principles of how storm water runoff from the Site will be managed providing technical details of the key mitigation proposed to protect both the Project and the water environment.

9.9. Further Consideration for Consultees

- 9.9.1. The following questions are provided to help frame the consultees comments on the Scoping Report for the hydrology and hydrogeology:
 - Q9.1: Do the consultees agree that the receptors and impacts described in **Section 9.7** can be Scoped out?
 - Q9.2: It is not proposed to undertake any water quality sampling, establish groundwater monitoring points, surface water monitoring points or undertake leachability trials of any rock as there is published

data that can be used to characterise baseline conditions and complete the impact assessment. Is this acceptable?

- Q9.3: Please advise if there is any specific information or methodology that should be used/ followed as part of the assessment on private water supplies?
- Q9.4: Do you agree that the scope of the proposed assessment is appropriate?

9.10. References

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10. Geology, Soils and Ground Conditions

10.1. Introduction

- 10.1.1. This chapter of the Scoping Report sets out the proposed scope and methodology of the geology, soils and ground conditions assessment of the Project. It identifies the potential likely significant effects arising from the construction, operation and management, and decommissioning of the Project, in isolation and cumulatively, on geology, soils and ground conditions. The chapter also explains how likely significant effects would be assessed for the purposes of the EIA.
- 10.1.2. Details of the construction, operation and maintenance, and decommissioning of the Project are set out in **Chapter 2: Project Description**.
- 10.1.3. There are interrelationships between the potential effects on geology, soils and ground conditions and other environmental topics. Therefore, this chapter should be read alongside the following chapter of the Scoping Report, which has later been cross-referenced as necessary:
- **Chapter 10: Hydrology and Hydrogeology**
- 10.1.4. This chapter is supported by the following Figure (provided in **Volume A**) and Appendix (provided in **Volume B**):
- Figure:
 - **Figure 10.1: Peat Depth Interpolation**
 - Appendix:
 - **Appendix 10A: Kexwith Moor Mining Risk Assessment** (Mason Evans Geo-Environmental Consultants, 2023)

10.2. Study Area

- 10.2.1. For the purposes of Scoping, the Study Area for geology, soils and ground conditions has been defined by the Scoping Boundary. The Scoping Boundary encompasses all locations where physical ground disturbance could arise from the Project and therefore represents the maximum foreseeable area within which the Project could give rise to direct or indirect effects on geological features, soil resources or existing ground conditions.
- 10.2.2. The Study Area has been used to describe the current baseline conditions in **Section 10.3** in relation to geology, soils and ground conditions. The Study Area for geology, soils and ground conditions has been defined for the purposes of Scoping using the Scoping Boundary. The Project will continue to evolve through the EIA process as design, assessment and consultation are undertaken. As the Scoping boundary is refined, the Study Area for the EIA will be updated accordingly and defined with reference to the draft Order Limits.



10.3. Baseline Environment

Overview of Available Data Sources

10.3.1. The data sources to be consulted in the production of the geology, soils and ground conditions Environmental Statement (ES) chapter include, but are not limited to, those outlined in **Table 10-1**.

Table 10-1: Key sources of information for Geology, Soils and Ground Conditions

Source	Summary	Spatial Coverage of Study Area
British Geological Survey (BGS) Onshore Geoindex	Provides information on bedrock geology, superficial geology, linear features, and mines and quarries within the Study Area.	Full Coverage
National Library of Scotland, Side by Side Viewer	Historical Maps of England	Full Coverage
Natural England Peat Map	Provides predicted peaty soil depth and peaty soil extent and condition within the Study Area.	Full Coverage
LandIS Soilscales	Provides information regarding soils within the Study Area.	Full Coverage
The UK Soil Observatory (UKSO)	Provides information regarding soils within the Study Area.	Full Coverage
North Yorkshire Council	Provides information regarding Mineral Safeguarding Areas in the North Yorkshire council area.	Partial coverage, only across the North Yorkshire Council Area.
Mining Risk Assessment (Mason Evans Geo-Environmental Consultants, 2023)	Undertaken as part of an initial feasibility exercise and provides information regarding mining within the Study Area.	Full Coverage
Mining Remediation Authority	Provides information regarding mining within the Study Area.	Full Coverage
Natural England DEFRA open data	Provides information regarding designated sites, and agricultural land classification within the Study Area.	Full Coverage

Source	Summary	Spatial Coverage of Study Area
Zetica, Unexploded Bombs Website	Provides information regarding UXO	Full Coverage

Overview of Baseline Environment

Bedrock Geology

- 10.3.2. British Geological Survey (BGS) Onshore GeoIndex Mapping (**Ref 10-1**) indicates that the Site is underlain by two Carboniferous age sedimentary formations of the Yoredale Group, the Alston Formation and the Stainmore Formation. The northern extent of the Site is primarily underlain by the Alston Formation, with the southern extent of the Site primarily underlain by the Stainmore Formation.
- 10.3.3. Members of the Alston Formation underlain the Site include:
- Alston Formation (sandstone); - Four Fathom Limestone Member;
 - Alson Formation (limestone with sandstone and argillaceous rocks); and
 - Great Limestone Member.
- 10.3.4. Members of the Stainmore Formation underlain the Site include:
- Richmond Chert;
 - Stanmore Formation – mudstone, siltstone and sandstone; and
 - Ten Fathom Grit - sandstone.
- 10.3.5. The Wind Farm Array is largely underlain by the Richmond Chert in the south and Great Limestone Member in the north. The Haul Route Search Area is primarily underlain by Alston Formation
- 10.3.6. There are several inferred faults present in the north-west and centre of the Wind Farm Array. There is a large, inferred fault trending west-east across the centre of the Wind Farm Array. Most faults have inferred mineral veins.

Superficial Geology

- 10.3.7. BGS Onshore GeoIndex (Ref 10-1) indicates that superficial deposits are predominantly absent in the south and east of the Wind Farm Array, except isolated areas of peat. The centre and west of the Wind Farm Array is underlain by widespread peat deposits. The northern extent of the Wind Farm Array is partially underlain by a band of hummocky (moundy) glacial deposits, till and glaciolacustrine superficial deposits. The Haul Route Search Area is primarily underlain by superficial deposits comprising glacial till.
- 10.3.8. BGS Onshore GeoIndex (Ref 10-1) indicates no made ground deposits are present across the Study Area.



Soil and Peat

- 10.3.9. Mapping from the Natural England Peat Map (2025) (Ref 10-2) indicates that extensive areas of deep peaty soils, > 2.0 m in depth, are present across the western and central extent of the Wind Farm Array. Smaller, isolated pockets of peat occur in the eastern and southern sections. In the north- eastern area of the Site within the Haul Route Search Area, peat deposits are mapped as predominantly shallow, generally < 0.2 m in depth.
- 10.3.10. The Natural England Peat Map (Ref 10-2) indicates the presence of extensive peatland drainage and erosional features across the Wind Farm Array. Artificial drains form the predominant feature within the Wind Farm Array, the mapping shows that sections of this drainage network, specifically in the south-west and north-east have undergone drain blocking indicating areas of peatland restoration. The Natural England Peat Map (Ref 10-2) shows hags and gullies are also recorded across the Wind Farm Array, although these features are less widespread and not as prominent as the artificial drainage network. A review of satellite imagery confirms artificial drain and burn scars as the most predominant features present on the Wind Farm Array. An initial desk-based review of satellite imagery and the Natural England Peat Map (Ref 10-2) indicates that no areas of peatland in a 'near natural' condition are present within the Wind Farm Array. This preliminary finding will be verified through the completion of detailed peat depth and condition survey and associated assessment of the Site.
- 10.3.11. LandIS Soils mapping (Ref 10-3) indicates that the west of the Wind Farm Array is dominated by blanket bog peat soils, the east is primarily underlain by very acidic loamy upland soils with a wet peaty surface. The north of the Wind Farm Array and the Haul Route Search Area are underlain by a small area of slowly permeable, very acidic upland soils with a peaty surface.
- 10.3.12. A low resolution, Phase 1 Peat Depth survey conducted by MacArthur Green (now SLR Consulting Ltd.) was undertaken on a 100 m x 100 m grid in November 2024 across the Wind Farm Array. The results of the probe depth survey indicate the presence of peat soils, the extents of recorded peat depth are shown in **Figure 10.1**.
- 10.3.13. The peat surveys show that approximately 52% of depths recorded were <0.3 m and therefore are classified as organic rich soil deposits (i.e. not peat by Natural England). There are localised areas of deep peat, largely located in the west of the Wind Farm Array, reaching a maximum depth of 4.91 m. The results of probing show the average depth across the Wind Farm Array was 0.54 m. Phase 1 survey results are shown in **Table 10-2**.

Table 10-2: Phase 1 Peat Depth Survey Results

Peat Depth (m)	Number of Probes	% of all probes
0	201	17.7
0-0.30	393	34.7



Peat Depth (m)	Number of Probes	% of all probes
0.31 - 1.0	359	31.7
1.00-1.50	81	7.1
1.51- 2.0	39	3.4
2.01 -2.50	22	1.9
2.51- 3.0	18	1.6
3.01 - 3.5	10	0.9
3.51 - 4	4	0.4
4 +	6	0.53

Agricultural Land Classification

- 10.3.14. The Updated Agricultural Land Classification mapping for England (Ref 10-4) identifies the Agricultural Land Classification (ALC) across the Wind Farm Array as predominantly Grade 5, with the east of the Haul Route Search Area classified as Grade 4, with a small portion overlapping Grade 3.
- 10.3.15. Grade 4 and Grade 5 soils are classed as poor and very poor quality, respectively, reflecting severe limitations that significantly constrain their agricultural capability. Grade 3 soils range from good to moderate quality, capable of supporting arable production, although their cropping range and yield reliability remain limited.
- 10.3.16. The review of the Planning Data Agricultural Land Classification mapping for England indicates that no Grade 1 or Grade 2 agricultural land is present within the Site. On this basis, the Site is not considered to comprise Best and Most Versatile (BMV) agricultural land.

Dissolution Features

- 10.3.17. Following review of OS 1:25,000 mapping and BGS Onshore GeoIndex (Ref 10-1), the Site is shown to be underlain by the Great Limestone Member which show dissolution features such as shake holes and sink holes within the Study Area.

Mining

- 10.3.18. The Mining Remediation Authority (MRA) interactive map (Ref 10-5) identifies the Site as being located within a coal mining reporting area. Within the western extent of the Wind Farm Array, a development high-risk area is present, overlapping with probable shallow coal mine workings. This area also intersects with the previously described dissolution features, shake holes.
- 10.3.19. A review of OS 1:25,000 mapping identifies several recorded shafts within the Scoping Boundary, indicating the presence of historic mining activity. Historic maps also reference disused lead and coal mines within the Study



Area. In the northern part of the Wind Farm Array, north of Arndale Beck, a disused lead mine and associated disused shafts are shown.

- 10.3.20. The BGS confirms that limestone is present as a mineral resource across the northern extent of the Wind Farm Array. This is supported by historic OS mapping, which also records limestone underlying the Study Area.
- 10.3.21. The 31 mine entries are recorded by the MRA as lead mine shafts, which is supported by BGS data, indicating that historical lead mining activities were extensive in the surrounding area. The recorded mine entries are largely in the north of the Wind Farm Array, located to the north of the Arndale Beck.
- 10.3.22. A site walkover, carried out by SLR on 5 December 2025, identified evidence of historic mining and ground instability and evidence of mining waste materials was identified north of the Arndale Beck. These were largely considered to be typical of collapsed pits, visible at the surface as topographic surface depressions. In some areas these depressions were observed to be fenced off. The presence of these identified lead mine workings indicates potential for ground instability, which will require further detailed assessment.
- 10.3.23. A Mining Risk Assessment of the Wind Farm Array was carried out by Mason Evans Geo-Environmental Consultants in November 2023, which formed part of the Applicant's feasibility exercise, and is provided as **Appendix 10A** to this Scoping Report. The report identified 31 mine entries within the Wind Farm Array from Coal Authority records. The coal mining report did not identify any past underground coal mining underlying the Wind Farm Array; however, the report did indicate it is likely that unrecorded shallow workings are present within the Study Area.

Mineral Safeguarded Areas

- 10.3.24. The northern extent of the Wind Farm Array is located within the County Durham Council area; the Statutory Development Plan Policies Map (Ref 10-6) indicates no Mineral Safeguarding Areas (MSA) present within the northern extent of the Wind Farm Array. The southern extent of the Wind Farm Array and the Haul Route Search Area is located within the North Yorkshire Council area; the minerals and waste map (Ref 10-7) indicates the south-western extent of the Wind Farm Array is located within a Limestone Safeguard Area.

Designated Sites

- 10.3.25. There are no designated areas of protection located within the Study Area in relation to sensitive geological or soils receptors. The closest Geological Conservation Review (GCR) site, Shaw Beck Gill, is located approximately 3.6 km to the south-west of the Site, which is designated for fluvial geomorphology.

Unexploded Ordnance (UXO)

- 10.3.26. The Zetica website (Ref 10-8) was reviewed for potential Unexploded Ordnance (UXO) and indicated that the Site is within a low bomb risk area.



Review of OS 1:25,000 mapping indicates a Danger Area named as Feldom Ranges approximately 500 m east of the Site which may be a source of Unexploded Ordnance.

Contaminated Land

- 10.3.27. An Environmental Search Request response from North Yorkshire Council in January 2026 indicates no land within the Site in the North Yorkshire Council area has been classified as “contaminated land” under the provisions of Part 2A of the Environmental Protection Act 1990 (Ref 10-9).
- 10.3.28. A review of historic mapping and information requests from North Yorkshire Council indicates that an area of potentially contaminated land is present at an historic quarry in the north-east of the Wind Farm Array and an historic quarry in the south-west of the Haul Route Search Area. Lead mining and coal mining shafts are also present within the Wind Farm Array. There are also areas of hushes recorded. Hushing is a method of exposing mineral veins and ore using flooding or high-pressure water and may have the potential to result in contamination of the river valleys in which it occurs. The hydrology and hydrogeological receptors are detailed in **Chapter 10: Hydrology and Hydrogeology**. In the case of the Site these include sulphide rich ores which are likely to contain elevated concentrations of lead (Pb), zinc (Zn), cadmium (Cd), and arsenic (As).

10.4. Proposed Approach to the Environmental Impact Assessment

Proposed Assessment Methodology

Relevant Policy, Legislation and Relevant Guidance

- 10.4.1. The potential effects of the Project on geology, soils and ground conditions would be considered in the relevant topic-specific ES chapter, which would cross-reference, as appropriate, relevant legislation, policy and guidance including:
- Legislation
 - Environmental Permitting (England and Wales) (Amendment) Regulations 2023 (Ref 10-10); and
 - Environmental Protection Act 1990 (Ref 10-11).
 - National Policy
 - National Policy Statements (NPS):
 - Overarching National Policy Statement for Energy (EN-1) (Ref 10-12); and
 - Renewable Energy Infrastructure (EN-3) (Ref 10-13).
 - Local Policy
 - County Durham Plan (Adopted 2020) (Ref 10-14). Relevant policies may include:



- Policy 14 Best and Most Versatile Agricultural Land and Soil Resources;
- Policy 32 Despoiled, Degraded, Derelict, Contaminated and Unstable Land;
- Policy 47 Sustainable Minerals and Waste Resource Management; and
- Policy 56 Safeguarding Mineral Resources.
- Emerging County Durham Plan (Ref 10-15)
- Emerging North Yorkshire Council Local Plan (Ref 10-16)
- Richmondshire Local Plan 2012-2028 Core Strategy (Ref 10-17).
Relevant policies may include:
 - Core Policy CP2 Responding to Climate Change;
 - The north of the Site is located within County Durham, and the policies set out below include those from County Durham Plan:
 - Policy 32 Despoiled, Degraded, Derelict, Contaminated and Unstable Land;
 - Policy 33 Renewable and Low Carbon Energy;
 - Policy 34 Wind Turbine Development;
 - Policy 41 Biodiversity and Geodiversity; and
 - Policy 42 Internationally Designated Sites.
- Guidance
 - CIRIA C811: Environmental Good Practice on Site (fifth edition) (Ref 10-18);
 - Peat Landslide Hazard and Risk Assessments: Best Practice Guide for Proposed Electricity Generation Developments. (Second Edition) (Ref 10-19);
 - Scottish Environment Protection Agency (SEPA) Regulatory Position Statement - Developments on Peat (Ref 10-20);
 - Guidance on the Assessment of Peat Volumes, Reuse of Excavated Peat and the Minimisation of Waste (Ref 10-21);
 - NatureScot Good Practice During Wind Farm Construction Guidance (Ref 10-22);
 - Land contamination risk management (LCRM) (Ref 10-23); and
 - Mining Remediation Authority Planning applications and Coal Mining Risk Assessments (Ref 10-24)



Further Baseline Data

Desk Study

- 10.4.2. A detailed desk study will be undertaken to determine and confirm the baseline characteristics of the Site by reviewing available information relating to geology, soils and ground conditions. This will include review of published geological maps, Ordnance Survey maps, aerial photographs, digital terrain models (slope plans) and geological literature.
- 10.4.3. The desk study will identify sensitive features which may potentially be affected by the Project and will confirm the geological, environment.

Planned Surveys

Peat Management Plan, Peatland Condition Assessment and Peat Landslide Hazard and Risk Assessment

- 10.4.4. To enable the avoidance, protection and mitigation of impacts on peat soils arising from the development of the Project, an understanding of the extent and condition of peat soils on Site will be required. This will support the approach detailed in the 2025 Environmental Improvement Plan (Ref 10-25) and in accordance with the NPS for Renewable Energy Infrastructure (EN-3) (Ref 10-13).
- 10.4.5. A Peatland Condition Assessment (PCA), drawing on the results of the initial desk-based assessment, will be completed to identify and verify areas of peatland in near natural condition and areas of peatland which should be avoided during the design of the Project.
- 10.4.6. A Stage 1 Peat Management Plan (PMP) will be prepared as a technical appendix to the ES, in line with NPPF and guidance provided in the SEPA Regulatory Position Statement: Developments on Peat (Ref 10-20) and NatureScot Good Practice During Wind Farm Construction guidance (Ref 10-22). The Stage 1 PMP will set out measures including, but not limited to, the following:
- avoiding peat excavation where practicable;
 - minimising the volume of peat excavated where disturbance cannot be avoided; and
 - reusing excavated peat in a manner to which it is suited.
- 10.4.7. The following survey works will be completed to aid these appendices:
- A Phase 2 peat depth survey will be presented at a 10 m grid at proposed infrastructure locations (the probing will also provide information of the substrate below the peat);
 - a limited (in terms of aerial extent) geomorphological mapping exercise will be undertaken to link the topographic features with the underlying geology and to visit those areas of the Site that may be identified as potentially 'at risk from peat slide';
 - the thickness of the peat will be established by probing and the underlying sub-strata confirmed by inspection of watercourses;



- the investigation will consider turbine locations, access routes, compounds and borrow pits for signs of existing or potential peat instability;
 - augering of a representative selection of peat probe locations will be undertaken and the proportion of acrotelmic and catotelmic peat recorded;
 - output from the field survey will comprise a record of investigation locations and summary of peat depths and augering results; and.
 - Peat condition survey to classify peatland type and condition.
- 10.4.8. A Peat Landslide Hazard Risk Assessment (PLHRA) will be completed using the Site survey data and slope analysis (using DTM data), if required by best practice guidance, highlighting areas that may be impacted by a peat slide so that appropriate mitigation measures and can be identified. The assessment methodology will follow the Scottish Government and NatureScot guidance on peat landslide hazard assessment (Ref 10-19), in the absence of directly applicable equivalent guidance for England, this approach is considered appropriate and proportionate.
- 10.4.9. Geo-Environmental Desk Study Assessment and Mining Risk Assessment would be undertaken based on the presence of Geohazards and potentially contaminative former site use in the form of historical mining. The Geo-environmental Desk Study Assessment would be undertaken to identify potential risks that may require further investigation and/ or assessment. This would include Preliminary Land Quality Risk Assessment (PLQRA) undertaken in accordance with Land Contamination Risk Management (LCRM) guidance (Ref 10-23).

Borrow Pit Appraisal

- 10.4.10. Suitability of materials on the Site will be verified and borrow pit search areas will be identified as part of the Borrow Pit Appraisal, which will form a technical appendix to the ES. If appropriate, areas of potentially suitable materials are identified, including a description of the suitable materials, borrow pit size and the ability to supply appropriate materials for the construction of the Project will be included.

Mineral Resource Assessment

- 10.4.11. To ensure potential impacts associated with the sterilisation of safeguarded mineral resources arising from the Project are appropriately considered, a review of mineral resources and mineral safeguarding designations will be undertaken. If required, a Mineral Resources Assessment will identify whether the Site lies within a Mineral Safeguarding Area (MSA) or contains minerals of economic importance. The assessment will review BGS mapping (Ref 10-26), and publicly available records to determine the presence, extent and potential viability of safeguarded minerals.



Consultation

10.4.12. As part of the consultation phase of the project environmental data and views of the Project will be sought from:

- Natural England;
- Environment Agency; and
- Local Planning Authorities, Durham County Council and North Yorkshire Council.

10.5. Design, Mitigation and Enhancement Measures

10.5.1. As part of the early design process for the Project, several embedded and standard mitigation measures are proposed to reduce the potential for impacts on geology, soils and ground conditions. These are presented below. It is expected that these may evolve throughout the design evolution of the Project as the EIA progresses and in response to consultation and as more survey data becomes available.

10.5.2. Measures adopted as part of the Project would include, but not be limited to, the following:

- Avoidance by design where possible. Inherent in the emerging design of the Project is the commitment to avoid impacts on peat wherever practicable. The design process will prioritise the routing and siting of infrastructure avoiding areas of deeper peat (greater than 1 m depth) where technically possible, to minimise excavation volumes and ensure that any peat unavoidably removed is carefully handled, stored and reused on site in accordance with recognised best practice. Reuse measures may include reinstatement in areas identified for peatland restoration or to support habitat enhancement, which will be presented in the outline Landscape and Ecology Management Plan (LEMP), which will form part of the application for development consent.
- An outline Construction Environmental Management Plan (CEMP), which will form part of the application for development consent, which will comprise of:
 - An outline Soil Management Plan (SMP) which will set out how soils will be protected, handled, stored and reinstated during the construction phase of the Project and the principles to be followed when the SMP is finalised.
 - An outline Materials Management Plan (MMP) which will set out the approach to the handling, storage, movement and reuse of excavated soils and construction materials, so these activities are undertaken in a controlled, efficient and compliant manner throughout the construction phase. The outline MMP will set out the principles to be followed the final MMP is finalised.
- A Peat Management Plan (PMP) will be prepared to outline the overall approach to minimising disruption to peatland present on Site. It will aim to identify and take forward all further opportunities to minimise



peat disturbance and extraction during detailed design and construction of the Project. An outline PMP (a Stage 1 PMP), will be developed, as part of the application for development consent, to establish the peat management strategy for the Project and inform the EIA by identifying peat risks, sensitivities, and likely effects associated with the Project. A Stage 2 PMP would be developed prior to the construction phase of the Project.

- 10.5.3. Additional mitigation measures will be considered where significant effects are anticipated to remain after embedded design measures and standard good-practice controls have been applied. If residual impacts persist, proportionate further actions, such as enhancement, remediation or compensation, will be identified to address those remaining effects.
- 10.5.4. The Applicant is committed to implementing these measures, and various standard sectoral practices and procedures. It is therefore considered that these measures are inherently part of the design and have been considered in the judgements as to which impacts can be scoped in / out of assessment presented in **Section 5.7** and **Section 10.7**.
- 10.5.5. Further detail on the role of mitigation commitments, as part of a proportionate EIA approach, is provided in **Chapter 3: Approach to EIA**. A full description of the mitigations commitments identified so far is provided in **Appendix 3A: Draft Register of Environmental Actions and Commitments (REAC)**.
- 10.5.6. The requirement for, and feasibility of, any mitigation measures will be subject to consultation with consultees throughout the pre-application phase of the Project.

10.6. Potential Impacts Scoped In

- 10.6.1. A range of potential impacts on geology, soils and ground conditions have been identified which may occur during construction, operation and maintenance, and decommissioning phases. The impacts that have been scoped into the EIA are outlined in **Table 10-3**, together with a description of any proposed additional data collection (e.g. site-specific surveys) and/or supporting analyses (e.g. modelling) to enable an assessment of the impact.



Table 10-3: Impacts proposed to be scoped into the assessment for Geology, Soils and Ground Conditions

Impact	Description	Proposed Approach to Assessment Including Description of Any New Data Collation Required and Any Analyses (Such as Modelling)
Construction		
Disturbance and loss of carbon rich soils and peat deposits.	There are extensive areas of deep peaty soil present across the Site. Potential disturbance and loss of peat may occur as a result of excavation.	Detailed peat depth and will inform design to ensure deep peat is avoided by proposed infrastructure where possible. A peat condition survey will be undertaken to inform design to ensure near-natural peatland, if present, is avoided where possible.
Disturbance and loss of Agricultural Land	Potential disturbance and loss of Grade 3 agricultural soils may occur as a result of excavation. Grade 3 soils occur along the eastern side of the Haul Route Search Area. Limited disturbance is anticipated within areas underlain by Grade 3 agricultural soils during construction; however, these soils will be included within the scope of the assessment.	A further desk-based assessment of agricultural land capability will be undertaken, it is not anticipated that site works will be required within the area of Grade 3 soils, these will nonetheless be considered within the assessment. It is anticipated that with appropriate implementation of embedded mitigation and best practise following consultation and agreement with relevant stakeholders, no significant environmental effects on agricultural land likely during construction.
Sterilisation of Mineral Safeguarding Area	Potential sterilisation of safeguarded minerals. The southern extent of the Wind Farm Array lies within a limestone safeguarding area.	A Mineral Resource Assessment is required in order to determine whether the project in a MSA would be compliant with the relevant mineral safeguarding policies.
Ground instability (inc. peat slide risk if present).	The site is located within a coal mining reporting area, with a development high-risk area is present. Deep peaty soil present across the Site, potential risk of peat slide across site.	Mining Risk Assessment to assess potential impacts from historical mining. Detailed peat depth survey will be used to inform a PLHRA so that proposed infrastructure will be sited out

Impact	Description	Proposed Approach to Assessment Including Description of Any New Data Collation Required and Any Analyses (Such as Modelling)
		of areas of increased slide likelihood.
Impacts to Contaminated Land	Potential contaminated land from historic mining may be present within the Site.	A desk based Geo-Environmental Site Assessment with PLQRA will be carried out to identify and assess any potential sources of contamination within the footprint and adjacent of the Site (including any associated temporary construction areas).
Operation and Maintenance		
No activities during this phase are scoped into the assessment as detailed in Table 10.4 .		
Decommissioning		
No activities during this phase are scoped into the assessment as detailed in Table 10.4 .		
Cumulative		
Disturbance and Loss of Agricultural Land	In addition to the consideration of the loss and disturbance of agricultural land as a direct impact from the construction of the Project, the assessment will also consider the Project's impact on agricultural land availability on a regional basis.	A review of potential cumulative projects will be undertaken to determine the impact of the Project on the loss of agricultural land availability on a regional basis.
Sterilisation of Mineral Safeguarding Area	Potential sterilisation of safeguarded minerals. The southern extent of the Wind Farm Array lies within a limestone safeguarding area.	A review of potential cumulative projects will be undertaken to determine the cumulative impact to safeguarded minerals.

10.7. Impacts Proposed to be Scoped Out

- 10.7.1. Based on the baseline environment information currently available and the Project description (outlined in **Chapter 2: Project Description**) the impacts in **Table 10-4** are proposed to be scoped out the EIA for geology, soils and ground conditions.

Table 10-4: Impacts proposed to be scoped out of the assessment for Geology, Soils and Ground Conditions

Impact	Justification for Scoping Out
Construction	
An assessment of the potential effects on geology, soils and ground conditions from construction activities is scoped in as detailed in Table 10-3	
Operation and Maintenance	
Activities associated with the operational and maintenance phase of the Project are not anticipated to give rise to significant effects on geology, soils and ground conditions and are scoped out of further assessment. This is because this phase of the Project would not involve excavation or large-scale earthworks activities and any ground disturbing activities would be minimal and restricted to maintenance activities on access tracks and other infrastructure areas. Operation and maintenance activities will be undertaken in accordance with the Operational Phase Environmental Management Plan (OPEMP), an outline OPEMP will form part of the application for development consent and will set out the principles to be followed when the final OPEMP is finalised.	
Decommissioning	
Potential decommissioning effects.	Decommissioning the Project will be carried out in accordance with an approved decommissioning plan which will be expected to include the same safeguards as those provided during the construction stage of the Project which will be outlined in the EIA.
Cumulative	
Except for consideration of disturbance and loss of agricultural land on a regional basis and mineral safeguarding (see Table 10-3), a cumulative effects assessment relating to all other aspects of geology, soil and ground conditions is proposed to be scoped out of assessment. Cumulative impacts with regards to all other aspects of geology, soils and ground conditions are typically anticipated to be significant only where construction activities associated with nearby developments and the Project would overlap in both spatial footprint and timelines. This is because activities with the potential to adversely affect receptors identified within this Chapter would be substantially minimised post-construction through the implementation of mitigation measures set out within Section 10.5. However, with reference to Table 3-2 in Chapter 3: Approach to EIA, other developments within the wider area are either sufficiently distant from the Project or are already operational, such that there would be no meaningful overlap of both spatial footprint and timeline. On this basis, the potential for significant cumulative effects on geology, soils and ground conditions is considered unlikely and further assessment is not proposed.	

10.8. Summary of Next Steps

- 10.8.1. This scoping assessment has been undertaken based on desk-based information with a review of low-resolution peat survey data and a site walkover. A detailed review and assessment of the Site, required to identify the potential impacts upon geology, soils and ground conditions in relation to the Study Area, will be undertaken and set out in the ES.

- 10.8.2. The next step for this assessment will be to undertake specific surveys and detailed assessment to inform the design process and support EIA assessment. The survey and assessments will include a high-resolution peat depth survey and condition assessment along with detailed geo-environmental and mining risk assessments to confirm ground conditions and the potential extents of contamination sources within the Study Area.
- 10.8.3. The extent of potential BMV agricultural land will be confirmed and included for further assessment if present.
- 10.8.4. A mineral resource assessment will be undertaken to confirm the project is compliant with mineral safeguarding policies.

10.9. Further Consideration for Consultees

- 10.9.1. The following questions are provided to help frame consultee comments on the Scoping Report for geology, soils and ground conditions:
- Q10.1: Site investigation and assessment, including detailed phase 2 high resolution peat depth surveys, augering and peatland condition assessment, will be undertaken along with ground stability and mining risk as part of the proposed assessment. Should any additional investigation or data sources be considered when assessing baseline conditions?
 - Q10.2: Do you agree that the scope of the proposed assessment is appropriate?

10.10. References

- Ref 10-1 British Geological Survey. *Onshore GeoIndex*. Available at <https://www.bgs.ac.uk/map-viewers/geoindex-onshore/> [Accessed March 2026].
- Ref 10-2 Natural England (2025). *England Peat Map*. Available at: <https://england-peat-map-portal-ncea.hub.arcgis.com/> [Accessed March 2026].
- Ref 10-3 LandIS; Cranfield Soil and Agrifood Institute. *Soilscapes map viewer*. Available at: www.landis.org.uk [Accessed March 2026].
- Ref 10-4 UK Government (2026). *Updated Agricultural Land Classification (ALC) Mapping for England*. Available at: <https://environment.data.gov.uk/dataset/a817d96f-271d-487b-89ad-48d271f931aa> [Accessed March 2026].
- Ref 10-5 Mining Remediation Authority (2026) *Interactive Map*. Available at: <https://datamine-cauk.hub.arcgis.com/> [Accessed March 2026].
- Ref 10-6 Durham County Council (2026). County Durham Local Plan – Interactive Policies Map. ArcGIS Online. Available at:



- <https://durhamcounty.maps.arcgis.com/apps/instant/sidebar/index.html?appid=98d8317175a445b98709b7a50815067e> [Accessed March 2026].
- Ref 10-7 North Yorkshire Council (2026). *North Yorkshire Minerals and Waste – Interactive Map*. ArcGIS Experience. Available at: <https://experience.arcgis.com/experience/3e15caaf93bd4f35b175d39ffe4c53ef> [Accessed March 2026].
- Ref 10-8 Zetica UXO. *Unexploded Bombs Website*, Available at: <https://zeticauxo.com/> [Accessed March 2026].
- Ref 10-9 UK Government (1990). *Environmental Protection Act, 1990, Part IIA: Contaminated Land*. Available at: <https://www.legislation.gov.uk/ukpga/1990/43/part/IIA> [Accessed March 2026].
- Ref 10-10 UK Government (2023). *Environmental Permitting (England and Wales) (Amendment) Regulations 2023*. Available at: <https://www.legislation.gov.uk/uksi/2023> [Accessed March 2026].
- Ref 10-11 UK Government (1990). *Environmental Protection Act 1990*. Available at: <https://www.legislation.gov.uk/ukpga/1990/43/contents> [Accessed March 2026].
- Ref 10-12 UK Government (2025). *Overarching National Policy Statement for Energy (EN-1)*. Available at: <https://www.gov.uk/government/publications/overarching-national-policy-statement-for-energy-en-1-2025/overarching-national-policy-statement-for-energy-en-1-2025-accessible-webpage> [Accessed March 2026].
- Ref 10-13 UK Government (2025). *National Policy Statement for Renewable Energy Infrastructure (EN-3)*. Available at: <https://www.gov.uk/government/publications/national-policy-statement-for-renewable-energy-infrastructure-en-3-2025> [Accessed March 2026].
- Ref 10-14 Durham County Council (2020). *County Durham Plan (Adopted 2020)*. Available at: <https://durham.gov.uk/media/34069/County-Durham-Plan-adopted-2020-/pdf/CountyDurhamPlanAdopted2020vDec2020.pdf> [Accessed March 2026].
- Ref 10-15 Durham County Council (emerging). *Emerging County Durham Plan*. Available at: <https://www.durham.gov.uk/cdp> [Accessed March 2026].
- Ref 10-16 North Yorkshire Council (2025). *North Yorkshire Local Plan: Our First Consultation*. Available at: <https://edemocracy.northyorks.gov.uk/documents/s52420/Appendix%201%20North%20Yorkshire%20Council%20First%20Conversation%20consultation.pdf> [Accessed March 2026].
- Ref 10-17 Richmondshire District Council (2014). *Richmondshire Local Plan 2012 – 2028 Core Strategy*. Available at:



<https://www.richmondshire.gov.uk/media/5219/core-strategy-2012-28.pdf>
[Accessed March 2026].

Ref 10-18 Construction Industry Research and Information Association (CIRIA) (2023). *Environmental Good Practice on Site: A Guide for Construction Site Personnel* (C811, 5th edition). Available at:
https://www.ciria.org/CIRIA/CIRIA/Item_Detail.aspx?iProductCode=C811
[Accessed March 2026].

Ref 10-19 Scottish Government (2017). *Peat Landslide Hazard and Risk Assessments: Best Practice Guide for Proposed Electricity Generation Developments* (2nd edition). Available at:
<https://www.gov.scot/publications/peat-landslide-hazard-risk-assessments-best-practice-guide-proposed-electricity/> [Accessed March 2026].

Ref 10-20 Scottish Environment Protection Agency (SEPA) (2012, updated guidance applied). *Regulatory Position Statement: Developments on Peat*. Available via: <https://www.sepa.org.uk/environment/land/planning/>
[Accessed March 2026].

Ref 10-21 Scottish Renewables and Scottish Environment Protection Agency (SEPA) (2012). *Developments on Peatland: Guidance on the Assessment of Peat Volumes, Reuse of Excavated Peat and the Minimisation of Waste*. Available at: <https://www.gov.scot/publications/assessment-of-peat-volumes-reuse-of-excavated-peat-minimisation-waste-guidance/>
[Accessed March 2026].

Ref 10-22 NatureScot (2024). *Good Practice During Wind Farm Construction*. Available at: <https://www.nature.scot/doc/good-practice-during-wind-farm-construction> [Accessed March 2026].

Ref 10-23 Environment Agency (2020; updated 2025). *Land Contamination Risk Management (LCRM): How to Assess and Manage the Risks from Historic Land Contamination*. Available at:
<https://www.gov.uk/government/publications/land-contamination-risk-management-lcrm> [Accessed March 2026].

Ref 10-24 Mining Remediation Authority (formerly the Coal Authority) (2014; updated 2025). *Planning Applications and Coal Mining Risk Assessments*.



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Ref 10-25 UK Government (2025). *Environmental Improvement Plan 2025*. Available at: <https://www.gov.uk/government/publications/environmental-improvement-plan-2025> [Accessed March 2026].

Ref 10-26 British Geological Survey (BGS) (ongoing). *BGS Geological Mapping and GeoIndex*. Available at: <https://mapapps2.bgs.ac.uk/geoindex/home.html> [Accessed March 2026].



11. Access, Traffic and Transport

11.1. Introduction

- 11.1.1. This chapter of the Scoping Report sets out the proposed scope and method to assess the potential effects of the Project on access, traffic and transport. It identifies the potential significant effects arising from the construction, operation and management, and decommissioning of the Project, in isolation and cumulatively, on access, traffic and transport. This chapter also explains how likely significant effects would be assessed for the purposes of the Environmental Impact Assessment (EIA).
- 11.1.2. The assessment of the effects will follow the guidance in the Institute of Environmental Management and Assessment (IEMA) Guidelines: Environmental Assessment of Traffic and Movement, July 2023 (Ref 11-1). (The IEMA was renamed as The Institute of Sustainability and Environmental Professionals (ISEP) in July 2025).
- 11.1.3. Details of the construction, operation and maintenance, and decommissioning of the Project are set out in **Chapter 2: Project Description**.
- 11.1.4. This chapter is supported by the following Figures (provided in **Volume A**):
- **Figure 11.1:** Transport Study Area and Public Rights of Way; and
 - **Figure 11.2:** Abnormal Indivisible Load Vehicle Routes.

11.2. Study Area

- 11.2.1. The Study Area for the assessment of potential effects on access, traffic and transport will comprise the public highway network likely to be used by vehicles travelling to and from the Project. As explained in **Chapter 2: Project Description**, it is currently anticipated that vehicle access would be from Moor Lane and/ or Barningham Road and vehicles traveling to and from the Project would use those roads and Low Lane on their journey to and from the A66.
- 11.2.2. The exact extent of the Study Area will be determined through the assessment, based, in part, on an initial estimate of the likely sources of construction material supplies. However, it is likely to comprise the following sections of highway (shown in **Figure 11.1**):
- Moor Lane, between the access to the Project and the junction with Barningham Road;
 - Barningham Road, between the junction with the proposed haul road and Low Lane (to the east of Newsham);
 - Low Lane, between Barningham Road and the A66; and
 - The A66 between Low Lane and junction 53 of the A1(M) at Scotch Corner and between Low Lane and the junction with the A67.
- 11.2.3. The Environmental Statement (ES) will be accompanied by a report considering the feasibility of delivering the turbine components to the



Project. That report will consider a wider area than described above as it will cover the route from the nearest suitable port to the Project. Initial feasibility work already undertaken in relation to this issue has identified potential feasible routes to the Project from Able Seaton Port and Teesport, and these are shown in **Figure 11.2**.

11.3. Baseline Environment

Overview of Available Data Sources

11.3.1. The data sources that have been used to inform the baseline information presented in this chapter are summarised in **Table 11-1**.

Table 11-1: Key sources of information for Access, Traffic and Transport

Source	Summary	Spatial Coverage of Study Area
Google Maps	Imagery of transport network in Study Area and bus service details.	Entire Study Area.
Ordnance Survey	Route of National Cycle Network (NCN).	Entire Study Area.
North Yorkshire Council (NYC) website	Public Rights of Way map.	Part of Study Area within NYC's jurisdiction.
Durham County Council (DCC) website	Public Rights of Way map.	Part of Study Area within DCC's jurisdiction.

Overview of Baseline Environment

Highway Network

- 11.3.2. Vehicles travelling to and from the Project would use the sections of highway within the Study Area. These vehicles would have the potential to affect other highway users, such as vehicle drivers and non-motorised users travelling along, crossing or otherwise interacting with these sections. The highways within the Study Area will be visited by members of the Project team during the EIA process to collect information on their configuration and to consider the extent to which the users of them could be sensitive to changes in vehicle movements caused by the Project.
- 11.3.3. The characteristics of the sections of highway in the Study Area are described below. The A66 is a trunk road and is managed by National Highways (NH), while the others are managed by NYC.

Moor Lane

- 11.3.4. Moor Lane is a single track road. Along most of its length in the Study Area, it is bounded by fields and provides access to fields, and individual dwellings and farms. The northernmost 150 m or so is within the built-up area of Newsham and provides direct access to several homes. It is subject to a 30 mph speed limit within Newsham and a 60 mph speed limit



elsewhere. There are no footways along the section of Moor Lane within the Study Area.

Barningham Road

- 11.3.5. Barningham Road is a single carriageway road with one lane in each direction. Around 1.5 km of its length will be in the Study Area. The western half (approximately) of this length is bounded by open farmland and provides direct access to some homes and farms.
- 11.3.6. The remainder of the length within the Study Area passes through the settlement of Newsham. Several homes and Newsham Village Hall front directly onto this section. Some of the homes fronting the road on the southern side are, however, offset from Barningham Road by about 20 m by a wide verge and an access road running parallel to Barningham Road. There is a footway on the northern side for around 130 m between the junctions with Flaxmill Close (opposite the junction with Moor Lane) and Dyson Lane.
- 11.3.7. Barningham Road is subject to a 30 mph speed limit through Newsham and a 60 mph speed limit elsewhere.

Low Lane

- 11.3.8. Low Lane is a single carriageway road with one lane in each direction, although there is a section around 100 m long where northbound vehicles are required to give way to southbound vehicles. Around 1 km of its length will be in the Study Area. It is generally bounded by fields and open farmland and provides direct access to fields, a dwelling and the Rokeby Inn. There are no footways along its length within the Study Area, and it is subject to a 60 mph speed limit.

A66 between Low Lane and A1(M)

- 11.3.9. This section of the A66 is around 12 km long and comprises a single carriageway section (around 4 km long) between two dual-carriageway sections. It is generally bounded by open fields and farmland but provides access to various individual developments. The dual carriageway sections are subject to a 70 mph speed limit, while the single carriageway section is subject to a 50 mph speed limit.
- 11.3.10. A Development Consent Order (DCO) was granted for the A66 Northern Trans-Pennine Project. That project proposes the upgrading of the single carriageway sections of the A66 between the A1(M) and the M6 to dual carriageway and amendments to existing junctions and accesses. The single carriageway part of this section of the A66 within the Study Area is part of that project and that element is referred to as 'Scheme 09 Stephen Bank to Carkin Moor'.

A66 between Low Lane and A67

- 11.3.11. This section of the A66 is around 13 km long and comprises two sections of dual carriageway and two sections of single carriageway. Again, it is generally bounded by open fields and farmland but provides access to



various individual developments. The dual carriageway sections are subject to a 70 mph speed limit, while the single carriageway sections are subject to a 60 mph speed limit.

- 11.3.12. The single carriageway sections are also proposed to be upgraded to dual carriageways as part of the A66 Northern Trans-Pennine Project. These works are referred to as 'Scheme 07 Bowes Bypass' for the upgrading of the western section of single carriageway and 'Scheme 08 Cross Lanes to Rokeby' for the upgrading of the eastern section.

Public Transport Services

- 11.3.13. The section of Barningham Road within the Study Area from Newsham westwards is served by bus service 79. This links Richmond and Barnard Castle and, at the time of writing, operates four southbound and five northbound journeys daily except Sundays. The nearest railway station to the Project is Darlington, around 23 km to the northeast.

Non-Motorised Users

- 11.3.14. Several Public Rights of Way (PRoW), namely footpaths or bridleways, meet or cross the Project and the highways in the Study Area and these are shown in **Figure 11.1**.
- 11.3.15. There are no sections of the NCN within the Study Area. The nearest part of the NCN to the Study Area crosses the A66 around 500 m to the west of the junction of the A66 and A67.

11.4. Proposed Approach to the Environmental Impact Assessment

Proposed Assessment Methodology

Relevant Policy, Legislation and Relevant Guidance

- 11.4.1. The following legislation, policy and guidance are relevant to the consideration of the potential effects of the Project on access, traffic and transport. This list is not exhaustive, and other documents may be referred to as appropriate:
- Legislation:
 - The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (Ref 11-2);
 - Planning Act 2008 (Ref 11-3);
 - The Road Vehicles (Construction and Use) Regulations (1986) (Ref 11-4); and
 - The Road Vehicles (Authorisation of Special Types) (General) Order 2003 (Ref 11-5).
 - National Policy:
 - National Planning Policy Framework (NPPF) (Ref 11-6);



- National Policy Statements (NPS):
 - Overarching National Policy Statement for Energy (EN-1) (Ref 11-7);
 - National Policy Statement for Renewable Energy Infrastructure (EN-3) (Ref 11-8);
- Local Policy:
 - County Durham Plan (Adopted 2020) (Ref 11-9). Relevant policies may include:
 - Policy 21: Delivering Sustainable Transport; and
 - Policy 34: Wind Turbine Development.
 - Emerging County Durham Plan (Ref 11-10)
 - Emerging North Yorkshire Council Local Plan (Ref 11-11)
 - Richmondshire Local Plan 2012-2028: Core Strategy (Adopted 2014) (Ref 11-12). Relevant policies may include:
 - Core Policy CP3: Achieving Sustainable Development.
 - North Yorkshire County Council Local Transport Plan 4: 2016-2045 (LTP) (Ref 11-13).
- Guidance:
 - IEMA Guidelines: Environmental Assessment of Traffic and Movement, July 2023 (Ref 11-1);
 - Department for Transport (DfT) Circular 01/22: Strategic Road Network (SRN) and the Delivery of Sustainable Development, 2022 (Ref 11-14);
 - Planning practice guidance: Travel Plans, Transport Assessments and Statements, 2014 (Ref 11-15); and
 - Design Manual for Roads and Bridges (DMRB), LA 112: Population and Human Health (Ref 11-16).

Proposed Approach

11.4.2. Whilst **Chapter 3: Approach to EIA** provides an indicative EIA assessment method, it also identifies that assessment methodologies may differ in accordance with the prevailing technical area guidance. As such the following sections provide a description of the assessment criteria and assessment methodologies of relevance to access, traffic and transport, which are derived from best practice guidance documents applicable to this topic and differ from those presented in the broader methodology chapter.

Sources of Impact

Construction

11.4.3. The Project would generate vehicle movements during construction by staff travelling to and from it and plant, components, materials and supplies



being delivered to or removed from it. This would lead to additional cars, vans, Light Goods Vehicles (LGVs) and Heavy Goods Vehicles (HGVs) on the highway network.

- 11.4.4. The number of typical daily construction-related vehicles that will be generated during each month of the construction phase will be estimated, based on the amount of material (and number of items such as plant) required to be delivered to the Project, which will be informed by the design of the Project. The number of staff likely to be present during each month of the construction phase will be estimated based on experience of other similar developments and the phasing plan for the Project, and the resulting number of car and van movements calculated.
- 11.4.5. Professional judgement will be applied to estimate the routes taken by vehicles travelling to and from the Project. This judgment will be informed by a review of where potential suppliers (such as those of aggregate, concrete and waste management) are located locally and where there are large centres of population from where other supplies and staff may originate.
- 11.4.6. The estimates of vehicle movements will allow the month (or months) during the construction phase with the highest number of vehicle movements to be identified. The increase in vehicle movements during that month (or months) on each section of highway in the Study Area will be calculated based on the above estimates.
- 11.4.7. The delivery of the turbine components during construction would require Abnormal Indivisible Load Vehicle (AILV) movements as some of the vehicles carrying the components would have at least one dimension that does not comply with the maxima in The Road Vehicles (Construction and Use) Regulations 1986 (Ref 11-4). The effects of the passage of these AILVs will be considered in the assessment based on the report mentioned in **Section 11.2** above.

Operation

- 11.4.8. The assessment will consider any effects on PRow users resulting from any changes to PRowS arising from the Project. This assessment will be informed by the guidance in DMRB LA 112: Population and Human Health (Ref 11-16).
- 11.4.9. Vehicle demand during operation would likely be much lower than during construction, since during operation there would be only occasional visits by maintenance or inspection staff. These would be unlikely to amount to more than one or two vehicles per day and so would be within day-to-day variation in vehicle movements on the sections of highways in the Study Area. It is proposed, therefore, that the potential effects of the vehicle movements generated by the Project once it is operational are scoped out of the assessment.

Decommissioning

- 11.4.10. Activities during decommissioning would likely be similar to those during construction, except that they would occur in reverse. However, some



elements of the Project (such as below ground infrastructure) may remain. Hence decommissioning of the Project is likely to generate fewer vehicle movements than construction.

- 11.4.11. Since consent is being sought for 30 years, the decommissioning of the Project would occur so far into the future that the information collected on the existing baseline would be of limited relevance. Furthermore, any projections of the future baseline would likely be too uncertain to be useful.
- 11.4.12. Decommissioning of the Project will be considered in the EIA, but to a lesser degree of detail than construction given that the latter would generate more vehicle movements than the former and the uncertainty over the baseline that would apply at the time of decommissioning.

Assessment Screening

- 11.4.13. The additional vehicle movements expected to be generated by the Project will be compared to the estimated future baseline vehicle movements for the year in which construction would commence and the percentage increase in all vehicles and in HGVs only will be calculated. These increases will then be reviewed against the IEMA Guidelines (Ref 11-1), which state:

“Following the determination of a study area, it is recommended the competent traffic and movement expert applies two broad rules of thumb as criteria to assist in delimiting the scale and extent of the environmental assessment:

Rule 1 Include highway links where traffic flows will increase by more than 30% (or the number of heavy goods vehicles will increase by more than 30%)

Rule 2 Include highway links of high sensitivity where traffic flows have increased by 10% or more.”

- 11.4.14. The IEMA Guidelines (Ref 11-1) also state:

“It should also be noted that the day-to-day variation of traffic on a road is frequently at least + or - 10%. At a basic level, it should therefore be assumed that projected changes in traffic of less than 10% create no discernible environmental impact.”

- 11.4.15. All sections of highway in the Study Area would be subject to the threshold in Rule 1. The Study Area will be reviewed to identify any sections of highway that would have receptors that could be considered as being of ‘high sensitivity’, informed by the following advice from the IEMA Guidelines (Ref 11-1):

“The following list identifies special interests that should be considered when defining sensitive receptor geographic locations (others can be added if the relevant authorities considered it appropriate). The sensitive locations will inform the assessment of effect significance when the development traffic is assigned to the network.

- *People at home*
- *People at work*



- *Sensitive and/or vulnerable groups (including young age; older age; oncome; health status; social disadvantage; and access and geographic factors)*
- *Locations with concentrations of vulnerable users (e.g. hospitals, places of worship, schools)*
- *Retail areas*
- *Recreational areas*
- *Tourist attractions*
- *Collision clusters and routes with road safety concerns*
- *Junctions and highway links at (or over) capacity*

11.4.16. Where the estimated increase in traffic arising from the Project does not breach the relevant threshold for any section of highway, the significance of any effects would be considered to be not significant in EIA terms. No further assessment work would be undertaken on such sections.

Potential Topics to be Assessed

11.4.17. Where the estimated increase in traffic arising from the Project breaches the relevant 'Rule 1' or 'Rule 2' threshold for any section of highway then potential effects on the topics described in this section would be assessed.

Severance

11.4.18. Severance is the perceived division that can occur within a community when it becomes separated by major transport infrastructure and the separation of people from places and other people. The IEMA Guidelines (Ref 11-1) state that *"Changes in traffic flow of 30%, 60% and 90% are regarded as producing 'slight', 'moderate' and 'substantial' changes in severance respectively"* and *"caution needs to be observed when applying these thresholds as very low baseline flows are unlikely to experience severance impacts even with high percentage changes in traffic."*

Road Vehicle Driver and Passenger Delay

11.4.19. The IEMA Guidelines (Ref 11-1) state that *"Traffic delays to non-development traffic can occur at several points on the network surrounding a development site."* Regarding the significance of effects, the Guidelines state that *"These delays are only likely to be significant when the traffic on the network surrounding the development is already at, or close to, the capacity of the system."*

11.4.20. No detailed traffic modelling (which would quantify delays to drivers) is proposed given the predominately rural nature of the highway network around the Project and the likelihood, based on professional judgment, that there is substantial spare capacity on that network.

Non-Motorised User Delay

11.4.21. The IEMA Guidelines (Ref 11-1) state that *"Pedestrian delay and severance are closely related effects and can be grouped together. Changes in the volume, composition or speed of traffic may affect the ability of people to cross roads. In*



general, increases in traffic levels are likely to lead to greater increases in delay. Delays will also depend on the general level of pedestrian activity, visibility and general physical conditions of the development site.”

- 11.4.22. Regarding the significance of effects, the IEMA Guidelines (Ref 11-1) state that *“Given the range of local factors and conditions that can influence pedestrian delay (e.g. a discrete delay may have a lesser impact in an urban environment than a rural setting), it is not considered wise to set down definitive thresholds. Instead it is recommended that the competent traffic and movement expert use their judgement to determine whether pedestrian delay constitutes a significant effect.”*

Non-Motorised User Amenity

- 11.4.23. The IEMA Guidelines (Ref 11-1) define this as *“the relative pleasantness of a journey, and is considered to be affected by traffic flow, traffic composition and pavement width/separation from traffic.”* The IEMA Guidelines (Ref 11-1) also suggest that *“A tentative threshold for judging the significance of changes in pedestrian amenity would be where the traffic flow (or HGV component) is halved or doubled”* and that *“Thresholds are expressed as a starting point for any assessment and typically have been derived from studies of major changes in traffic flow and therefore should be used cautiously in any assessment. The assessment of amenity should pay full regard to specific local conditions.”*

Fear And Intimidation of and by Road Users

- 11.4.24. This considers the effects that moving vehicles have on people. It considers matters such as the volume of traffic, the proportion of heavy vehicles, the speed of vehicles and the proximity of traffic to people. The IEMA Guidelines (Ref 11-1) describe a means to calculate a ‘Degree of hazard score’ based on the amount, composition and speed of traffic. This score is then used to identify a ‘Level of fear and intimidation’; the degree of change in that level compared to the baseline is then used to categorise the magnitude of change.

Road User and Pedestrian Safety

- 11.4.25. The assessment of accidents relates to the potential for the traffic generated by a development to change accident rates on the road network. The IEMA Guidelines (Ref 11-1) discuss a ‘Safe System’ approach but also state *“It is recommended that the traffic and movement expert engages with the relevant authorities to determine the best approach for determining the significance of road safety effects.”*
- 11.4.26. The highway authorities will be consulted to determine if there are any locations on any of the roads within the Study Area which have atypically high accident rates and, if so, what plans the authorities have to address those rates.

Hazardous / Large Loads

- 11.4.27. As mentioned above, the Project would require some AILV movements to deliver some turbine components and a report on the feasibility of delivering those components will be included as an appendix to the ES.



11.4.28. The number of ALLV movements will be determined, and their potential significance will be considered based on the extent of works, if any, required to accommodate the vehicles, their number and the sections of road that they would use. There are, however, established procedures in place to manage such movements and it is considered that a risk or catastrophe analysis as described in paragraph 3.50 of the IEMA Guidelines (Ref 11-1) is not required.

Magnitude of Impact

11.4.29. The magnitude of impact on each of the above topics would be determined based on the criteria in **Table 11-2**.

Table 11-2: Categorisation of Impact Magnitude by Topic

Topic	Impact Magnitude			
	Large	Medium	Small	Negligible
Severance	Change in road link traffic flow of 90% or over.	Change in road link traffic flow of 60% to less than 90%.	Change in road link traffic flow of 30% to less than 60%.	Change in road link traffic flow of less than 30%.
Road Vehicle Driver and Passenger Delay	Judgement based on the individual characteristics of sections of road.			Change in road link traffic flow of less than 10%.
Non-Motorised User Delay	Judgement based on the individual characteristics of sections of road.			Change in road link traffic flow of less than 10%.
Non-Motorised User Amenity	Judgement based on the individual characteristics of sections of road. Medium or Large likely if change in total traffic flows or HGV flows of more than 100%.			Change in total traffic flows or HGV flows of less than 10%.
Fear and Intimidation of and by Road Users	Two changes in 'Level of fear and intimidation'.	One change in level of fear and intimidation with >400 vehicle increase in average 18 hour (hr) vehicle flow or >500 Heavy Vehicle (HV) increase in total 18hr HV flows.	One change in level of fear and intimidation with <400 vehicle increase in average 18hr vehicle flow or <500 HV increase in total 18hr HV flows.	No change in Level of fear and intimidation.

Topic	Impact Magnitude			
	Large	Medium	Small	Negligible
Road User and Pedestrian Safety	Judgement based on accident data and individual characteristics of sections of road.			Change in road link traffic flow of less than 10%.
Hazardous / Large Loads	Judgement based on number of such movements and nature of affected road network.			

11.4.30. However, there may be instances where, for example, a relatively low increase in vehicle movements results in a relatively large percentage increase simply because the baseline vehicle movements are low. Such an increase may breach one of the thresholds in **Table 11-2**, but, in absolute terms, may be considered to have a lesser impact magnitude. Professional judgement will be used in the application of the thresholds in **Table 11-2**.

Receptor Sensitivity

11.4.31. Receptor sensitivity would be defined as shown in **Table 11-3**.

Table 11-3: Receptor Sensitivity Definitions

Sensitivity	Description
Very high	Receptor with no capacity to accommodate a particular effect and no ability to recover or adapt.
High	Receptor with very low capacity to accommodate a particular effect with low ability to recover or adapt.
Moderate	Receptor with low capacity to accommodate a particular effect with low ability to recover or adapt.
Low	Receptor has some tolerance to accommodate a particular effect or will be able to recover or adapt.
Negligible	Receptor is generally tolerant and can accommodate a particular effect without the need to recover or adapt.

11.4.32. Professional judgement will be used in the application of the definitions shown in **Table 11-3**. For example, pedestrians may be less sensitive to severance effects if there are measures in place to aid them crossing the road. This is acknowledged in paragraph 1.31 of the IEMA Guidelines (Ref 11-1) which states “*For example, pedestrians are less sensitive to changes in traffic if there are adequate footways and crossing facilities*”.

Significance Criteria

11.4.33. An effect significance matrix based on the impact magnitude and receptor sensitivity is set out in **Table 11-4**.

Table 11-4: Effect Significance

Impact Magnitude	Sensitivity of Receptor				
	Very High	High	Moderate	Low	Negligible
Large	Major	Major	Major	Moderate	Negligible
Medium	Major	Major	Moderate	Minor	Negligible
Small	Moderate	Moderate	Minor	Minor	Negligible
Negligible	Negligible	Negligible	Negligible	Negligible	Negligible

11.4.34. Effects of 'Major' significance will be considered to be 'significant' in terms of the EIA Regulations (Ref 11-2). Effects of 'Moderate' significance will be considered to be either 'significant' or 'not significant' in terms of the EIA Regulations (Ref 11-2) and professional judgement used to determine the level of significance. Effects of 'Minor' or 'Negligible' significance will be considered to be 'not significant' in terms of the EIA Regulations (Ref 11-2).

Mitigation

11.4.35. The assessment will identify if any mitigation measures are required to reduce the significance of any effects arising from the vehicle movements generated by the Project.

Cumulative Effects

11.4.36. A cumulative assessment will be undertaken to determine the increase in vehicle movements arising from the Project and any other relevant developments that would affect the same sections of the highway network at around the same time as the Project would be constructed. The significance of cumulative effects will be assessed using the same process as described above.

11.4.37. The baseline traffic surveys will record vehicle movements generated by potential cumulative developments that are operational or under-construction at the time of the surveys. No specific allowance need therefore be made for potential cumulative developments of these types. Insufficient information is likely to be available for potential cumulative developments that are at the scoping stage, and these are proposed to be excluded from the cumulative assessment.

11.4.38. For the purposes of this assessment, therefore, potential cumulative developments will be considered relevant if they would affect the same sections of the highway network at around the same time as the Project would be constructed and either:

- have consent and are unbuilt; or
- are the subject of a valid (but undetermined) consent application.

Further Baseline Data

Desk Study

- 11.4.39. Data on accidents on the highways within the Study Area will be collated from the Department for Transport's (DfT's) Mapping Application for Visualising Road Injury Casualties (MAVRIC) (Ref 11-17).
- 11.4.40. Document '3.7 Transport Assessment' (Ref 11-18) submitted with the A66 Northern Trans-Pennine Project DCO application presents vehicle moment estimates for the year 2029 for the sections of the A66 in the Study Area for the situations both with and without that project in place.
- 11.4.41. That data is presented in 'Table 7-1: 2029 Strategic Flows AADT [Annual Average Daily Traffic]' of that document (Ref 11-18). The data will be reviewed to ensure its suitability for use in the assessment and, assuming it is suitable, it will be used as the basis for baseline vehicle movement estimates for the sections of the A66 in the Study Area. The relevant data from that table for the sections of the A66 in the Study Area is summarised in **Table 11-5**.

Table 11-5: Summary of A66 Vehicle Movement Data from A66 DCO Transport Assessment (Ref 11-18)

Section of A66	AADT (Vehicles)		Location Reference in Document 3.7 Transport Assessment
	2029 Without A66 Project	2029 With A66 Project	
A66 between Low Lane and A1(M)	22,100	29,500	'L A66 East of Smallways'
A66 between Low Lane and A67	22,300	29,100	'K A66 West of Greta Bridge'

- 11.4.42. The baseline may change between the time the EIA is undertaken and the start of construction of the Project. Changes may arise from, for example, alterations to the configuration of the transport network or developments nearby which generate additional vehicle movements. The potential for such changes would be identified during the EIA process and included in the future baseline as appropriate.
- 11.4.43. The construction programme for the A66 Northern Trans-Pennine Project will be reviewed nearer to the time the ES is being prepared to understand whether the elements of that project within the Study Area are likely to be constructed before, during or after the construction of the Project.
- 11.4.44. Should it be likely that the A66 project works would be complete by the time construction of the Project commenced, then the A66 project would be treated as a change to the future baseline. Should it be likely that

construction of the two would occur simultaneously, then the construction traffic related to the A66 project would be treated as a potential cumulative development.

Planned Surveys

- 11.4.45. Vehicle movement data will be collected for the highways within the Study Area by undertaking week-long Automatic Traffic Counts (ATCs). The locations of these would be determined through the assessment but would likely be on the following sections of highway:
- Moor Lane, in the vicinity of the accesses to the proposed haul road;
 - Barningham Road, in the vicinity of the access to the proposed haul road and at a point between Newsham and Low Lane; and
 - Low Lane between Barningham Road and the A66.
- 11.4.46. Data for the A66 would already be available as described earlier in this section. These ATCs would give data on vehicle volumes, types and speeds disaggregated by direction, day and time. Data will be extracted from these ATCs to provide baseline data covering the time periods during which there are likely to be vehicle movements to and from the Project.
- 11.4.47. It would be reasonable to expect there to be some growth in vehicle movements on highways within the Study Area in the absence of the Project. An appropriate growth factor from the Trip End Model Presentation Program (TEMPro) would be applied to observed traffic flows to make the representative of those in the year in which construction of the Project is expected to start.

Consultation

- 11.4.48. NYC and NH (as highway authorities for the highways within the Study Area) will be consulted to clarify any matters arising from their responses to this Scoping Report. Matters that may need to be clarified include:
- Baseline data to be used in the assessment;
 - Committed highway schemes that may affect the future baseline;
 - PRoW locations usage and management, including the requirements for an outline Public Access Management Plan (PAMP) detailed in **Section 11.5**;
 - Traffic generation and distribution assumptions;
 - HGV management; and
 - Matters to be covered in an outline Construction Traffic Management Plan (CTMP) detailed in **Section 11.5**.

11.5. Design, Mitigation and Enhancement Measures

- 11.5.1. As part of the early design process for the Project, several embedded and standard mitigation measures are proposed to reduce the potential for impacts on access, traffic and transport. These are presented below. It is



expected that these may evolve throughout the design of the Project as the EIA progresses and in response to consultation.

11.5.2. Measures adopted as part of the Project will include, but not be limited to, the following:

- The construction of a haul road, for which the following two options are currently being considered (as described in **Chapter 2: Project Description**):

- A link between Barningham Road and Moor Lane, from which construction traffic would then travel onwards to the Wind Farm Array; and
- A link between Barningham Road and the Wind Farm Array.

Depending on which option is progressed, the haul road would remove construction vehicle movements from part or all of the section of Moor Lane in the Study Area.

- The feasibility of using on-site borrow pits to provide aggregate for use in the construction of the Project will be considered. Any aggregate that could be won on-site would reduce the amount of aggregate that would need to be imported from off-site quarries over the public highway network.
- All phases of the Project would be undertaken in accordance with the outline PAMP, which will form part of the application for development consent, setting out the principles that would be followed when the final PAMP is finalised. The outline PAMP would seek to promote public safety, maintain appropriate access where reasonably practicable, and minimise disruption to existing public access routes (during all phases of the Project).
- All construction work would be undertaken in accordance with the outline CTMP which will form part of the application for development consent, setting out the principles that would be followed when the final CTMP is finalised. The outline CTMP would be expected to include the following topics:
 - Project information:
 - Details of type and number of vehicle movements expected;
 - Details of the routes expected to be taken by HGVs; and
 - Details of AILV movements (including timing, routes, escorts, notification proposals and extent of any accommodation works).
 - Physical measures:
 - Arrangements for on-site temporary parking areas;
 - Arrangements for wheel cleaning prior to vehicles entering the public highway;
 - A requirement for HGVs to be sheeted to prevent dust; and



- Temporary speed reductions at any sensitive locations along with measures (such as vehicle activated signs) to encourage compliance.
- Communication measures:
 - Arrangements for communicating with interested parties, including elected representatives and parish councils;
 - Arrangements to agree protocol with emergency services; and
 - Arrangements for disseminating project information, including weekly updates of expected vehicle movements and work locations.
- Enforcement measures:
 - Measures to encourage compliance with identified vehicle routes;
 - Timing of deliveries to avoid any sensitive times (e.g. school start and finish times);
 - Code of conduct for HGV drivers;
 - 'Tool box talks' on relevant subjects;
 - A requirement that all HGVs operated by the Principal Contractor (PC) must have Global Positioning System (GPS) trackers, allowing their speed and routeing to be recorded;
 - Contingencies for unobstructed access for emergency services; and
 - Procedures for dealing with non-compliance with the CTMP.
- Maintenance measures:
 - Arrangements for liaison regarding winter maintenance;
 - Arrangements for cleaning any sections of public highway affected by material deposited from vehicles related to the construction of the Project;
 - Arrangements for before-construction and after-construction highway condition surveys; and
 - Arrangements for remediation measures.
- Management of CTMP:
 - Arrangements for monitoring and updating the CTMP;
 - Confirmation of a named person with responsibility for implementation of the CTMP (including contact details); and
 - Development of a Travel Plan, to be included within the CTMP, for staff, aimed at reducing the number of single-occupant car movements to and from the Project.



- 11.5.3. The Applicant is committed to implementing these measures, and also various standard sectoral practices and procedures. It is therefore considered that these measures are inherently part of the design and have been considered in the judgements as to which impacts can be scoped in / out of the assessment presented in **Section 5.7** and **Section 11.7**. The assessment of the effects of the Project will be undertaken based on these measures being implemented.
- 11.5.4. Additional mitigation measures will be considered where significant effects are anticipated to remain after embedded design measures and standard good practice controls have been applied. If residual impacts persist, proportionate further actions, such as enhancement, remediation or compensation, will be identified to address those remaining effects.
- 11.5.5. Further detail on the role of mitigation commitments, as part of a proportionate EIA approach, is provided in **Chapter 3: Approach to EIA**. A full description of the mitigation commitments identified so far is provided in **Appendix 3A: Draft Register of Environmental Actions and Commitments (REAC)**.
- 11.5.6. The requirement for, and feasibility of, any mitigation measures will be subject to consultation with consultees throughout the pre-application phase of the Project.

11.6. Potential Impacts Scoped In

- 11.6.1. A range of potential impacts on access, traffic and transport have been identified which may occur during the construction, operation and maintenance, and decommissioning phases. The impacts that have been scoped into the EIA are outlined in **Table 11-6** together with a description of any proposed additional data collection (e.g. site-specific surveys) and/ or supporting analyses (e.g. modelling) to enable an assessment of the impact.

Table 11-6: Impacts proposed to be scoped into assessment for Access, Traffic and Transport

Impact	Description	Proposed Approach to Assessment Including Description of Any New Data Collation Required and Any Analyses (Such as Modelling)
Construction		
Additional vehicle movements.	Potential effects on the following topics: Severance; Road Vehicle Driver and Passenger Delay; Non-Motorised User Delay; Non-Motorised User Amenity;	Collection of baseline vehicle movement data (from traffic surveys where required) and projection of future baseline vehicle movement data. Initial screening to determine extent of impact of additional vehicle movements during

Impact	Description	Proposed Approach to Assessment Including Description of Any New Data Collation Required and Any Analyses (Such as Modelling)
	Fear And Intimidation of and by Road Users; Road User and Pedestrian Safety; and Hazardous / Large Loads	peak of construction (based on 'Rule 1' and 'Rule 2' thresholds in IEMA Guidelines (Ref 11-1) Assessment of effects in line with IEMA Guidelines where relevant 'Rule 1' or 'Rule 2' threshold is exceeded.
Temporary delay to users of PRow where crossed by construction traffic or where a PRow diversion is required.	PRow users may be affected by diversions or crossings required to facilitate construction, reducing accessibility and convenience.	Production of PAMP including consideration of safe crossing points and clear signage.
Operation and Maintenance		
Changes in journey length of PRow users.	Changes to PRowS arising from the Project may alter the journey length of PRow users	Assessment of changes would be informed by the guidance in DMRB LA 112: Population and Human Health (Ref 11-16), which may include surveys of PRow usage.
Decommissioning		
Additional vehicle movements.	Potential effects on the following topics: Severance; Road Vehicle Driver and Passenger Delay; Non-Motorised User Delay; Non-Motorised User Amenity; Fear And Intimidation of and by Road Users; Road User and Pedestrian Safety; and Hazardous/ Large Loads.	There would likely be fewer vehicle movements during decommissioning than during construction as some below ground-infrastructure may remain in place. Decommissioning would occur so far into the future that existing baseline information would be of limited relevance, and any projections of the future baseline would likely be too uncertain to be useful. Decommissioning of the Project will be reported on in the ES, but to a lesser degree of detail than construction given that the latter would generate more vehicle movements than the former and the uncertainty over the

Impact	Description	Proposed Approach to Assessment Including Description of Any New Data Collation Required and Any Analyses (Such as Modelling)
		baseline that would apply at the time of decommissioning.
Cumulative		
As per construction.	As per construction.	As per construction but potential cumulative developments would be identified as described in Section 11.4.

11.7. Impacts Proposed to be Scoped Out

- 11.7.1. Based on the baseline environment information currently available and the Project description (outlined in **Chapter 2**) the impact of the vehicle movements generated by the Project during its operation and maintenance is proposed to be scoped out of the EIA for access, traffic and transport. The justification for this is described in **Table 11-7.**

Table 11-7: Impacts proposed to be scoped out of assessment for Access, Traffic and Transport

Impact	Justification for Scoping Out
Construction	
Construction phase impacts are scoped in as detailed in Table 11-6.	
Operation and Maintenance	
Additional vehicle movements.	There would be only the occasional maintenance and inspection vehicle movements generated by the Project once operational.
Decommissioning	
Decommissioning phase impacts are scoped in as detailed in Table 11-6.	
Cumulative	
An assessment of cumulative effects will be presented in the ES as detailed in Table 11-6.	

11.8. Summary of Next Steps

- 11.8.1. The next steps to assess the effects of the Project on access, traffic and transport include:
- Consultation with highway authorities as necessary following receipt of the Scoping Opinion;

- Collection of baseline data, such as accident and vehicle movement data;
- Preparation of vehicle movement estimates based on design of the Project;
- Assessment of the effects of the vehicle movements on access, traffic and transport; and
- Identification of any mitigation measures required beyond those listed in **Section 11.5**.

11.9. Further Consideration for Consultees

11.9.1. The following questions are provided to help frame the consultees comments on the Scoping Report for access, traffic and transport:

- Q11.1: Is the proposed method acceptable?
- Q11.2: Are there any key locations on the road network within the Study Area that consultees would wish to see considered as sensitive receptors?
- Q11.3: Are there any locations on the road network within the Study Area with atypically-high accident rates?
- Q11.4: Are there any particular committed developments that consultees would wish to see included in the cumulative assessment?

11.10. References

Ref 11-1 Institute of Environmental Management and Assessment (IEMA) (2023). *Environmental Assessment of Traffic and Movement*. Available at: <https://www.iema.net/> [Accessed March 2026].

Ref 11-2 UK Government (2017). *The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (SI 2017/572)*. Available at: <https://www.legislation.gov.uk/uksi/2017/572/contents> [Accessed March 2026].

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Ref 11-4 UK Government (1986). *The Road Vehicles (Construction and Use) Regulations 1986*. Available at: <https://www.legislation.gov.uk/uksi/1986/1078/contents> [Accessed March 2026].

Ref 11-5 UK Government (2003). *The Road Vehicles (Authorisation of Special Types) (General) Order 2003*. Available at:



- <https://www.legislation.gov.uk/ukxi/2003/1998/contents> [Accessed March 2026].
- Ref 11-6 UK Government (2024). *National Planning Policy Framework*. Available at: <https://www.gov.uk/government/publications/national-planning-policy-framework--2> [Accessed March 2026].
- Ref 11-7 UK Government (2025). *Overarching National Policy Statement for Energy (EN-1)*. Available at: <https://www.gov.uk/government/publications/overarching-national-policy-statement-for-energy-en-1-2025/overarching-national-policy-statement-for-energy-en-1-2025-accessible-webpage> [Accessed March 2026].
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- Ref 11-13 North Yorkshire County Council (2016). *North Yorkshire Local Transport Plan 4: 2016-2045*. Available at: <https://www.northyorks.gov.uk/ltp4> [Accessed March 2026].
- Ref 11-14 Department for Transport (2022). *Circular 01/22: Strategic Road Network and the Delivery of Sustainable Development*. Available at: <https://www.gov.uk/government/publications/circular-0122-strategic-road-network-and-the-delivery-of-sustainable-development> [Accessed March 2026].
- Ref 11-15 Department for Transport (2014). *Planning Practice Guidance: Travel Plans, Transport Assessment and Statements*. Available at:



<https://www.gov.uk/guidance/travel-plans-transport-assessments-and-statements> [Accessed March 2026].

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Ref 11-18 National Highways (2022). *A66 North Trans-Pennine Project Development Consent Order Application: Document 3.7 Transport Assessment*. Available at: <https://infrastructure.planninginspectorate.gov.uk/projects/north-west/a66-northern-trans-pennine-project/> [Accessed March 2026].



12. Noise and Vibration

12.1. Introduction

- 12.1.1. This chapter of the Scoping Report sets out the proposed scope and methodology of the noise and vibration assessment of the Project. It identifies the potential likely significant effects arising from the construction, operation and management, and decommissioning of the Project, in isolation and cumulatively, on noise and vibration. This chapter also explains how likely significant effects would be assessed for the purposes of the EIA.
- 12.1.2. Consultation with Durham County Council (DCC) and North Yorkshire Council (NYC) Environmental Health Officers (EHOs) will continue throughout the assessment process regarding the following:
- the status of identified potential Noise Sensitive Receptors (NSR);
 - noise monitoring positions for the baseline survey;
 - identification of potential cumulative effects and a detailed method for the consideration of potential cumulative effects; and
 - the derivation of appropriate noise limits.
- 12.1.3. Details of the construction, operation and maintenance, and decommissioning of the Project are set out in **Chapter 2: Project Description**.
- 12.1.4. This chapter is supported by the following Figure (provided in **Volume A**):
- **Figure 12.1:** Noise and Vibration Study Area and 32 dB and 35 dB Contours; and
 - **Figure 12.2:** Potential Noise Sensitive Receptors.

12.2. Study Area

- 12.2.1. The noise Study Area has been informed by preliminary modelling of the Project operating in isolation. The 35 dB LA90,T noise contour is shown in **Figure 13.1**, for operation of the Scoping layout (presented in **Figure 2.2**) in isolation. A selection of the closest representative NSRs is shown in **Figure 12.1**. However, the final list of NSRs will be confirmed following development of the final Site layout, which will be presented in the Environmental Statement (ES). This will include a review of mapping data and a site visit to identify residential properties, with the final NSR list to be shared with the DCC and NYC EHOs. **Figure 12.1** also shows the 32 dB LA90,T contour, representing the 35 dB LA90,T contour, plus a worst-case correction for concave topography (see the proposed assessment methodology set out in **Section 12.4** below).
- 12.2.2. Following a review of any potential cumulative developments, if applicable the Study Area will be extended beyond the 35 dB LA90,T contour to consider NSRs at which the difference between the Project and cumulative schemes is less than 10 dB.



12.3. Baseline Environment

Overview of Available Data Sources

- 12.3.1. The data sources that have been used to inform this chapter of the Scoping Report are presented in **Table 12-1**. These data sources will be taken forward and used to inform the EIA, alongside additional data sources or Site-specific data that will be collected for the Project.

Table 12-1: Key sources of information for Noise and Vibration

Source	Summary	Spatial Coverage of Study Area
Google Maps	Maps and aerial imagery	Entire Study Area.
Ordnance Survey	Maps, aerial imagery and sensitive receptor details	Entire Study Area.
Environment Agency National LiDAR Programme	LiDAR data at 1m resolution for England	Entire Study Area
Wind turbine manufacturer	Source noise terms for candidate wind turbine	n/a

Overview of Baseline Environment

- 12.3.2. A desk study review of maps and aerial images has identified that the site and surroundings comprise a mixture of farmland and moorland with minor, local roads running to the north, east, south and west of the site. Scattered residential properties and small hamlets are located to the north, south, east and west of the site, with larger settlements at Langthwaite and Reeth to the southwest and south and Barningham to the northwest.
- 12.3.3. Based on review of the available information and knowledge of the area it is expected that background noise levels in the vicinity of the site will be moderately low, though with some influence from anthropogenic noise. The noise environment is likely to be dominated by the wind, wildlife and livestock. Road traffic noise is likely to be a greater contributor to background noise levels to the southwest of the site, along Regional Route 71.

12.4. Proposed Approach to the Environmental Impact Assessment

Relevant Policy, Legislation and Relevant Guidance

- 12.4.1. For a development of this nature, there is no specific all-encompassing legislation relating to the standard associated with noise and vibration impacts. In lieu of any specific legislation, assessing the effect of such a development during the construction, operational and decommissioning phases must draw on information from a variety of sources. This assessment, therefore, makes reference to a number of British Standards, official planning guidance notes and national guidelines, which are detailed

below. This list is not exhaustive, and other documents may be referred to as appropriate:

- Legislation
 - The Control of Pollution Act (CoPA) 1974 (**Ref 12-1**); and
 - Environmental Protection Act (EPA) 1990 (**Ref 12-2**).
- National Policy
 - National Planning Policy Framework (NPPF) (**Ref 12-3**);
 - National Policy Statements (NPS):
 - Overarching National Policy Statement for Energy (EN-1) (**Ref 12-4**)
 - Renewable Energy Infrastructure (EN-3) (**Ref 12-5**)
- Local Policy
 - County Durham Plan (Adopted 2020) (**Ref 12-6**). Relevant policies may include:
 - Policy 31: Amenity and Pollution; and
 - Policy 34: Wind Turbine Development.
 - Emerging County Durham Plan (**Ref 12-7**)
 - Emerging North Yorkshire Council Local Plan (**Ref 12-8**)
 - Richmondshire Local Plan 2012-2028: Core Strategy (Adopted 2014) (**Ref 12-9**). Relevant policies may include:
 - Core Policy CP3: Achieving Sustainable Development.
- Guidance
 - The Working Group on Noise from Wind Turbines (1996) 'The Assessment & Rating of Noise from Wind Farms' (ETSU-R-97) (**Ref 12-10**);
 - Institute of Acoustics (IoA) (2013) 'A good practice guide to the application of ETSU-R-97 for wind turbine noise assessment' (IoA GPG) and associated Supplementary Guidance Notes (SGS) (**Ref 12-11**); and
 - British Standard (BS) 5228 (2009) + A1 (2014) Parts 1 and 2: Code of practice for noise and vibration control on construction and open sites (**Ref 12-12**).

12.4.2. ETSU-R-97 is currently in the process of being revised and updated; presently the draft guidance is at consultation. The updated guidance, if published and adopted, will be considered within the EIA ES Noise Chapter.

12.4.3. Where DCC and NYC have their own noise-related requirements, these will also be taken into account in the EIA Report chapter. We request that any such requirements should be highlighted in the Scoping response.



Proposed Assessment Methodology

- 12.4.4. Whilst **Chapter 3: Approach to EIA** provides an indicative EIA assessment method, it also identifies that assessment methodologies may differ in accordance with the prevailing technical area guidance. As such the following sections provide a description of the assessment criteria and assessment methodologies of relevance to noise and vibration, which are derived from best practice guidance and methods applicable to this topic, and differ from those presented in the broader methodology chapter.

Construction

- 12.4.5. Potential impacts from construction noise and, where appropriate, vibration, will be assessed at the closest identified NSRs. Predictions of noise will be based on the likely site preparation and construction methods and programme. Where appropriate, the assessment of construction noise will also consider off-site activities such as construction traffic and deliveries, where the necessary information is available.
- 12.4.6. The assessment of construction noise and vibration will be undertaken in accordance with BS 5228:2009+A1:2014 Parts 1 and 2 (**Ref 12-12**).

Operation

- 12.4.7. DCC and NYC EHOs will be consulted regarding the detailed method of assessment, however the general approach is outlined below.
- 12.4.8. The identity of the closest NSRs will be agreed and any financial involvement established. Any relevant wind energy schemes that should be included in the cumulative assessment, whether in planning, consented or operational, will also be identified and agreed. Potentially cumulative developments will be excluded on the basis of a 10 dB difference in noise emissions at relevant NSRs, where this can be demonstrated through prediction.
- 12.4.9. The baseline noise survey will be undertaken in accordance with the IoA GPG (**Ref 12-11**). Wind speed measurements will be collected, either at hub height or at 75% of hub height and standardised to 10 m in accordance with the method provided in the IoA GPG (**Ref 12-11**). Micro-siting of the baseline survey locations will seek to exclude influence from non-representative noise sources such as plant, boiler flues, heat pumps, vegetation and any existing wind turbines. A record of the installation of monitoring locations will be provided to DCC and NYC EHOs for review following the commissioning visit.
- 12.4.10. Daytime and night-time operational noise limits across the range of critical wind speeds (typically 4 – 12 m/s) will be established at the closest identified NSRs in accordance with ETSU-R-97 (**Ref 12-10**) and any specific requirements of DCC and NYC. A record of the data analysis will be provided to the EHOs, identifying periods of rainfall excluded from the analysis and any other treatments of the data.



- 12.4.11. Following the baseline survey, noise limits will be applied at NSRs using monitoring locations as proxies. The approach to allocating proxy data to NSRs will be agreed with the EHOs.
- 12.4.12. A candidate turbine will be selected for the Project (currently the Enercon E175), the noise emission details of which will be reproduced in the EIA Report chapter (A-weighted and octave band data) for critical wind speeds.
- 12.4.13. Noise levels will be predicted in accordance with the ISO9613:2024 method (**Ref 12-13**) and the IoA GPG requirements (**Ref 12-11**). Corrections for concave topography and topographic screening corrections will be applied to predicted noise levels in accordance with the IoA GPG (**Ref 12-11**), where applicable. The two corrections will be assumed not to apply simultaneously, i.e. where topographic screening occurs, it will be assumed that concave topography corrections will not also apply.
- 12.4.14. Corrections for directivity may be applied within any cumulative assessment in accordance with the guidance set out in the IoA GPG (**Ref 12-11**), where appropriate, e.g., where NSRs lie between two developments and where simultaneous down-wind predictions are therefore overly conservative.
- 12.4.15. Predicted levels will be evaluated against proposed noise limits and the magnitude of impact and significance of effect determined accordingly. Noise from ancillary electrical equipment will be evaluated in accordance with BS4142:2014+A1:2019 (**Ref 12-14**). Background noise levels will be characterised using data collected during the wind farm baseline monitoring campaign, supplemented by additional attended measurements where appropriate.
- 12.4.16. Noise from ancillary electrical equipment will be evaluated in accordance with BS4142:2014+A1:2019 (**Ref 12-14**). Background noise levels will be characterised using data collected during the wind farm baseline monitoring campaign, supplemented by additional attended measurements where appropriate.

Further Baseline Data

Planned Surveys

- 12.4.17. A comprehensive baseline noise survey will be undertaken, in accordance with the guidance contained in the IoA GPG (**Ref 12-11**), at a selection of identified noise sensitive receptors.

Consultation

- 12.4.18. DCC and NYC will be consulted throughout the Scoping and EIA process regarding the methodology of the baseline survey and the approach to assessment.

12.5. Design, Mitigation and Enhancement Measures

- 12.5.1. Mitigation measures will be considered where significant effects are anticipated to remain after embedded design measures and standard good practice controls have been applied. If residual impacts persist,



- proportionate further actions, such as enhancement, remediation or compensation, will be identified to address those remaining effects
- 12.5.2. It is anticipated that key controls for construction noise and vibration such as core hours of works would be exerted through incorporation in an outline Construction Environmental Management Plan (CEMP), which will be provided as part of the application for development consent, and that such controls would constitute effective mitigation measures.
- 12.5.3. Site-specific mitigation measures will be presented within the outline CEMP to reflect the principles of Best Practicable Means, as set out in the CoPA 1974 (**Ref 12-1**). The purpose of these measures will be to reduce construction noise and, where relevant, vibration impacts insofar as is reasonably practicable.
- 12.5.4. Where predicted operational noise levels exceed the proposed noise limits at any wind speed, outline mitigation strategies will be proposed. Mitigation of operational noise, if required, may include an alternative selection of turbine, operating certain turbines in low noise modes under certain meteorological conditions, such as specific wind speeds and directions.
- 12.5.5. Further detail on the role of mitigation commitments, as part of a proportionate EIA approach, is provided in **Chapter 3: Approach to EIA**. A full description of the mitigations commitments identified so far is provided in **Appendix 3A: Draft Register of Environmental Actions and Commitments (REAC)**.
- 12.5.6. The requirement for, and feasibility of, any mitigation measures will be subject to consultation with consultees throughout the pre-application phase of the Project.

12.6. Potential Impacts Scoped In

- 12.6.1. A range of potential impacts on noise and vibration have been identified which may occur during construction, operation and maintenance, and decommissioning phases. The impacts that have been scoped into the EIA are outlined in
- 12.6.2. **Table 11-6**, together with a description of any proposed additional data collection (e.g. site-specific surveys) and/or supporting analyses (e.g. modelling) to enable an assessment of the impact.



Table 12-2: Impacts proposed to be scoped into the assessment for Noise and Vibration

Impact	Description	Proposed Approach to Assessment Including Description of Any New Data Collation Required and Any Analyses (Such as Modelling)
Construction		
Noise and vibration from construction	Potential effects due to noise and vibration from construction activities, including construction vehicle movements	Noise and vibration from construction activities will be predicted, based on details of the construction methodology, phasing and programme, and assessed in accordance with BS 5228:2009+A1:2014 Parts 1 and 2 (Ref 12-12)
Operation and Maintenance		
Operational wind turbine noise	Potential effects due to noise from wind turbines	Predictive noise modelling of the proposed wind turbines and assessment in accordance with ETSU-R-97 (Ref 12-10) and the IoA GPG (Ref 12-11)
Operational non-wind turbine noise	Potential effects due to noise from ancillary electrical infrastructure	Predictive noise modelling and assessment in accordance with BS 4142:2014+A1:2019 (Ref 12-14)
Decommissioning		
No activities during this phase are scoped into the assessment as detailed in Table 11-7 .		
Cumulative		
Cumulative operational wind turbine noise	Potential cumulative effects due to noise from existing or proposed wind turbines within 10 km of the Project	Predictive noise modelling of the proposed/existing wind turbines and assessment in accordance with ETSU-R-97 (Ref 12-10) and the IoA GPG (Ref 12-11)

12.7. Impacts Proposed to be Scoped Out

- 12.7.1. Based on the baseline environment information currently available and the Project description (outlined in **Chapter 2**) a number of impacts are proposed to be scoped out of the EIA for noise and vibration. The impacts are outlined in **Table 11-7**, together with a justification for scoping them out.

Table 12-3: Impacts proposed to be scoped out of assessment for Noise and Vibration

Impact	Justification for Scoping Out
Construction	
An assessment of the potential effects due to noise and vibration from construction activities is scoped in as detailed in Table 11-6 .	
Operation and Maintenance	
Operational road traffic noise	Only occasional maintenance and inspection vehicle movements will be generated by the Project once it is operational.
Vibration during operation	No significant sources of vibration will be present during the operational phase therefore no assessment of operational phase vibration is proposed.
Operational infrasound, low-frequency noise, tonal noise and excess amplitude modulation	The current draft update to ETSU-R-97 (Ref 12-10) provides a summary of the current guidance and consensus on the assessment of infrasound, low-frequency noise, tonal noise and excess amplitude modulation. <i>“The term infrasound refers to sound at frequencies below 20 Hz, and for wind turbines is often related to the blade passage frequency. Research has shown that, for modern upwind turbines (i.e. turbines where the rotor is positioned upwind of the tower when in operation), the levels of infrasound at typical receptor distances are well below the threshold of perception. The scoping review [WSP for the Department for Business, Energy & Industrial Strategy (2022), A review of noise guidance for onshore wind turbines,] (p114) concluded that ‘the findings from the existing evidence base indicate that infrasound from wind turbines at typical exposure levels has no direct adverse effects on physical or mental health’.</i> <i>The term low frequency sound refers to sound occurring predominantly in the region below approximately 200 Hz. Noise-sensitive receptors are considered to be suitably protected from low frequency sound by the proposed noise criteria and noise limits (which are based on A-weighted noise levels...). In the absence of specific low frequency tonal noise (which is covered by the tonal assessment methodology below),</i>

Impact	Justification for Scoping Out
	<i>no specific low frequency limits are necessary to control wind turbine noise.</i> <i>Noise assessment criteria to control wind turbine noise assume noise levels from the wind turbines are ‘rated’ by adding, where appropriate, a character correction to the noise from the wind turbines when compliance assessment measurements are undertaken for an operational wind farm. Character corrections are to be applied for the presence of tones and elevated amplitude modulation (AM) during such compliance measurements.</i> <i>It is, however, generally not possible to predict the occurrence of such noise characteristics at the planning stage. Tonal noise radiation from wind turbines, when it occurs, is usually associated with a specific design or component malfunction (combined with operational characteristics), rather than being an expected general characteristic of wind turbines. The occurrence of elevated levels of AM is a complex phenomenon due to a combination of turbine and site characteristics; the current consensus is that AM cannot be predicted. Tonal noise and AM are therefore best controlled through enforcement of planning conditions which include the application of character corrections as described in section 4. Consequently, character corrections should not be added at the planning/application assessment phase.”</i> As detailed above, current national guidance and policy on wind turbine noise assessment indicate that specific assessments of infrasound, low-frequency noise and excess amplitude modulation are outside the scope of ETSU-R-97 (Ref 12-10) and the IoA GPG (Ref 12-11) are not required at the planning stage for proposed onshore (free-standing) wind turbine developments. Therefore, these matters will not be considered in the assessment of operational noise impact.
Decommissioning	
Noise and vibration from decommissioning	Activities during decommissioning would likely be similar to those during construction. However, some elements of the Project (such as below ground infrastructure) may



Impact	Justification for Scoping Out
	remain. Hence decommissioning of the Project is likely to generate lesser effects than construction. Notwithstanding that, since consent is being sought for 30 years, the decommissioning of the Project would occur so far into the future that the information collected on the existing baseline would be of limited relevance. Furthermore, any projections of the future baseline would likely be too uncertain to be useful.
Cumulative	
An assessment of cumulative operational wind turbine noise is scoped in as detailed in Table 11-6 .	

12.8. Summary of Next Steps

12.8.1. The next steps to assess the noise and vibration effects of the Project include:

- Consultation with DCC and NYC EHOs as necessary following receipt of the Scoping Opinion;
- Baseline noise survey;
- Prediction of noise and vibration during construction and noise during operation;
- Assessment of the effects on noise sensitive receptors; and
- Identification of any mitigation measures required beyond those listed in **Section 12.5**.

12.9. Further Consideration for Consultees

12.9.1. The following questions are provided to help frame the consultees comments on the Scoping Report for noise and vibration:

- Q12.1: Do you agree with the proposed methodology set out above?
- Q12.2: Do you agree with the proposal to scope out the following from further assessment:
 - operational traffic noise;
 - operational vibration;
 - infrasound, low-frequency noise and excess amplitude modulation; and
 - decommissioning.



12.10. References

- Ref 12-1 UK Government (1974). *Control of Pollution Act 1974*. Available at: <https://www.legislation.gov.uk/ukpga/1974/40/contents> [Accessed March 2026].
- Ref 12-2 UK Government (1990). *Environmental Protection Act 1990*. Available at: <https://www.legislation.gov.uk/ukpga/1990/43/contents> [Accessed March 2026].
- Ref 12-3 UK Government (2024). *National Planning Policy Framework*. Available at: <https://www.gov.uk/government/publications/national-planning-policy-framework--2> [Accessed March 2026].
- Ref 12-4 UK Government (2025). *Overarching National Policy Statement for Energy (EN-1)*. Available at: <https://www.gov.uk/government/publications/overarching-national-policy-statement-for-energy-en-1-2025/overarching-national-policy-statement-for-energy-en-1-2025-accessible-webpage> [Accessed March 2026].
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- Ref 12-7 Durham County Council. *Emerging County Durham Plan*. Available at: <https://www.durham.gov.uk/cdp> [Accessed March 2026].
- Ref 12-8 North Yorkshire Council (2025). *North Yorkshire Local Plan: Our First Consultation*. Available at: <https://edemocracy.northyorks.gov.uk/documents/s52420/Appendix%201%20North%20Yorkshire%20Council%20First%20Conversation%20consultation.pdf> [Accessed March 2026].
- Ref 12-9 Richmondshire District Council (2014). *Richmondshire Local Plan 2012 – 2028 Core Strategy*. Available at: <https://www.richmondshire.gov.uk/media/5219/core-strategy-2012-28.pdf> [Accessed March 2026].
- Ref 12-10 The Working Group on Noise from Wind Turbines (1997). *The Assessment and Rating of Noise from Wind Turbines (ETSU-R-97)* [Accessed March 2026].
- Ref 12-11 Institute of Acoustics (2013). *A Good Practice Guide to the Application of ETSU-R-97 for Wind Turbine Assessment* including Supplementary Guidance Notes [Accessed March 2026].



Ref 12-12 British Standard Institution (2009). *BS 5228-1: 2009+A1: 2014 and BS 5228-2:2009+A1:2014 – Code of Practice for Noise and Vibration Control on Construction and Open Sites* [Accessed March 2026].

Ref 12-13 International Organisation for Standardisation (2024). *ISO 9613-2:2024 (Draft) Acoustics – Attenuation of Sound during Propagation Outdoors – Part 2: General Method of Calculation*” [Accessed March 2026].

Ref 12-14 British Standards Institution (2014), *BS 4142:2014+A1:2019 Methods for Rating and Assessing Industrial and Commercial Sound* [Accessed March 2026].

13. Aviation, Radar and Telecommunications

13.1. Introduction

- 13.1.1. This chapter of the Scoping Report sets out the proposed scope and methodology of the aviation, radar and telecommunications assessment of the Project. It identifies the potential likely significant effects arising from the construction, operation and management, and decommissioning of the Project, in isolation and cumulatively, on aviation, radar and telecommunications. This chapter also explains how likely significant effects would be assessed for the purposes of the EIA.
- 13.1.2. Details of the construction, operation and maintenance, and decommissioning of the Project are set out in **Chapter 2: Project Description**.

13.2. Study Area

- 13.2.1. The Study Areas for aviation and radar have been defined using established aviation safeguarding principles drawn from the UK Civil Aviation Authority (CAA) guidance CAA Policy and Guidelines on Wind Turbines (CAP 764) (Ref 13-1). The distances used as radii from the centre of the Site, are as follows:
- 160 km radius from the Site for air defence and enroute air traffic control primary surveillance radars (PSRs);
 - 80 km radius from the Site for aerodrome PSRs;
 - 60 km radius from the Site for aerodrome instrument flight procedures (IFPs);
 - 25 km radius from the Site for Meteorological Office rainfall radars;
 - 20 km radius from the Site for secondary surveillance radars (SSRs) and licensed, certificated or Government aerodromes; and
 - 10 km radius from the Site for unlicensed aerodromes, aeronautical radio navigation beacons and aeronautical radio communication transmitter/receiver sites.
- 13.2.2. The Study Area for fixed telecommunications links has been defined as the area within a 1 km radius of the Site boundary, which for the purpose of scoping, is based on the Scoping Boundary presented in **Figure 2.2** (provided in **Volume A**). This ensures that all such links with the potential to be affected by the Project are included. As the Scoping Boundary is refined through the EIA process, the Study Area will be updated accordingly and defined with reference to the draft Order Limits.



13.3. Baseline Environment

Overview of Available Data Sources

13.3.1. The data sources used to determine the Aviation, Radar and Telecommunications baseline are set out in **Table 13-1**.

Table 13-1: Key sources of information for Aviation, Radar and Telecommunications

Source	Summary	Spatial Coverage of Study Area
UK Aeronautical Information Publication (AIP)	The UK AIP is the United Kingdom's official manual of aeronautical information for civil aviation. It is published through the UK Aeronautical Information Service and contains information of a lasting or permanent character that is essential to air navigation.	All
UK Military AIP	The UK Military AIP (Mil AIP) is the UK's official military aeronautical information publication. It is published by the Ministry of Defence through No. 1 Aeronautical Information Documents Unit (No. 1 AIDU) and provides aeronautical information needed for military aviation operations in and around the UK.	All
Ofcom Spectrum Information Portal	The Ofcom Spectrum Information Portal is Ofcom's online tool for looking up how radio spectrum is used and licensed in the UK. It sits within Ofcom's Spectrum Information System (SIS), which Ofcom describes as providing information on how spectrum is issued in the UK, the types of Wireless Telegraphy Act licences available, and details of tradable licences.	All

Overview of Baseline Environment

Aviation and Radar

13.3.2. The Site is located on high ground up to approximately 503 m above sea level, 12 km north-west of Richmond. The Site is located in uncontrolled (Class G) airspace extending from ground level up to Flight Level (FL) 105 (approximately 10,500 ft above sea level), with the controlled airspace of the Yorkshire Control Area (CTA) above that level. Aircraft may fly without contact with or clearance from any air traffic control agency in the airspace below FL105 but must have a clearance from Newcastle Airport air traffic control (ATC) to enter and fly within the Yorkshire CTA airspace between FL105 and FL125, or the National Air Traffic Services (NATS) En Route Scottish Area Control Centre above FL125. The main air traffic flows over the Site are airliners and other Instrument Flight Rules (IFR) traffic inbound to and outbound from Newcastle Airport.



- 13.3.3. The closest civilian and military aviation facilities are Teesside Airport (approximately 32 km east of the Site) and RAF Leeming (approximately 30 km south east of the Site) respectively.
- 13.3.4. Primary surveillance radars (PSRs) with the potential to detect the proposed wind turbines on the site are as follows:
- NATS En Route plc (NERL) Great Dun Fell;
 - NERL Claxby;
 - Teesside Airport;
 - Newcastle Airport
 - RAF Leeming;
 - Ministry of Defence (MoD) Staxton Wold air defence radar; and
 - MoD Brizlee Wood air defence radar.
- 13.3.5. The Site is within the assessment area for IFPs at Teesside Airport and RAF Leeming and is within daytime Low Flying Area (LFA) 17 and night low flying area Allocated Region 3B East in the UK Military Low Flying System.
- 13.3.6. The western boundary of the Danger Area of the MoD Feldom Range lies approximately 1 km east of the Scoping Boundary. The Feldom Range is used for training in use of ordnance, munitions, explosives and unmanned aircraft systems, predominantly associated with Army units at Catterick Camp.

Telecommunications

- 13.3.7. The Ofcom Spectrum Information Portal shows no fixed telecommunications links passing over or within 1 km of the Scoping Boundary. A telecommunications mast at Long Green, approximately 1.4 km east of the Scoping Boundary, supports a single microwave link operated by Mobile Broadband Network Limited (MBNL) which runs north eastwards, away from the Site.
- 13.3.8. There are no known television re-broadcast links (RBLs) passing within approximately 1 km of the Scoping Boundary.

13.4. Proposed Approach to the Environmental Impact Assessment

Relevant Policy, Legislation and Relevant Guidance

- 13.4.1. The following legislation, policy and guidance are relevant to the consideration of the potential effects of the Project on aviation, radar, and telecommunications. This list is not exhaustive, and other documents may be referred to as appropriate:
- Legislation
 - The Air Navigation Order (ANO) 2016 (Ref 13-2); and



- The Town and Country Planning (Safeguarded Aerodromes, Technical Sites, Meteorological Technical Sites and Military Explosives Storage Areas) Direction 2002 (Ref 13-3).
- National Policy
 - Civil Aviation Authority (CAA) Policy and Guidelines on Wind Turbines (CAP 764) (Ref 13-1);
 - CAA Policy Statement on the Lighting of Onshore Wind Turbine Generators in the United Kingdom with a Maximum Blade Tip Height at or in Excess of 150 m Above Ground Level (DAP Policy 124) (Ref 13-4); and
 - National Policy Statements (NPS):
 - Overarching National Policy Statement for Energy (EN-1) (Ref 13-5); and
 - National Policy Statement for Renewable Energy Infrastructure (EN-3) (Ref 13-6).
- Local Policy
 - County Durham Plan (Adopted 2020) (Ref 13-7). Relevant policies may include:
 - Policy 34: Wind Turbine Development.
 - Emerging County Durham Plan (Ref 13-8);
 - Emerging North Yorkshire Council Local Plan (Ref 13-9); and
 - Richmondshire Local Plan 2012-2028: Core Strategy (Adopted 2014) (Ref 13-10).
- Guidance
 - CAA, Air Traffic Services Safety Requirements (CAP 670) (Ref 13-11);
 - CAA, Safeguarding of Aerodromes (CAP 738) (Ref 13-12); and
 - CAA, Implementation and Safeguarding of Instrument Flight Procedures in the UK (CAP 785B) (Ref 13-13).

Proposed Assessment Methodology

13.4.2. Whilst **Chapter 3: Approach to EIA** provides an indicative EIA assessment method, it also identifies that assessment methodologies may differ in accordance with the prevailing technical area guidance. As such the following sections provide a description of the assessment methodology of relevance to aviation, radar and telecommunications, which is derived from best practice methods applicable to this topic, and differs from those presented in the broader methodology chapter.

13.4.3. Proposed Approach



- 13.4.4. The assessment will be undertaken through a desk-based review and consultation with relevant aviation and telecommunications stakeholders. Consultees will be identified with reference to relevant guidance, local telecommunications operators, parties identified through Ofcom spectrum information and key aviation safeguarding bodies. The assessment will consider whether the Project has the potential to affect aviation and Meteorological Office radar, air traffic operations, microwave links or other telecommunications infrastructure, considering the proposed turbine dimensions and layout. The need for any mitigation will be identified through consultation and, where required, informed by specialist technical analysis.

Consultation

- 13.4.5. Aviation consultations will be carried out with NERL, the MoD, Newcastle Airport and Teesside Airport, who are responsible for the receptors identified at **Section 13.3** of this chapter.
- 13.4.6. Telecommunications consultations will be carried out with the Joint Radio Company (JRC), Atkins Realis, Arqiva and MBNL.

13.5. Design, Mitigation and Enhancement Measures

- 13.5.1. As part of the design process for the Project, several embedded and standard mitigation measures are proposed to reduce the potential for impacts on aviation, radar and telecommunications, including;
- Design of the turbine layout to ensure that turbine blade tips are no closer than 100 m from the centreline of any fixed telecommunications links; and
 - Installation of obstruction warning lights on the proposed wind turbines as they will exceed 150 m to blade tip, in accordance with the ANO 2016 (Ref 13-2).
- 13.5.2. It is expected that these may evolve throughout the design evolution of the Project as the EIA progresses and in response to consultation, including the exploration of an aviation reduced lighting scheme, to minimise the visual impact of aviation lighting, which would be subject to approval by the Civil Aviation Authority, where necessary.
- 13.5.3. The Applicant is committed to implementing these measures, and also various standard sectoral practices and procedures. It is therefore considered that these measures are inherently part of the design and have been considered in the judgements as to which impacts can be scoped in/ out of assessment presented in **Section 5.7** and **Section 11.7**.
- 13.5.4. Additional mitigation measures will be considered where significant effects are anticipated to remain after embedded design measures and standard good practice controls have been applied. If residual impacts persist, proportionate further measures will be identified to address those remaining effects.



- 13.5.5. Further detail on the role of mitigation commitments, as part of a proportionate EIA approach, is provided in **Chapter 3: Approach to EIA**. A full description of the mitigations commitments identified so far is provided in **Appendix 3A: Draft Register of Environmental Actions and Commitments (REAC)**.
- 13.5.6. The requirement for, and feasibility of, any mitigation measures will be subject to consultation with consultees throughout the pre-application phase of the Project.

13.6. Potential Impacts Scoped In

- 13.6.1. A range of potential impacts on aviation, radar, and telecommunications have been identified which may occur during construction, operation and maintenance, and decommissioning phases. The impacts that have been scoped into the EIA are outlined in
- 13.6.2. **Table 11-6**, together with a description of any proposed additional data collection (e.g. site-specific surveys) and/or supporting analyses (e.g. modelling) to enable an assessment of the impact.

Table 13-2: Impacts proposed to be scoped into the assessment for Aviation, Radar and Telecommunications

Receptor	Description	Proposed Approach to Assessment Including Description of Any New Data Collation Required and Any Analyses (Such as Modelling)
Construction		
Military low flying	Obstruction hazard	Consultation with MoD
Teesside Airport IFPs	Potential for requirement to raise minimum flight altitudes	Consultation with Teesside Airport
RAF Leeming IFPs	Potential for requirement to raise minimum flight altitudes	Consultation with MoD
Operation and Maintenance		
NERL Great Dun Fell PSR	Potential for false plots and reduced probability of detection	Consultation with NERL
NERL Claxby PSR	Potential for false plots and reduced probability of detection	Consultation with NERL
Newcastle Airport PSR	Potential for false plots and reduced probability of detection	Consultation with Newcastle Airport
Teesside Airport PSR	Potential for false plots and reduced probability of detection	Consultation with Teesside Airport
RAF Leeming PSR	Potential for false plots and reduced probability of detection	Consultation with MoD



Receptor	Description	Proposed Approach to Assessment Including Description of Any New Data Collation Required and Any Analyses (Such as Modelling)
MoD Staxton Wold PSR	Potential for false plots and reduced probability of detection	Consultation with MoD
MoD Brizlee Wood PSR	Potential for false plots and reduced probability of detection	Consultation with MoD
Military low flying	Obstruction hazard	Consultation with MoD
Teesside Airport IFPs	Potential for requirement to raise minimum flight altitudes	Consultation with Teesside Airport
RAF Leeming IFPs	Potential for requirement to raise minimum flight altitudes	Consultation with MoD
Decommissioning		
Military low flying	Obstruction hazard	Consultation with MoD
Teesside Airport IFPs	Potential for requirement to raise minimum flight altitudes	Consultation with Teesside Airport
RAF Leeming IFPs	Potential for requirement to raise minimum flight altitudes	Consultation with MoD
Cumulative		
Military low flying	Obstruction hazard	Consultation with MoD
Teesside Airport IFPs	Potential for requirement to raise minimum flight altitudes	Consultation with Teesside Airport
RAF Leeming IFPs	Potential for requirement to raise minimum flight altitudes	Consultation with MoD
NERL Great Dun Fell PSR	Potential for false plots and reduced probability of detection	Consultation with NERL
NERL Claxby PSR	Potential for false plots and reduced probability of detection	Consultation with NERL
Newcastle Airport PSR	Potential for false plots and reduced probability of detection	Consultation with Newcastle Airport
Teesside Airport PSR	Potential for false plots and reduced probability of detection	Consultation with Teesside Airport
RAF Leeming PSR	Potential for false plots and reduced probability of detection	Consultation with MoD
MoD Staxton Wold PSR	Potential for false plots and reduced probability of detection	Consultation with MoD
MoD Brizlee Wood PSR	Potential for false plots and reduced probability of detection	Consultation with MoD



13.7. Impacts Proposed to be Scoped Out

- 13.7.1. Based on the baseline environment information currently available and the Project description (outlined in **Chapter 2: Project Description**) a number of impacts are proposed to be scoped out of the EIA for aviation, radar and telecommunications. The impacts are outlined in **Table 11-7**, together with a justification for scoping them out.

Table 13-3: Impacts proposed to be scoped out of assessment for Aviation, Radar and Telecommunications

Receptor	Justification for Scoping Out
Construction	
Fixed telecommunications links	None within 1 km of Scoping Boundary
Meteorological Office radars	None within Study Area
Secondary surveillance radars	None within Study Area
Aeronautical radio navigation beacons	None within Study Area
Aeronautical radio communication facilities	None within Study Area
Unlicensed aerodromes	None within Study Area
Operation and Maintenance	
Fixed telecommunications links	None within 1 km of Scoping Boundary
Meteorological Office radars	None within Study Area
Secondary surveillance radars	None within Study Area
Aeronautical radio navigation beacons	None within Study Area
Aeronautical radio communication facilities	None within Study Area
Unlicensed aerodromes	None within Study Area
Decommissioning	
Fixed telecommunications links	None within 1 km of Scoping Boundary
Meteorological Office radars	None within Study Area
Secondary surveillance radars	None within Study Area
Aeronautical radio navigation beacons	None within Study Area
Aeronautical radio communication facilities	None within Study Area
Unlicensed aerodromes	None within Study Area
Cumulative	
Fixed telecommunications links	None within 1 km of Scoping Boundary
Meteorological Office radars	None within Study Area
Secondary surveillance radars	None within Study Area
Aeronautical radio navigation beacons	None within Study Area



Receptor	Justification for Scoping Out
Aeronautical radio communication facilities	None within Study Area
Unlicensed aerodromes	None within Study Area

13.8. Summary of Next Steps

- 13.8.1. Aviation consultations will be carried out with NERL, the MoD, the CAA, Newcastle Airport and Teesside Airport to ensure that all aviation and radar assets with the potential to be affected by the Project are assessed.
- 13.8.2. Consultation on fixed telecommunications links will be undertaken with the relevant operators including the Joint Radio Commission (JRC), Atkins Realis, Arqiva and MBNL, to ensure that all point-to-point communications infrastructure with the potential to be affected by the Project is assessed.

13.9. Further Consideration for Consultees

- 13.9.1. The following questions are provided to help frame consultee comments on the Scoping Report for Aviation, Radar and Telecommunications:
- Q13.1: Do consultees have any comments on the proposed approach and methodology?
 - Q13.2: Do consultees agree with the proposed Study Areas for the identification and assessment for aviation, radar and telecommunications receptors?

13.10. References

- Ref 13-1 Civil Aviation Authority (2025). *CAA Policy and Guidelines on Wind turbine (CAP 764)*. Available at: <https://www.caa.co.uk/publication/download/14561>.
- Ref 13-2 UK Government (2016). *The Air Navigation Order 2016*. Available at: <https://www.legislation.gov.uk/uksi/2016/765>
- Ref 13-3 UK Government (2002). *The Town and Country Planning (Safeguarding Aerodromes, Technical Sites, Meteorological Technical Sites and Military Explosives Storage Areas) Direction 2002*. Available at: <https://www.legislation.gov.uk/uksi/2002/2623/contents>
- Ref 13-4 Civil Aviation Authority (2017). *Policy Statement on the Lighting of Onshore Wind Turbine Generators in the United Kingdom with a Maximum Blade Tip Height at or in Excess of 150 m Above Ground Level (DAP Policy 124)*. Available at: <https://www.caa.co.uk/data-and-publications/publications/documents/content/dap-policy-124/>
- Ref 13-5 UK Government (2026). *Overarching National Policy Statement for energy (EN-1)*. Available at: <https://www.gov.uk/government/publications/overarching-national-policy->



[statement-for-energy-en-1-2025/overarching-national-policy-statement-for-energy-en-1-2025-accessible-webpage](#)

- Ref 13-6 UK Government (2026). *National Policy Statement for renewable energy (EN-3)*. Available at: <https://assets.publishing.service.gov.uk/media/695d1368b5c46330350ed9a2/national-policy-statement-for-renewable-energy-infrastructure-en-3-web-accessible.pdf>
- Ref 13-7 Durham County Council (2020). *County Durham Plan (Adopted 2020)*. Available at: <https://durham.gov.uk/media/34069/County-Durham-Plan-adopted-2020-/pdf/CountyDurhamPlanAdopted2020vDec2020.pdf> [Accessed March 2026].
- Ref 13-8 Durham County Council. *Emerging County Durham Plan*. Available at: <https://www.durham.gov.uk/cdp> [Accessed March 2026].
- Ref 13-9 North Yorkshire Council (2025). *North Yorkshire Local Plan: Our First Consultation*. Available at: <https://edemocracy.northyorks.gov.uk/documents/s52420/Appendix%201%20North%20Yorkshire%20Council%20First%20Conversation%20consultation.pdf> [Accessed March 2026].
- Ref 13-10 Richmondshire District Council (2014). *Richmondshire Local Plan 2012 – 2028 Core Strategy*. Available at: <https://www.richmondshire.gov.uk/media/5219/core-strategy-2012-28.pdf> [Accessed March 2026].
- Ref 13-11 UK Civil Aviation Authority (2019). *Air Traffic Services Safety Requirements (CAP 670)*. Available at: <https://www.caa.co.uk/publication/download/17362>
- Ref 13-12 UK Civil Aviation Authority (2020). *Safeguarding of Aerodromes (CAP 738)*. Available at: <https://www.caa.co.uk/publication/download/12346>
- Ref 13-13 UK Civil Aviation Authority (2022). *Implementation and Safeguarding of Instrument Flight Procedures (IFPs) in the UK*. Available at: <https://www.caa.co.uk/publication/download/13875>



14. Shadow Flicker

14.1. Introduction

- 14.1.1. This chapter of the Scoping Report sets out the proposed scope and methodology that will be followed in undertaking the Project's shadow flicker assessment. This chapter explains how shadow flicker effects arising from the operation of the Project and how likely significant effects would be assessed for the purposes of the EIA. Potential shadow flicker effects will inform the iterative design process, including the wind turbine layout and siting, and a final assessment will be undertaken upon design freeze with findings reported in the Environmental Statement (ES).
- 14.1.2. Under certain daylight conditions the relative position of the Earth and Sun can cause shadows to be cast from blades of wind turbines over neighbouring properties. These shadows move as the wind turbine blades rotate and as the sun tracks across the sky. When observed from inside a building and viewed through a narrow aperture such as a window, the effect created may appear as a flickering of light known as shadow flicker, which can give rise to effects on amenity at affected properties. The occurrence of shadow flicker is dependent on several factors including:
- the location of the relevant building relative to the position of the sun and the turbine; and
 - the size of the window apertures, and their location in the building relative to the turbine;
 - the turbine hub height and rotor diameter;
 - the presence of intervening topography, buildings, or vegetation;
 - the time of year;
 - the proportion of daylight hours in which turbines operate; and
 - the prevailing wind direction.
- 14.1.3. Shadow flicker effects are only considered during the operational phase of a wind farm development. This is because the effects only occur when the wind turbine blades are rotating. Therefore, with the exception of limited testing periods once the wind turbines are fully assembled, shadow flicker effects would not occur during the construction phase. Similarly, during decommissioning, when the wind turbines are not operating or are being dismantled, shadow flicker could not occur.
- 14.1.4. Details of the construction, operation and maintenance, and decommissioning of the Project are set out in **Chapter 2: Project Description**.

14.2. Study Area

- 14.2.1. The Project is located on an area of open moorland and straddles the border between Durham County Council and North Yorkshire Council (the Site). The Site consists of undulating upland habitats with several water



courses and is currently managed for grouse shooting and livestock grazing.

- 14.2.2. It is commonly considered that shadow flicker effects at distances beyond ten times the rotor diameter of a wind turbine will not be significant. This is reflected in the National Policy Statement for Renewable Energy Infrastructure (EN-3) (**Ref 14-1**), which states at paragraph 2.12.105:

“As a general rule, there is unlikely to be a significant impact at distances greater than ten rotor diameters from a turbine. Where wind turbines are proposed within ten rotor diameters of an existing occupied building, a shadow flicker assessment should be carried out.”

- 14.2.3. Local planning policy set out in the County Durham Plan (Adopted 2020) (**Ref 14-2**) also states at Policy 34: Wind Turbine Development that:

In respect of shadow flicker, any proposed turbine should be located at a distance greater than 10 rotor diameters from a susceptible dwelling, community facility, or workplace, unless it can be demonstrated that shadow flicker would not occur or would be prevented from occurring.

- 14.2.4. Based on the indicative site layout shown in **Figure 2.2**, and a candidate wind turbine for scoping purposes with a rotor diameter of up to 175 m, the potential area in which shadow flicker could occur (the Study Area) would be up to 1,750 m from the proposed wind turbine locations (plus any additional micro-siting allowance which would be accommodated within the draft Order Limits). The number and location of turbines assessed as part of the EIA will be subject to change as part of the ongoing design work that will consider detailed environmental and engineering constraints. The final Study Area for shadow flicker will be presented in the ES.

14.3. Baseline Environment

Overview of Available Data Sources

- 14.3.1. A range of publicly available mapping sources has been reviewed to identify potential shadow flicker receptors within the Study Area. **Table 14-1** summarises the key sources consulted and their spatial coverage.

Table 14-1: Key sources of information for Shadow Flicker

Source	Summary	Spatial Coverage of Study Area
Google Earth Satellite Imagery	Used to identify buildings and property locations.	Covers the Site and the 10 rotor diameter Study Area.
OpenStreetMap	Used to confirm buildings and property locations.	Covers the Site and Study Area.
UK Grid Reference Finder	Used to verify coordinates and confirm the location individual receptors.	Used for point location verification within the Study Area.

Overview of Baseline Environment

- 14.3.2. From an initial desktop review, based on the current proposed turbine locations and turbine parameters, there are currently eight residential properties that fall within the proposed 1,750 m shadow flicker Study Area. The schedule of residential properties within the Study Area will be reviewed as part of the design process to ensure it reflects updates in wind turbine positions and rotor diameter, where relevant. Details on the properties included in the Study Area, and which will be considered in the shadow flicker assessment, will be provided in the Environmental Statement (ES).

14.4. Proposed Approach to the Environmental Impact Assessment

Relevant Policy, Legislation and Relevant Guidance

- 14.4.1. The following legislation, policy and guidance are relevant to the consideration of the potential shadow flicker effects arising as a result of the Project. This list is not exhaustive, and other documents may be referred to as appropriate:
- Legislation
 - There is no applicable legislation setting out any relevant rules or requirements for the assessment or control of shadow flicker.
 - National Policy
 - National Planning Policy Framework (NPPF) (**Ref 14-3**)
 - National Policy Statements (NPS):
 - Overarching National Policy Statement for Energy (EN-1) (**Ref 14-4**)
 - National Policy Statement for Renewable Energy Infrastructure (EN-3) (**Ref 14-1**)
 - Local Policy
 - County Durham Plan (Adopted 2020) (**Ref 14-5**). Relevant policies may include:
 - Policy 34: Wind Turbine Development.
 - Emerging County Durham Plan (**Ref 14-6**)
 - Emerging North Yorkshire Council Local Plan (**Ref 14-7**)
 - Richmondshire Local Plan 2012-2028: Core Strategy (Adopted 2014) (**Ref 14-8**). Relevant policies may include:
 - Core Policy CP3: Achieving Sustainable Development.
 - Guidance
 - The Update of UK Shadow Flicker Evidence Base (**Ref 14-9**), published by the Department for Energy and Climate Change



(DECC) in 2011 reviews the approach to assessing shadow flicker effects across different European countries and concludes that the area within 130 degrees either side of north from the wind turbine, and within 10 times the rotor diameter of a wind turbine, is widely considered acceptable for shadow flicker assessments. The DECC study also concludes that there have not been extensive issues with shadow flicker in the UK and in circumstances where the potential for significant shadow flicker effects has been identified, these have been resolved using standard mitigation.

Proposed Approach

- 14.4.2. Whilst **Chapter 3: Approach to EIA** provides an indicative EIA assessment method, it also identifies that assessment methodologies may differ in accordance with the prevailing technical area guidance. As such the following sections provide a description of the assessment criteria and assessment methodologies of relevance to shadow flicker, which are derived from best practice guidance and methods applicable to this topic, and differ from those presented in the broader methodology chapter.

Baseline Data Collection

- 14.4.3. For an accurate assessment of shadow flicker, complex modelling is required taking into account the proposed wind turbine dimensions and the movement of the sun throughout the year. Data collection for input into the modelling will include:
- The identification of the locations of properties within ten rotor diameters of each proposed wind turbine, plus any additional micro-siting allowance;
 - The locations and dimensions of the proposed wind turbines; and
 - The local topography (Ordnance Survey Digital Terrain Model).

Proposed Methodology

- 14.4.4. Once the final turbine layout and wind turbine parameters have been confirmed for assessment purposes in the Environmental Statement (ES), the location of residential properties in proximity to the Site will be verified. Any properties located within ten rotor diameters (plus any additional micro-siting allowance) of the proposed wind turbine locations will be assessed to determine the potential for shadow flicker effects to arise.
- 14.4.5. The shadow flicker assessment would comprise numerical modelling of the proposed wind turbines and receptors within the defined Study Area and potential effects of shadow flicker from the Project will be assessed using a combination of modelling and Site-specific data.
- 14.4.6. The assessment would use the commercial software 'Windfarm' by Resoft to predict the number of hours of shadow flicker at each receptor. The model accounts for turbine locations and dimensions, receptor locations, and window orientation and size.
- 14.4.7. Two scenarios would be considered:



- **Theoretical worst-case scenario.** The calculations from the theoretical worst-case scenario are based on the sun shining during all daylight hours over the course of a year, clear skies every day, no obscuring features (such as trees, hedges or other buildings) being present, the face of the rotor always being aligned towards the dwelling, windows facing directly on to each turbine, and continuous wind turbine operation (i.e. the wind conditions are such that the blades are constantly turning). This methodology yields a theoretical maximum indication of potential shadow flicker incidence, together with the times of day, and dates during the year when potential incidence may occur.
- **Likely-case scenario.** This scenario would incorporate historical meteorological data (sunshine probability and wind conditions) from the nearest climatic station to the Site. This scenario remains conservative, as it still assumes receptors are always occupied, windows face the turbines, continuous wind turbine operation and that no obscuring features are present.

14.4.8. In practice, it is likely that shadow flicker effects would occur for considerably less time than both scenario predictions, for the following reasons:

- In the UK, sunshine typically occurs for approximately 30% of daylight hours. At other times, the wind turbines are unlikely to cast shadow sufficiently pronounced to cause shadow flicker effects to occur.
- At times when the wind turbine rotor is not oriented directly towards the property, the duration of shadow flicker would be reduced due to the elliptical shape of the shadow cast.
- Both assessment scenarios would not take into consideration the screening effect of any obscuring features, such as intervening structures or vegetation, between the wind turbines and the property.

Assessment of Significance

14.4.9. Whilst the time and duration of shadow flicker events can be predicted accurately, the level of the effect is difficult to quantify as this would depend on the location of windows within a property, the use of the rooms affected, the level of shading surrounding the property and how susceptible the receptor is to light flicker.

14.4.10. As confirmed by the DECC study undertaken in 2011 (**Ref 14-9**), there is no standard UK guidance (at the time of writing) regarding the limit on the amount of shadow flicker that is considered acceptable or not within the UK. In the absence of this, the Department for Infrastructure Northern Ireland Best Practice Guidance for Planning Policy Statement 18 (PPS18): Renewable Energy (**Ref 14-10**) establishes a benchmark that shadow flicker should not exceed:

- 30 minutes per day; and
- 30 hours per year.



- 14.4.11. The limit is generally used across Scotland and has also been applied in the Republic of Ireland, Germany and Belgium for shadow flicker assessments.
- 14.4.12. Given that this threshold is widely recognised as an appropriate benchmark for assessing shadow flicker effects from wind farms, it provides a reasonable basis for exercising professional judgement on the significance of the Project's effects. Under this approach, predicted effects that exceed the 30 hours per year thresholds would be regarded as significant and therefore require mitigation, whereas effects falling below these levels would be considered not significant. Any effect deemed significant is treated as such in the context of the EIA Regulations. However, as no formal UK guidance exists specifically on shadow flicker, the assessment outcomes would be based on professional judgement and established industry practice relative to these commonly applied thresholds.
- 14.4.13. The significance of shadow flicker effects would be determined based on the predicted annual duration of shadow flicker at each receptor. The assessment would therefore adopt a criterion of 30 hours of shadow flicker in one year as a significance threshold, relating to the Study Area defined above. All receptors, which are confirmed to be residential dwellings and inhabited, therefore are considered to have high sensitivity. Effects would be classified as either significant or not significant by comparing predicted shadow flicker durations against established guidance limits.

14.5. Design, Mitigation and Enhancement Measures

- 14.5.1. As part of the design process for the Project, several embedded and standard mitigation measures are proposed to reduce the potential for impacts on shadow flicker. These are presented below. It is expected that these may evolve throughout the design evolution of the Project as the EIA progresses and in response to consultation.
- 14.5.2. Measures adopted as part of the Project will include:
- The adoption of a design-led approach to ensure mitigation for shadow flicker is embedded throughout the design process for the Project to ensure potential effects on nearby receptors are minimised. Where practicable, wind turbines shall be positioned to maximise separation distances from residential properties and to avoid locations where the geometry of turbine blades and sunrise or sunset angles could result in prolonged period of shadow flicker. Modelling shall be undertaken to inform the refinement of wind turbine locations to reduced predicted shadow flicker exposure.
 - The Applicant would be committed to promptly investigating any complaints of shadow flicker and taking appropriate action as required. A Shadow Flicker Protocol would be prepared to set out the procedures to be followed during the operational phase of the Project should a substantiated shadow flicker complaint be received from a receptor within the Study Area, and potential mitigation measures that may be employed. Outline details of the measures to be included within the Shadow Flicker Protocol would be provided in the ES.



- 14.5.3. The Applicant is committed to implementing these measures, and also various standard sectoral practices and procedures. It is therefore considered that these measures are inherently part of the design and have been considered in the judgements as to which impacts can be scoped in / out of assessment presented in **Section 5.7** and **Section 11.7**.
- 14.5.4. Additional mitigation measures will be considered where significant effects are anticipated to remain after embedded design measures and standard good practice controls have been applied. If residual impacts persist, proportionate further actions, such as enhancement, remediation or compensation, will be identified to address those remaining effects.
- 14.5.5. Further detail on the role of mitigation commitments, as part of a proportionate EIA approach, is provided in **Chapter 3: Approach to EIA**. A full description of the mitigations commitments identified so far is provided in **Appendix 3A: Draft Register of Environmental Actions and Commitments (REAC)**.

14.6. Potential Impacts Scoped In

- 14.6.1. A range of potential impacts on shadow flicker have been identified which may occur during the operation and maintenance phase. The impacts that have been scoped into the EIA are outlined in **Table 14-2**, together with a description of any proposed additional data collection (e.g. site-specific surveys) and/or supporting analyses (e.g. modelling) to enable an assessment of the impact.
- 14.6.2. A visual inspection of aerial imagery identified a number of dwellings within ten rotor diameters of the Project. On this basis, shadow flicker has been scoped into the forthcoming EIA for the operation and maintenance phase.

Table 14-2: Impacts proposed to be scoped into the assessment for Shadow Flicker

Impact	Description	Proposed Approach to Assessment Including Description of Any New Data Collation Required and Any Analyses (Such as Modelling)
Construction		
No activities during this phase are scoped into the assessment as detailed in Table 14-3 .		
Operation and Maintenance		
Shadow flicker at nearby receptors.	Intermittent shadow flicker may occur at residential properties within 10 rotor diameters when turbines rotate in specific sun and weather conditions.	- Identify receptors within the shadow flicker Study Area. - Undertake shadow flicker modelling using turbine parameters and receptor locations.

Impact	Description	Proposed Approach to Assessment Including Description of Any New Data Collation Required and Any Analyses (Such as Modelling)
		- Assess magnitude and duration of potential effects. - Consider mitigation (e.g. turbine shut-down protocol).
Decommissioning		
No activities during this phase are scoped into the assessment as detailed in Table 14-3 .		
Cumulative		
A cumulative effects assessment relating to shadow flicker is proposed to be scoped out of the assessment as detailed in Table 14-3 .		

14.7. Impacts Proposed to be Scoped Out

- 14.7.1. Based on the baseline environment information currently available and the Project description (outlined in **Chapter 2: Project Description**) a number of impacts are proposed to be scoped out the EIA for shadow flicker as presented in **Table 14-3**.

Table 14-3: Impacts proposed to be scoped out of assessment for Shadow Flicker

Impact	Justification for Scoping Out
Construction	
A shadow flicker assessment is not proposed for the construction phase of the Project because the effect can only occur when the wind turbine blades are rotating and casting moving shadows. Wind turbines are not operational during construction, meaning no shadow flicker can be generated.	
Operation and Maintenance	
Receptors beyond 10 times the rotor diameter	Shadow flicker effects beyond ten times the rotor diameter are widely accepted to be negligible. Properties beyond this distance will not be considered in the shadow flicker assessment.
Non-residential receptors	Shadow flicker is only considered significant where it affects sensitive receptors such as residential properties.
Shadow flicker effects on people with epilepsy	Research has been carried out by the Epilepsy Society to determine whether shadow flicker from wind turbines can pose a risk of triggering seizures in people with

Impact	Justification for Scoping Out
	photosensitive epilepsy (Ref 14-11). This reports that seizures are generally triggered by flashing light between 3 – 30 hertz (Hz) (flashes per second) and that sensitivity under 3 Hz is not common. Modern three-bladed wind turbines, with a rotor diameter comparable to the model being considered for this Project, typically operate at low rotational speeds, with corresponding blade passing frequencies up to 0.2 Hz depending on wind conditions, which is well below the recognised threshold for inducing seizures. It is also noted in the DECC Report (Ref 14-9) that <i>“on health effects and nuisance of the shadow flicker effect, it is considered that the frequency of the flickering caused by the wind turbine rotation is such that it should not cause a significant risk to health”</i>.
Decommissioning	
A shadow flicker assessment would not be carried out for the decommissioning phase of the Project because the shadow flicker can only occur when the wind turbine blades are rotating and casting moving shadows. Wind turbines are not operational during decommissioning, meaning no shadow flicker can be generated.	
Cumulative	
With reference to Table 3-2 within Chapter 3: Approach to EIA , there are no existing, consented or in planning wind farm developments located in the local area such that potential cumulative shadow flicker effects would be experienced. Therefore, an assessment of cumulative effects relating to shadow flicker is scoped out of the assessment.	

14.8. Summary of Next Steps

14.8.1. The next steps can be summarised as follows:

- Carry out initial modelling;
- Feedback design mitigation information if required;
- Undertake final modelling on design freeze layout; and
- Confirm mitigation strategy and associated energy output reduction (if relevant).

14.9. Further Consideration for Consultees

14.9.1. The following are what are thought to be the key issues which require consideration by the consultees:

- Q14.1: Do consultees agree that the area to be assessed for shadow flicker effects is sufficient?

- Q14.2: Are consultees aware of any properties within the shadow flicker Study Area that is considered should be included in the assessment?

14.10. References

- Ref 14-1 Department for Energy Security and Net Zero (2023). *National Policy Statement for Renewable Energy Infrastructure (EN-3)*. Paragraph 2.12.105. Available at: <https://www.gov.uk/government/publications/national-policy-statement-for-renewable-energy-infrastructure-en-3-2025> [Accessed March 2026].
- Ref 14-2 Durham County Council (2020). *The County Durham Plan*. Policy 34: Wind Turbine Development. Available at: durham.gov.uk/media/34069/County-Durham-Plan/pdf/CountyDurhamPlanAdopted2020vDec2020.pdf?m=1732184551360 [Accessed March 2026].
- Ref 14-3 UK Government (2024). *National Planning Policy Framework*. Available at: <https://www.gov.uk/government/publications/national-planning-policy-framework--2> [Accessed March 2026].
- Ref 14-4 UK Government (2025). *Overarching National Policy Statement for Energy (EN-1)*. Available at: <https://www.gov.uk/government/publications/overarching-national-policy-statement-for-energy-en-1-2025/overarching-national-policy-statement-for-energy-en-1-2025-accessible-webpage> [Accessed March 2026].
- Ref 14-5 Durham County Council (2020). *County Durham Plan (Adopted 2020)*. Available at: <https://durham.gov.uk/media/34069/County-Durham-Plan-adopted-2020-/pdf/CountyDurhamPlanAdopted2020vDec2020.pdf> [Accessed March 2026].
- Ref 14-6 Durham County Council. *Emerging County Durham Plan*. Available at: <https://www.durham.gov.uk/cdp> [Accessed March 2026].
- Ref 14-7 North Yorkshire Council (2025). *North Yorkshire Local Plan: Our First Consultation*. Available at: <https://edemocracy.northyorks.gov.uk/documents/s52420/Appendix%201%20North%20Yorkshire%20Council%20First%20Conversation%20consultation.pdf> [Accessed March 2026].
- Ref 14-8 Richmondshire District Council (2014). *Richmondshire Local Plan 2012 – 2028 Core Strategy*. Available at: <https://www.richmondshire.gov.uk/media/5219/core-strategy-2012-28.pdf> [Accessed March 2026].
- Ref 14-9 Department of Energy and Climate Change (16 March 2011). Update of UK Shadow Flicker Evidence Base. Prepared by Parsons Brinckerhoff. Available at:



<https://assets.publishing.service.gov.uk/media/5a79770bed915d0422068a3/1416-update-uk-shadow-flicker-evidence-base.pdf> [Accessed March 2026].

Ref 14-10 Department for Infrastructure (2019). Best Practice Guidance to PPS 18 'Renewable Energy'. Available at: <https://www.infrastructure-ni.gov.uk/publications/best-practice-guidance-pps-18-renewable-energy> [Accessed March 2026].

Ref 14-11 Epilepsy Society (April 2025). Photosensitive epilepsy. Available at: <https://epilepsysociety.org.uk/about-epilepsy/epileptic-seizures/seizure-triggers/photosensitive-epilepsy> [Accessed March 2026].

15. Air Quality

15.1. Introduction

- 15.1.1. This chapter of the Scoping Report sets out the proposed scope and methodology of the air quality assessment of the Project. It identifies the potential likely significant effects arising from the construction, operation and management, and decommissioning of the Project, in isolation and cumulatively, on air quality. This chapter also explains how likely significant effects would be assessed for the purposes of the Environmental Impact Assessment (EIA).
- 15.1.2. Details of the construction, operation and maintenance, and decommissioning of the Project are set out in **Chapter 2: Project Description**.
- 15.1.3. There are interrelationships between the potential effects on air quality and other environmental topics. Therefore, this chapter should be read alongside the following chapters of this Scoping Report:
- **Chapter 7:** Ecology; and
 - **Chapter 11:** Access, Traffic and Transport.
- 15.1.4. This chapter is supported by the following Figure (provided in **Volume A**):
- **Figure 15.1:** Potential Sensitive Receptors

15.2. Study Area

- 15.2.1. The Study Area encompasses the area over which all desk-based data was gathered to inform the air quality Scoping assessment presented in this Chapter.
- 15.2.2. The Study Area for air quality is shown in **Figure 15.1**.
- 15.2.3. The Study Area has been defined for the purposes of Scoping using the current Scoping Boundary and should be regarded as preliminary at this stage. It will be reviewed and amended in response to the refinement of the Project design, the identification of additional impact pathways and, where appropriate, in response to feedback from consultation, to ensure that there is sufficient data on which to conduct the assessment. As the Scoping Boundary is refined, the Study Area for the EIA will be updated accordingly and defined with reference to the draft Order Limits.
- 15.2.4. With regards to the construction dust assessment, in line with the screening criteria set out within the Institute of Air Quality Management guidance (IAQM) 2024 (Ref 15-1), the following sensitive receptors will be considered:
- Human receptors within 250 m of the draft Order Limits, and within 50 m of routes used by construction vehicles on the public highway, up to 250 m from the site entrance; and



- Ecological receptors within 50 m of the draft Order Limits, and within 50 m of routes used by construction vehicles on the public highway, up to 250 m from the site entrance.
- 15.2.5. With regards to the assessment of road traffic emissions, sensitive human receptors and sensitive qualifying ecological features within 200 m of roads expected to experience increases in road traffic volumes generated by construction activities will be assessed, in accordance with Environmental Protection UK (EPUK) & IAQM guidance 2017 (Ref 15-2). Where the screening criteria are exceeded and sensitive human receptors are present, detailed air quality modelling will be carried out. If an ecological and/or a human receptor is located greater than 200 m from the affected road network, further consideration is not required.
- 15.2.6. Furthermore, with regard to ecological receptors within 200 m of affected roads, traffic data will be reviewed in line with current guidance from Natural England (October 2018) (Ref 15-3) and the Joint Nature Conservation Committee (JNCC) (Ref 15-4) to determine whether detailed assessment of road traffic emission impacts will be required, either in-isolation or in-combination (i.e. cumulative) effects. Traffic data will also be reviewed in line with the traffic screening criteria within the IAQM guidance on air quality assessment (Ref 15-2).
- 15.2.7. Detailed traffic data is not yet available for the Project, and it is not known whether the criteria for a detailed modelling assessment of traffic emissions will be exceeded. In the absence of detailed data for the Project, we are unable to scope out a detailed assessment of traffic impacts. As such, a screening assessment, and if necessary, a detailed modelling assessment has been scoped into the assessment.

Sensitive Receptors

- 15.2.8. Sensitive receptors include high sensitivity human or ecological habitats that may be impacted by changes in air quality due to emissions from construction or operational activities associated with the Project. These include locations such as residential dwellings as well as designated Ecological sites, including but not limited to, Sites of Special Scientific Interest (SSSI), Special Areas of Conservation (SAC), Special Protection Areas (SPA) and Ancient Woodland (AW).
- 15.2.9. During the construction phase human and ecological receptors may experience increases in particulate matter in connection with construction activities and increases in nitrogen dioxide (NO₂) due to increased movements on the road network and of mobile plant on the development site.
- 15.2.10. During the operation and maintenance phase, sensitive receptors, both human and ecological, may experience changes in exposure to the concentration of NO₂ and particulate matter (PM) emitted from additional movements on the road network associated with the Project.



Human Receptors

15.2.11. The existing sensitive human receptors identified in the vicinity of the Project are:

- Two individual residential receptors, off Moor Lane and next to Kexwith Beck and numerous residential receptors in Newsham which could experience traffic impacts during construction, depending upon routing and number of vehicles are located within 250 m from the Scoping Boundary.

Ecological Receptors

15.2.12. There are no international or national level conservation designations located within the Scoping Boundary, however:

- Barningham Ancient Woodland (is located within 50 m of the proposed Haul Route Search Area) and;
- an un-named Ancient Woodland (is located within 50 m of the South Scoping Boundary).
- Approximately 14 km from the Site access, the North Pennine Moors SAC is adjacent to the A66 which could experience traffic impacts during construction, depending upon routing and number of vehicles.

15.2.13. The human and ecological receptors located in close proximity to the Project are shown in **Figure 15.1**.

15.3. Baseline Environment

Overview of Available Data Sources

15.3.1. The data sources that have been used to inform this Chapter of the Scoping Report are presented within Table 15-1.

Table 15-1: Key sources of information for Air Quality

Source	Summary	Spatial Coverage of Study Area
Durham County Council Air Quality Annual Status Report 2024	Monitoring data and supporting information on Air Quality Management Areas (AQMA)	Monitoring sites in Durham County Council area that are within the Study Area
North Yorkshire Council Air Quality Annual Status Report 2025	Monitoring data and supporting information on AQMAs	Monitoring sites in North Yorkshire Council area that are within the Study Area
DEFRA Magic Map Application Website	Used to identify designated habitat sites within the Study Area	Full coverage of the Study Area
DEFRA Background Mapping for Local Authorities	Used to provide air pollutant background concentrations	Full coverage of the Study Area

Source	Summary	Spatial Coverage of Study Area
	where local monitoring data is not available	
DEFRA AQMA interactive maps and summary data	Used to identify AQMAs within the Study Area	Full coverage of the Study Area
Air Pollution Information System (APIS), Centre for Ecology and Hydrology (CEH)	Nationwide database of background ammonia concentrations, nitrogen deposition rates, acid deposition rates and Critical Loads for ecological habitats that may need to be assessed	Full coverage of the Study Area

Overview of Baseline Environment

Local Authority data

- 15.3.2. The Study Area includes land within the administrative areas of North Yorkshire Council (NYC) and Durham County Council (DCC).
- 15.3.3. In fulfilment of statutory requirements, local authorities undergo a process to review and assess air quality within their administrative areas, which is typically informed by local air quality monitoring. An initial review of the latest Annual Status Reports (ASRs) (Ref 15-5, Ref 15-6) available for these Councils.
- 15.3.4. NYC has declared four AQMAs,
- AQMA 1 – Knaresborough located 55.6km to the south-east of the Site;
 - AQMA 2 – Harrogate located 55.7km to the south-east of the Site;
 - AQMA 3 – Selby located 91.3km to the south-east of the Site;
- (All associated with historically monitored exceedances of the annual mean NO₂ objective).
- AQMA 4 – Staithes located 68.7km east of the Site (was declared for PM₁₀ in relation to the burning of domestic solid fuel for primary heating).
- 15.3.5. The nearest NYC monitoring location to the Project R6 a non-automatic (diffusion tube) monitoring roadside NO₂ next to the A66 to the East of the Site. This recorded 14.0µg/m³ in 2024.
- 15.3.6. NYC continue to monitor the three AQMAs in relation to NO₂ and one AQMA in relation to PM₁₀ however the annual mean NO₂ objective of 40µg/m³ (associated with road traffic emissions) was not exceeded at any of the NYC monitoring points in the last 3 years.
- 15.3.7. DCC have declared one AQMA due to monitored exceedances of the annual mean NO₂ objective located in Durham City. This is located 35.7km to the north-east of the Site.



- 15.3.8. The nearest DCC monitoring location is No.173 a non-automatic (diffusion tube) monitoring roadside NO₂ on Chapel Street, West Auckland to the north-east of the Site. This recorded 18.7µg/m³ in 2023 (Latest published information).
- 15.3.9. None of these monitoring locations are located in the vicinity of the Project and as such, are not relevant to air quality conditions at the development site. Furthermore, given the distance between the Site and these AQMAs, the Site is not considered to be in a poor air quality area and the AQMAs will not be impacted by the Project.
- 15.3.10. The Department for Environment Food and Rural Affairs (DEFRA) Air Information Resource website (Ref 15-7) provides background pollution concentration estimates for NO₂, PM₁₀ and PM_{2.5} for each 1km x 1km grid square from 2021 to 2040.
- 15.3.11. The background annual mean concentrations for the grid square containing the location of the Project within the current year (2026) are provided in **Table 15-2** below.

Table 15-2: Summary of DEFRA Predicted Background Pollutant Concentrations (2026)

Grid Square Reference (approx. Site centre co-Ordinates)	NO ₂ (µg/m ³)	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)
E405199, N506429	2.08	6.29	3.84

- 15.3.12. The background concentrations for the Site are well below the relevant objective/limit values.

15.4. Proposed Approach to the Environmental Impact Assessment

Relevant Policy, Legislation and Relevant Guidance

- 15.4.1. The following legislation, policy and guidance are relevant to the consideration of the potential effects of the Project on air quality receptors. This list is not exhaustive, and other documents may be referred to as appropriate:
- Legislation
 - The Air Quality Standards Regulations 2010 (AQSR) (Ref 15-8);
 - The Air Quality (England) Regulations 2000 (as amended) (the Regulations) (Ref 15-9);
 - The Environment (Miscellaneous Amendments) (EU Exit) Regulations 2020 (Ref 15-10);
 - The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023 (Ref 15-11)
 - Environment Act 1995 (Ref 15-12) as amended by Environment Act 2021 (Ref 15-13)

- Conservation of Habitats and Species Regulations 2017 (the ‘Habitats Regulations’) as amended (Ref 15-14)
- The Non-Road Mobile Machinery (Type-Approval and Emission of Gaseous and Particulate Pollutants) Regulations 2018 (Ref 15-15)
- National Policy
 - National Policy Statements:
 - Overarching National Policy Statement for Energy (EN-1) (Ref 15-16);
 - National Policy Statement for Renewable Energy Infrastructure (EN-3) (Ref 15-17);
 - National Planning Policy Framework (NPPF) (Ref 15-18)
- Local Policy
 - County Durham Plan (Adopted 2020) (Ref 15-19). Relevant policies may include:
 - Policy 31: Amenity and Pollution; and
 - Policy 34: Wind Turbine Development.
 - The emerging Durham County Plan (Ref 15-20);
 - The emerging North Yorkshire Local Draft Plan (Ref 15-21);
 - Richmondshire Local Plan 2012-2028: Core Strategy (Adopted 2014) (Ref 15-22). Relevant policies may include:
 - Core Policy CP3: Achieving Sustainable Development
- Guidance
 - Department of Environment, Food and Rural Affairs (DEFRA), The Air Quality Strategy Framework for Local Authority Delivery (Ref 15-23);
 - Air quality Environment Act target delivery plan (Ref 15-24);
 - IAQM Guidance on the Assessment of Dust from Demolition and Construction (Ref 15-1);
 - IAQM Guide to the Assessment of Air Quality Impacts on Designated Nature Conservation Sites (Ref 15-25);
 - Local Air Quality Management (LAQM) Technical Guidance (TG22) (Ref 15-26);
 - Natural England’s approach to advising competent authorities on the assessment of road traffic emissions under the Habitats Regulations (Ref 15-3);
 - JNCC Report No. 696 Main Report Guidance on Decision-making Thresholds for Air Pollution, (Ref 15-4);
 - Land-Use Planning and Development Control: Planning for Air Quality (EPUK & IAQM) (Ref 15-2); and



- Design Manual for Roads and Bridges (DMRB) LA 105 – Air quality (Ref 15-27)

Proposed Assessment Methodology

- 15.4.2. The EIA will follow the general overarching methodology outlined in **Chapter 3: Approach to EIA**. Whilst those principles provide the foundation for this assessment, this Chapter explains how they will be applied, and where necessary, adapted to address the specific requirements of the air quality assessment in the Environmental Statement (ES).
- 15.4.3. It is anticipated that the temporal scope for air quality will only cover the construction phase of the Project and will be informed by the following studies (relating to the impacts scoped-in):
- Construction phase dust assessment; and
 - Construction road traffic assessment on human and ecological receptors.
- 15.4.4. Details of the methodology are presented below. No additional supporting studies are presently considered to be required to inform the EIA.

Construction Phase Dust Assessment

- 15.4.5. In accordance with IAQM Construction Guidance (Ref 15-1), the following methodology for the assessment of air quality during the construction phase is proposed:
- Identify the potential risk from dust emitted from construction activities and recommend an appropriate level of mitigation for the scale of the Project to minimise any impacts on local receptors.
 - Receptors within the Study Area (250 m for human and 50 m for ecological receptors) will be identified and their risk of impacts from the construction phase considered.
 - Mitigation measures will be recommended for the mitigation of effects and for inclusion in an outline Construction Environmental Management Plan (CEMP), taking into account dust risk at each receptor and its level of sensitivity.

Construction Phase Road Traffic Assessment

- 15.4.6. Construction traffic flows will initially be compared to the traffic scoping criteria detailed in the EPUK/IAQM Planning Guidance (Ref 15-2) and the IAQM guidance for conservation sites (Ref 15-25). Different screening criteria apply to human and ecological receptors. The outcomes of this assessment will determine whether impacts to human and ecological receptors can be considered insignificant (screen out), or whether further detailed assessment is required. The EPUK/IAQM Guidance (Ref 15-2) states that assessment of construction vehicle emissions is required when more than 100 Heavy Duty Vehicle (HDV) movements (AADT) associated with the Project are introduced on the road network. If this is exceeded and



- meet the requirement for detailed assessment, the potential impacts on NO₂, PM₁₀ and PM_{2.5} concentrations at sensitive human receptors will be subject to detailed modelling assessment using ADMS-Roads software.
- 15.4.7. With regards to sensitive ecological habitats, affected road links will initially be screened using JNCC guidance (Ref 15-4). Road links associated with strategic ‘trunk roads’ (i.e. the Strategic Road Network (SRN)) and road links where construction road traffic does not exceed the Decision-Making Threshold (DMT) (0.15% of existing AADT) will be excluded.
- 15.4.8. The screening thresholds prescribed within IAQM guidance (Ref 15-1) relating to development-generated traffic flows will then be used, and are as follows:
- >1,000 Total AADT; and/ or
 - >200 HDV AADT.
- 15.4.9. For the purposes of assessing impacts on sensitive qualifying internationally designated ecological sites (e.g. SAC and SPA), screening will be undertaken in combination with other projects and plans. This follows relevant legislation (e.g. the Habitats Regulations) and takes into account relevant case law. However, when assessing impacts on national and/or local ecological designations, vehicle movements generated by construction activities will be assessed in isolation (i.e. project alone). This is reflective of the level of protection afforded to these sites within legislation.
- 15.4.10. Traffic data used to inform the assessments will be consistent with the analysis undertaken and presented as part of **Chapter 11: Access, Traffic and Transport**.

Significance Evaluation Methodology

- 15.4.11. The significance level attributed to each effect will be assessed based on the ‘sensitivity’ of the affected receptor and the magnitude of change resulting from the development. The level of significance is then determined by the combination of receptor sensitivity and magnitude of change.

Sensitivity of Receptors - Construction Dust

- 15.4.12. The criteria for receptor sensitivity are outlined in **Table 15-3**.
- 15.4.13. The sensitivity of the area to dust impacts, can be defined as low, medium or high sensitivity, in accordance with the IAQM 2024 construction dust guidance (Ref 15-1).

Table 15-3: Definitions of Receptor Sensitivity for Construction Dust

Sensitivity	Description
High	Where human receptors are expected to be present continuously for extended periods of time and where a high level of amenity is expected e.g., residential properties, hospitals, schools and care homes. Internationally or nationally designated ecological sites where the designated

Sensitivity	Description
	features may be affected by dust soiling, or where there is a particular dust sensitive species.
Medium	Where human receptors wouldn't reasonably be expected to be present continuously or regularly for extended periods and where a reasonable level of amenity is expected, which could be diminished by dust soiling e.g., parks and places of work. Nationally designated ecological sites with dust sensitive features.
Low	Where enjoyment of amenity would not reasonably be expected and exposure would be for limited periods e.g., footpaths, shopping streets and car parks. Locally designated ecological sites where the features may be affected by dust.

Magnitude of Change - Dust Assessment

- 15.4.14. The magnitude of impact upon air quality is determined by defining the predicted pollutant concentration relative to air quality standards and objective or target levels as set out in **Table 15-4**. Magnitude of change may be either beneficial or adverse.
- 15.4.15. The scale and nature of the works determine the magnitude of dust arising as small, medium or large.
- 15.4.16. The relevant criteria to define the potential magnitude of dust emissions includes the factors in accordance with the IAQM construction dust guidance (Ref 15-1) outlined in **Table 15-4**.

Table 15-4: Definitions of Magnitude of Change for Dust Assessment

Magnitude	Description
Small	Demolition volume under 12,000 m ³ less than 6 m above ground level, total site area less than 18,000 m ² , soil type with large grain size, formation of bunds less than 3 m in height, total construction building volume less than 12,000 m ³ , construction material with low potential for dust release, less than 20 outward HDV trips per day, unpaved road length less than 50 m.
Medium	Demolition volume between 12,000 m ³ and 75,000 m ³ at 6 m to 12 m above ground level, total site area between 18,000 m ² and 110,000 m ² , moderately dusty soil type, formation of bunds between 3 m and 6 m, potentially dusty construction material, total building volume between 12,000 m ³ and 75,000 m ³ , 20 to 50 outward HDV trips per day, unpaved road length 50 m to 100 m.
Large	On-site crushing and screening demolition, demolition volume greater than 75,000 m ³ at greater than 12 m above ground level, total site area greater than 110,000 m ² , potentially dusty soil type, more than 10 heavy earth moving vehicles active at any one time, formation of bunds greater than 6 m in height, total building volume greater than 75,000 m ³ , on site concrete

Magnitude	Description
	batching, sandblasting, more than 50 outward HDV trips per day, unpaved road length greater than 100 m.

Significance of Effect - Construction Dust

- 15.4.17. The predicted significance of effect will be determined through a standard method of assessment based on professional judgement, considering both the sensitivity (significance) of a receptor and the magnitude of change.
- 15.4.18. The IAQM construction dust guidance (Ref 15-1) categorises the unmitigated risk of dust impacts on human health, amenity and ecological receptors (rather than ascribing a significance of effect), as a means of identifying the level of dust emissions mitigation required to ensure that residual effects are 'not significant' in EIA terms. A higher dust risk rating requires more stringent mitigation measures to limit residual effects.
- 15.4.19. The risk of dust impacts will be determined without implementation of any mitigation in accordance with the IAQM guidance (Ref 15-1). Following determination of these risks, proportionate secondary mitigation will be recommended accordingly. These controls will be included within the CEMP, or as a separate dust management plan, to secure their effective implementation. A residual assessment will then be undertaken assuming the implementation of both primary, tertiary and recommended secondary mitigation, in accordance with IAQM guidance (Ref 15-1). It is at this stage that it is determined as to whether the construction dust effect is significant or not.

Vehicle Emissions

- 15.4.20. Should screening of the relevant traffic data indicate that any of the EPUK/IAQM (Ref 15-2) and JNCC screening criteria (Ref 15-4) are exceeded, then potential impacts at sensitive receptor locations, within 200 m of the affected road network, would be assessed. This would be done by calculating the change in NO₂, nitrogen oxides (NO_x) and particulate matter concentrations as a result of the Project, using detailed dispersion modelling.
- 15.4.21. Such modelling would be undertaken to assess potential changes relative to the appropriate Air Quality Objective. At this stage, a screening only approach is proposed as it is anticipated that construction traffic associated with the Project will not exceed screening criteria. Therefore, significant effects are not anticipated. If detailed modelling is required, methodologies will be agreed with the relevant statutory consultees.
- 15.4.22. The standards applicable to this assessment are shown in **Table 15-6**.

Table 15-5: Air Quality Objectives and Limit Values Relevant to the Assessment

Pollutant	Concentration	Measured as
Human Receptors		
Nitrogen dioxide (NO ₂)	200 µg/m ³ not to be exceeded more than 18 times a year	1-hour mean
	40 µg/m ³	Annual mean
Particulate material (PM ₁₀)	50 µg/m ³ , not to be exceeded more than 35 times a year	24-hour mean
	40 µg/m ³	Annual mean
Particulate material (PM _{2.5})	Limit Value of 20 µg/m ³	Annual mean
	Limit Value of 10 µg/m ³ , to be met by 2040	Annual mean

Further Baseline Data

Desk Study

15.4.23. The background annual mean concentrations for the grid square containing the location of the Project for the proposed opening year (2031) are provided in **Table 15-6** below.

Table 15-6: Summary of DEFRA Predicted Background Pollutant Concentrations (2031)

Grid Square Reference (approx. Site centre co-Ordinates)	NO ₂ (µg/m ³)	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)
E405199, N506429	1.77	6.08	3.65

Planned Surveys

- 15.4.24. It is expected that no further baseline data needs to be collected to support the assessment. The ES will incorporate the most recent publicly available air quality data.
- 15.4.25. In the event that the number/routing of construction HGV's exceed the screening criteria, requiring detailed air quality modelling, it might be necessary to obtain representative local pollutant concentrations for model verification in the absence of air quality monitoring carried out by the relevant local authority. If necessary, an appropriate monitoring scheme would be agreed with the relevant local authority.

Consultation

- 15.4.26. Engagement will be undertaken with NYC and DCC Environmental Protection teams to agree the air quality assessment methodology outlined in this Scoping Report.

15.5. Design, Mitigation and Enhancement Measures

- 15.5.1. As part of the early Project design process several embedded and standard mitigation measures are proposed to reduce the potential for impacts on air quality receptors, these are presented below. It is expected that these may evolve throughout the design evolution of the Project as the EIA progresses and in response to consultation
- 15.5.2. Measures adopted as part of the project will include, but not be limited to, the following:
- An outline Construction Environmental Management Plan (CEMP):
 - The air quality input to the outline CEMP would include an outline Dust Management Plan (DMP) setting out mitigation measures identified during assessment of construction phase impacts and commensurate with the size and scale of the development and risk of air quality impacts to local receptors.
 - An outline Materials Management Plan (MMP) would set out the approach to the handling, storage, movement and reuse of excavated soils and construction materials, so these activities are undertaken in a controlled, efficient and compliant manner throughout the construction phase. Specific measures to manage dust emissions will be incorporated, including the use of damping down, sheeting of stockpiles, limiting stockpile heights, and avoiding material drop from height.
 - An outline Decommissioning Plan would be prepared for the Project prior to decommissioning in accordance with the latest available guidance and legislation. The air quality input to the Decommissioning Plan would include mitigation measures commensurate with the size and scale of the decommissioning activities.
- 15.5.3. The Applicant is committed to implementing these measures, and also various standard sectoral practices and procedures. It is therefore considered that these measures are inherently part of the design and have been considered in the judgements as to which impacts can be scoped in / out of assessment presented in **Section 5.7** and **Section 11.7**.
- 15.5.4. Additional mitigation measures will be considered through the EIA process as required where significant effects are anticipated to remain after embedded design measures and standard good practice controls have been applied. If residual impacts are predicted to persist, proportionate further actions, such as enhancement, remediation or compensation, will be identified to address those remaining effects.
- 15.5.5. Further detail on the role of mitigation commitments, as part of a proportionate EIA approach, is provided in **Chapter 3: Approach to EIA**. A



full description of the mitigations commitments identified so far is provided in **Appendix 3A: Draft Register of Environmental Actions and Commitments (REAC)**.

- 15.5.6. The requirement for, and feasibility of, any mitigation measures will be subject to consultation with consultees throughout the pre-application phase of the Project.

15.6. Potential Impacts Scoped In

- 15.6.1. A range of potential impacts on air quality receptors have been identified which may occur during construction, operation and maintenance, and decommissioning phases. The impacts that have been scoped into the EIA are outlined in **Table 15-7**, together with a description of any proposed additional data collection (e.g. site-specific surveys) and/or supporting analyses (e.g. modelling) to enable an assessment of the impact.



Table 15-7: Impacts proposed to be scoped into the assessment for Air Quality

Impact	Description	Proposed Approach to Assessment Including Description of Any New Data Collation Required and Any Analyses (Such as Modelling)
Construction		
Effects of dust emissions from construction activities on human health and air quality local to the development site.	The IAQM Construction Guidance requires all sensitive human receptors within 250 m of the site boundary to be included within a construction dust risk assessment due to potential for significant effects on receptors located within this distance.	Qualitative assessment based on professional judgement, considering both the sensitivity of a receptor and the likely magnitude of change in accordance with IAQM Guidance (Ref 15-1).
Effects of dust emissions from construction activities on designated ecological sites local to the development	The IAQM Construction Guidance recommends that designated sites within 50 m of the Project should be included in the construction dust assessment. As there are Ancient Woodlands close to the site boundary this has been scoped into the EIA.	Qualitative assessment based on professional judgement, considering both the sensitivity of a receptor and the likely magnitude of change in accordance with IAQM Guidance (Ref 15-1).
Effects on human health of vehicle trips increasing emissions of nitrogen dioxide (NO ₂) and Particulate matter.	In the absence of detailed data for the Project, we are unable to scope out a detailed assessment of construction traffic impacts. This has been scoped into the EIA.	If the traffic numbers generated by the Project exceed the screening thresholds detailed in the EPUK/IAQM Planning Guidance (Ref 15-2) then a detailed assessment will be required.
Effects on local designated conservation sites due to changes in NO _x , NH ₃ and Nitrogen/Acid Deposition due to emissions from construction plant and vehicles and increased road vehicle movements on the local road network.	In the absence of detailed data for the Project we are unable to scope out a detailed assessment of construction traffic impacts. This has been scoped into the EIA.	The JNCC and IAQM 2020 (Ref 15-25) guidance criteria will be used to determine if a detailed assessment of ecological receptors is required.
Operation and Maintenance		
No activities during this phase are scoped into the assessment as detailed in Table 15-7 .		
Decommissioning		

Impact	Description	Proposed Approach to Assessment Including Description of Any New Data Collation Required and Any Analyses (Such as Modelling)
No activities during this phase are scoped into the assessment as detailed in Table 15-8		
Cumulative		
A cumulative effects assessment for air quality is proposed to be scoped out on the basis that no significant cumulative air quality effects are anticipated, as detailed in Table 15-8 .		

15.7. Impacts Proposed to be Scoped Out

- 15.7.1. Based on the baseline environment information currently available and the Project description (outlined in **Chapter 2: Project Description**) a number of impacts are proposed to be scoped out the EIA for air quality. The impacts are outlined in **Table 11-7**, together with a justification for scoping them out.

Table 15-8: Impacts proposed to be scoped out of assessment for Air Quality

Impact	Justification for Scoping Out
Construction	
Construction phase plant and machinery (Non-Road Mobile Machinery (NRMM)) air quality effects	The IAQM guidance (Ref 15-1) states: “Experience of assessing the exhaust emissions from on-site plant (also known as non-road mobile machinery or NRMM) and site traffic suggests that they are unlikely to make a significant impact on local air quality, and in the vast majority of cases they will not need to be quantitatively assessed”. The amount of NRMM to be used is relatively small (<10 units at any location at the same time) and the site is large, with only a small number of sensitive receptors near to the Project. The site layout will take account of the location of sensitive receptors, and the distance between NRMM and sensitive properties will be maximised, as far as possible. It is judged that there is no risk of significant effects as a result of on-site machinery emissions.
Operation and Maintenance	
Operational phase wind turbine effects	The wind turbines and associated infrastructure will not cause any emissions to air and thus there will be no likely significant air quality effects.

Impact	Justification for Scoping Out
Effects on human health of vehicle trips increasing emissions of NO ₂ and Particulate matter.	As set out in Chapter 2: Project Description and Chapter 11: Access, Traffic & Transport , traffic generated during the operational phase will be limited to a small number of maintenance visits, and therefore no likely significant effects are anticipated.
Effects on local designated conservation sites due to changes in nitrogen oxides (NO _x), ammonia (NH ₃) and Nitrogen/Acid Deposition due to emissions from road vehicle movements on the local road network.	As set out in Chapter 2: Project Description and in Chapter 11: Access, Traffic & Transport , traffic generated during the operational phase will be limited to a small number of maintenance visits, and therefore no likely significant effects are anticipated.
Decommissioning	
Effects of dust emissions from decommissioning activities on human health and on designated ecological sites local to the Development Site	The scale of work involved in decommissioning will be less than undertaken during construction and will be controlled by mitigation measures as set out in a Decommissioning Plan to prevent any significant adverse effects on air quality.
Decommissioning phase delivery vehicles, plant and machinery (NRMM) air quality effects	By the time decommissioning is carried out vehicle, plant and machinery emissions are expected to be much lower than at present due to improvements in vehicle technology and progression towards net zero carbon emissions driving an increase in electrically powered plant, in preference to combustion engines. Therefore, no likely significant effects on air quality are anticipated.
Cumulative	
A cumulative effects assessment is currently proposed to be scoped out of the air quality assessment as no other developments, with reference to Table 3-2 in Chapter 3: Approach to EIA , are expected to give rise to significant cumulative effects on air quality with the Project. Other developments within the wider area are sufficiently distant or already operational, resulting in no meaningful overlap of construction or operation emissions. In addition, existing and foreseeable development will be subject to their own air quality assessments and mitigation measures to control dust and pollutant emissions. On this basis, the potential for significant cumulative effects on air quality is considered unlikely and further assessment is not proposed. However, at this stage the only possibly cumulative impact on air quality would arise should the construction of the A66 Northern Trans-Pennine Project were to coincide with the construction of the Project, in such circumstances consideration of cumulative effects with the Project would be included in the EIA.	

15.8. Summary of Next Steps

15.8.1. The next steps to assess the air quality effects of the Project include:

- Consultation with DCC and NYC environmental health teams as necessary following receipt of the Scoping Opinion;
- Consultation with Transport Assessor to commence vehicle screening assessments.

15.9. Further Consideration for Consultees

15.9.1. The following questions are provided to help frame consultee comments on the Scoping Report for air quality:

- Q15.1: Do you agree that the appropriate guidance and legislation has been identified?
- Q15.2: Do you agree that all relevant receptors have been identified?
- Q15.3: Do you agree that the methodology is appropriate and proportionate?

15.10. References

- Ref 15-1 Institute of Air Quality Management (2024). *Guidance on the Assessment of Dust from Demolition and Construction*. Available at: [Construction-Dust-Guidance-Jan-2024.pdf](#) [Accessed March 2026].
- Ref 15-2 Environmental Protection UK and Institute of Air Quality Management (2017). *Land-Use Planning & Development Control: Planning for Air Quality*. Available at: <https://iaqm.co.uk/text/guidance/air-quality-planning-guidance.pdf> [Accessed March 2026].
- Ref 15-3 Natural England (2018). *Natural England's approach to advising competent authorities on the assessment of road traffic emissions under the Habitats Regulations*, Available at: <https://publications.naturalengland.org.uk/publication/4720542048845824> [Accessed March 2026].
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- Ref 15-11 UK Government (2023). *The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023*. Available at: <https://www.legislation.gov.uk/ukxi/2023/96/contents> [Accessed March 2026].
- Ref 15-12 UK Government (1995). *Environment Act 1995*. Available at: <https://www.legislation.gov.uk/ukpga/1995/25/contents> [Accessed March 2026].
- Ref 15-13 UK Government (2021). *Environment Act 2021*. Available at: <https://www.legislation.gov.uk/ukpga/2021/30/contents> [Accessed March 2026].
- Ref 15-14 UK Government (2017). *The Conservation of Habitats and Species Regulations 2017*. Available at: <https://www.legislation.gov.uk/ukxi/2017/1012/contents> [Accessed March 2026].
- Ref 15-15 UK Government (2018). *The Non-Road Mobile Machinery (Type-Approval and Emission of Gaseous and Particulate Pollutants) Regulations 2018*. Available at: <https://www.legislation.gov.uk/ukxi/2018/764> [Accessed March 2026].
- Ref 15-16 UK Government (2025). *Overarching National Policy Statement for Energy (EN-1)*. Available at: <https://www.gov.uk/government/publications/overarching-national-policy-statement-for-energy-en-1-2025/overarching-national-policy-statement-for-energy-en-1-2025-accessible-webpage> [Accessed March 2026].
- Ref 15-17 UK Government (2025). *National Policy Statement for Renewable Energy Infrastructure (EN-3)*. Available at: <https://www.gov.uk/government/publications/national-policy-statement-for-renewable-energy-infrastructure-en-3-2025> [Accessed March 2026].
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- Ref 15-19 Durham County Council (2020). *County Durham Plan (Adopted 2020)*. Available at: <https://durham.gov.uk/media/34069/County-Durham-Plan-adopted-2020-/pdf/CountyDurhamPlanAdopted2020vDec2020.pdf> [Accessed March 2026].



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16. Carbon and Climate Change

16.1. Introduction

- 16.1.1. This Chapter of the Scoping Report presents the scope of detailed environmental assessment for carbon and climate change, incorporating a Greenhouse Gas (GHG) Assessment and Climate Resilience Assessment for the Project.
- 16.1.2. A GHG Assessment is an assessment of a project's impact on climate change. The GHG Assessment will provide a quantification of the GHG emissions resulting from the construction, operation and maintenance, and decommissioning of the Project, and an assessment of net GHG emissions from renewable electricity generated by the Project from reducing reliance on fossil fuels for electricity generation.
- 16.1.3. A Climate Resilience Assessment is an assessment of the impact of future climate change on the Project. It assesses the ability of the Project to adapt to and be resilient to potential future changes in climate, such as hotter dryer summers, warmer wetter winters and increased storminess.
- 16.1.4. Within this Chapter, the term 'carbon' is used to describe all GHG emissions, i.e. all emissions which might contribute to climate change, the predominant contributor of which is carbon dioxide (CO₂). The term CO₂e is also used, which refers to Carbon Dioxide equivalent, which is the main metric for GHGs.

16.2. Study Area

- 16.2.1. The Study Area for this chapter is defined by the likely location of emissions sources that contribute to the Project's lifecycle footprint. These include all emissions which occur within the Scoping Boundary, presented in **Figure 1.1**, during construction, operation and decommissioning, as well as emissions in the supply chain of materials and components that make up the Project, which will occur both in the UK and overseas. The considered emissions sources are detailed further in **Section 16.5**.

16.3. Baseline Environment

Overview of Available Data Sources

- 16.3.1. This section sets out the data sources to be used to determine and inform the baseline conditions at this (scoping) stage of the Project. It is noted that further information gathering and assessment is proposed to inform the technical assessment for the Environmental Impact Assessment (EIA).



Table 16-1: Key sources of information for Carbon and Climate Change

Source	Summary	Spatial Coverage of Study Area
Carbon Impacts (Impacts on Climate Change)		
UK local authority and regional greenhouse gas emissions statistics 2005 to 2023 (Ref 16-1)	Local authority territorial greenhouse gas emissions estimates 2005-2023 (kt CO ₂ e) dataset by calendar year, sectors, and intensity per capita and land area.	County Durham local authority area 2023 total kilo tonnes of CO ₂ e emissions and emissions intensity per capita and land area.
Impacts from Climate Change		
Met Office location-specific long-term averages climate conditions (Met Office, 2026) (Ref 16-2).	Average monthly and annual climate conditions for temperature, frost, sunshine, rainfall and windspeed for the baseline period 1991-2020.	Baseline climate data from the nearest weather station located in a similar environment to the Project. We propose to use data from the Warcop Range weather station as a proxy for baseline climate conditions at the Project Site.

Overview of Baseline Environment

16.3.2. The Site is located within North Yorkshire and County Durham administrative areas, approximately 9 km south of Barnard Castle and 11 km north-west of Richmond. The Site measures approximately 1,111 hectares (ha). The Site is set in open moorland with a forestry plantation to the north. Elevation on the Site ranges from around 164 m above ordnance datum (AOD) at Newsham to around 350 m AOD along Kexwith Beck, and up to the highest point at 509 m AOD on Arndale Hill

GHG Assessment

- 16.3.3. Given the nature of the Site and its current status as open moorland it is assumed that there are no significant sources of anthropogenic GHG emissions in the baseline environment. There will be carbon emissions and removals as a result of natural habitats and moorland management. The peatland on-site has the potential to be a carbon store where present in significant extents, however based on the preliminary assessment of current peatland condition, it is considered to be an overall net emitter of carbon due to its poor condition and heavily eroded state. There are some areas of localised peatland restoration in better condition which may be sequestering carbon, and this will be determined through further assessment, which will be undertaken following the detailed Peatland Condition Assessment that will form part of **Chapter 10: Geology, Soils and Ground Conditions** of the Environmental Statement (ES).
- 16.3.4. Notwithstanding this, the baseline GHG emissions are likely to be small in the context of the lifecycle emissions for the Project.

Climate Resilience Assessment

- 16.3.5. Baseline climatic conditions are assumed to be in line with local/regional averages. Existing baseline conditions for the Climate Resilience Assessment relate to current, and recent historic, climate and meteorological conditions at the Site. The EIA will include data gathered from the Met Office to describe the existing frequency and severity of climate hazards such as flooding, heatwaves, and drought.

16.4. Proposed Approach to the Environmental Impact Assessment

Proposed Assessment Methodology

- 16.4.1. The carbon and climate change chapter of the Environmental Statement (ES) will include two sections:
- A GHG Assessment addressing the Project's impacts on climate change. The section will include an assessment of the GHG emissions resulting from the Project following the principles set out in Royal Institution of Chartered Surveyors (RICS) Whole Life Carbon Assessment (Ref 16-3) for measuring and reporting the total GHG emissions from a development across its entire lifespan including construction, operation and maintenance, and decommissioning phases of the Project. The GHG assessment will also include an assessment of the net GHG emissions against a "no project" baseline in which the Project does not proceed and instead the electricity system reflects the average UK grid mix. This position reflects the Secretary of State's decision in the Springwell (Ref 16-4) and Gate Burton Energy Park (Ref 16-5) Development Consent Orders (DCOs). The assessment will therefore consider the Project's effects on GHG emissions relative to an appropriate UK grid baseline, rather than assuming displacement of electricity generation from any specific fossil fuel technology; and
 - A Climate Resilience Assessment addressing the impacts of future climate change on the Project. The section will assess the ability of the Project to adapt to and be resilient to potential future changes in climate conditions.

Relevant Policy, Legislation and Relevant Guidance

- 16.4.2. The potential effects of the Project on carbon and climate change would be considered in the relevant topic-specific chapter of the ES, which would cross-reference, as appropriate, relevant legislation, policy and guidance such as:
- Legislation
 - Climate Change Act 2008, and 2050 Target Amendment Order 2019 (Ref 16-6);
 - Carbon Budget Order 2021 (Ref 16-7); and



- Energy Act 2023 (Ref 16-8).
- National Planning Policy
 - National Policy Statements:
 - Overarching National Policy Statement for Energy (EN-1) (Ref 16-9)
 - National Policy Statement for Renewable Energy Infrastructure (EN-3) (Ref 16-10);
 - National Planning Policy Framework (NPPF) (Ref 16-11)
- Local Planning Policy
 - County Durham Plan (Adopted 2020) (Ref 16-12). Relevant policies may include:
 - Policy 29: Sustainable Design; and
 - Policy 33: Renewable and Low Carbon Energy.
 - The emerging Durham County Plan (Ref 16-13);
 - The emerging North Yorkshire Local Draft Plan (Ref 16-14);
 - Richmondshire Local Plan 2012-2028: Core Strategy (Adopted 2014) (Ref 16-15). Relevant policies may include:
 - Core Policy CP2: Responding to Climate Change; and
 - Core Policy CP3: Achieving Sustainable Development.
- Guidance
 - Institute of Environmental Management and Assessment (IEMA) EIA Guide to Climate Change Resilience and Adaptation (Ref 16-16);
 - IEMA Guide to Assessing Greenhouse Gas Emissions and Evaluating their Significance (Ref 16-17); and
 - The Greenhouse Gas Protocol Corporate Accounting and Reporting Standard (GHG Protocol) (Ref 16-18).

Significance Criteria

Sensitivity

- 16.4.3. An evaluation of the sensitivity of the Project from the effects of climate change, and the sensitivity of the global atmosphere as the receiving body of GHG emissions from the Project will be undertaken using the following terminology as per the IEMA Guide to Assessing Greenhouse Gas Emissions and Evaluating their Significance (Ref 16-17):
- High Sensitivity – Absolutely reliant on specific climate/ atmospheric conditions prevailing;
 - Medium Sensitivity – Affected by changes in climate/ atmospheric conditions but not dependent on specific conditions; and



- Low Sensitivity – Hardly influenced by climate/ atmospheric conditions at all.

Magnitude of Impact

16.4.4. The magnitude of the impacts on baseline conditions will be assessed, and the following terminology has been used to define magnitude as per the IEMA Guide to Assessing Greenhouse Gas Emissions and Evaluating their Significance (Ref 16-17):

- High – A fundamental change (positive or negative) to the condition of the Project, leading to total loss or major alteration of character. An impact on regional GHG emissions which causes a large net increase;
- Medium – A material change (positive or negative) leading to partial loss or alteration of character. An impact on regional GHG emissions which causes an appreciable net increase.
- Low – A slight, detectable, alteration of the baseline condition which may be positive or negative. An impact on regional GHG emissions which causes a measurable net increase; and
- Negligible – A barely distinguishable change from baseline conditions. Changes in GHG emissions so low as to not be practically measurable.

Significance of Effect

16.4.5. Based on the sensitivity of receptors and magnitude of impact, the significance of effect will be evaluated. As per the IEMA Guide to Assessing Greenhouse Gas Emissions and Evaluating their Significance (Ref 16-17); the following terminology is used to define significance:

- Major – A significant effect that is likely to be of material consideration. GHG emissions which represent a major proportion of regional totals compared with baseline conditions;
- Moderate – A significant effect that may be a material consideration in combination with other significant effects but is unlikely to be material consideration in its own right. GHG emissions which represent a recognisable change in regional totals compared with baseline conditions;
- Minor – An effect that is not significant but may be of local concern. GHG emissions which though measurable do not materially affect regional totals compared with baseline conditions; and
- Negligible – An effect that would result in no change to the existing environment.

16.5. Design, Mitigation and Enhancement Measures

The scope for mitigating climate change effects arising from and affecting the Project would be defined following completion of the GHG assessment and the climate resilience assessment. These measures would focus on reducing GHG emissions associated with the construction, operation and



maintenance of the Project, and it is expected that these may evolve throughout the design evolution of the Project as the EIA progresses and in response to consultation.

- 16.5.1. At this stage of the Project, it is considered that measures adopted as part of the Project to mitigate climate change effects through the promotion of carbon-efficient practices will be set out in a series of environmental management plans that will be provided in outline form as part of the application for development consent. These include, but are not limited to, the following management plans, which will form part of the application for development consent:

- An outline Construction Environmental Management Plan (CEMP), which would also comprise of a:
 - An outline Materials Management Plan (MMP); and
 - An outline Site Waste Management Plan (SWMP).
- An outline Construction Traffic Management Plan (CTMP);
- A Stage 1 Peat Management Plan (PMP);
- An outline Operational Management Plan (OMP); and
- An outline Decommissioning Plan.

Further detail on the role of mitigation commitments, as part of a proportionate EIA approach, is provided in **Chapter 3: Approach to EIA**. A full description of the mitigations commitments identified so far is provide in **Appendix 3A: Draft Register of Environmental Actions and Commitments (REAC)**.

- 16.5.2. The requirement for, and feasibility of, any mitigation measures will be subject to consultation with consultees throughout the pre-application phase of the Project.

16.6. Potential Impacts Scoped In – GHG Assessment

- 16.6.1. A range of potential GHG impacts have been identified which may occur during construction, operation and maintenance, and decommissioning phases. The impacts that have been scoped into the EIA are outlined in **Table 16-2**, together with a description of any proposed data collection (e.g. Site-specific surveys) and/or supporting analyses (e.g. modelling) to enable an assessment of the impacts.



Table 16-2: Impacts proposed to be scoped into the GHG assessment

Impact	Description	Proposed Approach to Assessment Including Description of Any New Data Collation Required and Any Analyses (Such as Modelling)
Construction		
Construction Materials	Materials used in the construction of the Project.	Quantity and type of materials used in the construction of the Project, and Environmental Product Declaration (EPD) data for relevant wind turbine structures and components.
Fuel	Fuel used in the operation of construction plants, vehicles and equipment.	Quantity and type of fuels used in construction plants, vehicles and equipment during the construction process.
Transport	Transportation of materials and equipment to the Site.	Movement of inbound deliveries of materials and equipment to the Site, including mode and distance travelled from suppliers and weight of transported goods.
Workers	Transportation of construction workers to and from the Site.	Number of construction workers, mode and distance travelled to Site.
Waste	Waste generated from the construction process.	Weight and treatment of waste materials generated from the construction process.
Water	Water supplied to, and water drained from the Site during the construction process.	Volume of water supplied and volume of water drained from the Site during construction operations.
Land Use	Land use change emissions resulting from the Project and construction processes.	Area of land developed and existing land conditions.
Operation and Maintenance		
Fuel	Fuels used in the operation of Site plants, vehicles and equipment.	Quantity and type of fuels used in Site plants, vehicles and equipment during the operational process.
Electricity	Site consumption of electricity.	Quantity of imported electricity consumed by the Project during its operation.
Fugitive Gases	Refrigerant and process gases used in Site equipment released from non-combustion process.	Types of refrigerant and process gases used in equipment,



Impact	Description	Proposed Approach to Assessment Including Description of Any New Data Collation Required and Any Analyses (Such as Modelling)
		quantities used, and the rate of losses.
Waste	Waste generated from operations.	Weight and treatment of waste materials generated from operational activities.
Water	Water supplied to, and water drained from the Site from operational activities.	Volume of water supplied and volume of water drained from the Site from operational activities.
Maintenance	Energy used to operate maintenance equipment.	Quantity of fuel or electricity used to operate equipment used for maintenance activities.
Materials	Materials used to repair and maintain the Project.	Quantity and type of materials used to repair and maintain the Project.
Materials Transport	Transportation of materials and equipment to the Site for maintenance activities.	Movement of inbound deliveries of materials and equipment to the Site, including mode and distance travelled from suppliers and weight of transported goods.
Land Use	Land use change emissions during operations following the installation of the Project.	Area of land developed, existing land conditions, and expected land conditions following the construction phase.
Decommissioning		
Fuel	Fuel used in the operation of plants, vehicles and equipment for the decommissioning process.	Quantity and type of fuels used in plants, vehicles and equipment during the decommissioning process
Transport	Transportation of materials and equipment from the Site.	Movement of outbound materials and equipment from the Site, including mode and distance travelled from Site to destination and weight of transported goods.
Workers	Transportation of decommissioning workers to and from the Site.	Number of decommissioning workers, mode and distance travelled to Site.
Waste	Waste generated from the decommissioning process.	Weight and treatment of waste materials generated during the decommissioning process.
Water	Water supplied to, and water drained from the Site during the decommissioning process.	Volume of water supplied and volume of water drained from the



Impact	Description	Proposed Approach to Assessment Including Description of Any New Data Collation Required and Any Analyses (Such as Modelling)
		Site during decommissioning operations.

16.7. Impacts Proposed to be Scoped Out – GHG Assessment

- 16.7.1. At this stage of the planning process, no GHG impacts are expected to be scoped out, and the factors included in **Table 16-2** include all relevant factors to consider as part of a GHG Assessment.
- 16.7.2. Impact factors found to be negligible as per the IEMA guidance on defining significant effects, data availability, and uncertainty around future variables may result in the scoping out of some impacts once the GHG assessment takes place.

16.8. Potential Impacts Scoped In – Climate Resilience Assessment

- 16.8.1. A range of potential climate resilience impacts which may occur during the lifetime of the Project that are proposed to be scoped into the EIA are outlined in **Table 16-3**, together with a description of any proposed data collection and/or supporting analyses to enable an assessment of the impacts.
- 16.8.2. The scoped in impact factors in **Table 16-3** are indicative and are based on our assumptions of climate resilience factors that will be applicable based on the Project's design and known climate factors at the Site.

Table 16-3: Impacts proposed to be scoped into the Climate Resilience Assessment

Impact	Description	Proposed Approach to Assessment Including Description of Any New Data Collation Required and Any Analyses (Such as Modelling)
Air Temperature	Projected future air temperature conditions at the Site.	Projected annual average air temperature at the Site in 2050 to 2078 against baseline 1991-2020 conditions under an RCP 8.5 scenario for the nearest Met Office weather station, and projected annual average maximum air temperature at the Site in 2050 to 2078 against baseline 1991-2020 conditions under an RCP 8.5 scenario for the nearest Met Office weather station.

Impact	Description	Proposed Approach to Assessment Including Description of Any New Data Collation Required and Any Analyses (Such as Modelling)
Wind Speed	Projected future wind speed conditions at the Site.	Projected annual average wind speed at the Site in 2050 to 2078 against baseline 1991-2020 conditions under an RCP 8.5 scenario for the nearest Met Office weather station.
Precipitation	Projected future precipitation conditions at the Site.	Projected annual average precipitation rate at the Site in 2050 to 2078 against baseline 1991-2020 conditions under an RCP 8.5 scenario for the nearest Met Office weather station.

16.9. Impacts Proposed to be Scoped Out – Climate Resilience Assessment

- 16.9.1. Based on the baseline environment information currently available and the Project description (outlined in **Chapter 2: Project Description**), several impacts are proposed to be scoped out the climate resilience assessment. The impacts are outlined in **Table 16-4**, together with a justification for scoping them out.
- 16.9.2. The scoped out impact factors in **Table 16-4** are indicative and are based on our assumptions of climate resilience factors that are likely to be unapplicable based on the Project's design and known climate factors at the Site.

Table 16-4: Impacts proposed to be scoped out of the Climate Resilience assessment

Impact	Justification for Scoping Out
Cloud Cover/ Sunshine Frequency	Cloud cover or sunshine frequency are not significant factors for the operation of a wind farm.
Minimum Air Temperature/ Frost Frequency	Climate change from rising global temperatures will likely lessen the impacts of cold related climate conditions going forward into the future. The Project will be built with consideration of current cold related climate conditions in mind.
Coastal Flooding and Erosion	The Site is not located near the coast and therefore will not be exposed to coastal related risks.
Flooding (fluvial and pluvial)	We would refer to the Chapter on Hydrology for more detailed consideration of flood risk.

16.10. Summary of Next Steps

- 16.10.1. This scoping assessment has been undertaken based on limited information. Further information and data will be required to identify the potential impacts on carbon and climate change in relation to the Project and Study Area.
- 16.10.2. A further assessment of applicable GHG impacts will need to be undertaken once the full carbon and climate change chapter is being developed. This should include an assessment of available data by the developer for the factors and data collation required outlined in
- 16.10.3. **Table 11-6** that will be used to calculate the impacts of the Project on climate change.
- 16.10.4. A further assessment of applicable climate resilience factors will need to be undertaken once the full carbon and climate change chapter is being developed.

16.11. Further Consideration for Consultees

- 16.11.1. The following questions are provided to help frame the consultees comments on the Scoping Report for carbon and climate change:
- Q16.1 - Do you agree that the appropriate guidance and legislation has been identified?
 - Q16.3 – Do you agree that the methodology is appropriate and proportionate?

16.12. References

- Ref 16-1 Department for Energy Security and Net Zero (DESNZ) (2024). *UK local authority and regional greenhouse gas emissions statistics: 2005 to 2023*. Available at: <https://www.gov.uk/government/statistics/uk-local-authority-and-regional-greenhouse-gas-emissions-statistics-2005-to-2023> [Accessed March 2026].
- Ref 16-2 Met Office (2026). *Location-specific long-term average climate conditions (UK climate averages)*. Available at: <https://www.metoffice.gov.uk/research/climate/maps-and-data/uk-climate-averages> [Accessed March 2026].
- Ref 16-3 Royal Institution of Chartered Surveyors (RICS) (2023). *Whole Life Carbon Assessment for the Built Environment* (1st ed.). Available at: <https://www.rics.org/uk/upholding-professional-standards/sector-standards/building-surveying/whole-life-carbon-assessment-for-the-built-environment/> [Accessed March 2026].
- Ref 16-4 Department for Energy Security and Net Zero (DESNZ) (2026). *Springwell Solar Farm Order 2026: Development Consent Decision*. Available at:



- <https://www.gov.uk/government/news/springwell-solar-farm-development-consent-decision-announced> [Accessed April 2026].
- Ref 16-5 Department for Energy Security and Net Zero (DESNZ) (2024). *Gate Burton Energy Park Order 2024: Development Consent Decision*. SI 2024/807. Available at: <https://www.gov.uk/government/publications/gate-burton-energy-park-development-consent-order-planning-act-2008> [Accessed March 2026].
- Ref 16-6 UK Government (2008). *Climate Change Act 2008*. Available at: <https://www.legislation.gov.uk/ukpga/2008/27/contents> [Accessed March 2026].
- Ref 16-7 UK Government (2021). *Climate Change Act 2008 (Carbon Budget Order) 2021*. SI 2021/750. Available at: <https://www.legislation.gov.uk/uksi/2021/750/contents> [Accessed March 2026].
- Ref 16-8 UK Government (2023). *Energy Act 2023*. Available at: <https://www.legislation.gov.uk/ukpga/2023/52/contents> [Accessed March 2026].
- Ref 16-9 UK Government (2025). *Overarching National Policy Statement for Energy (EN-1)*. Available at: <https://www.gov.uk/government/publications/overarching-national-policy-statement-for-energy-en-1-2025/overarching-national-policy-statement-for-energy-en-1-2025-accessible-webpage> [Accessed March 2026].
- Ref 16-10 UK Government (2025). *National Policy Statement for Renewable Energy Infrastructure (EN-3)*. Available at: <https://www.gov.uk/government/publications/national-policy-statement-for-renewable-energy-infrastructure-en-3-2025> [Accessed March 2026].
- Ref 16-11 UK Government (2024). *National Planning Policy Framework*. Available at: <https://www.gov.uk/government/publications/national-planning-policy-framework--2> [Accessed March 2026].
- Ref 16-12 Durham County Council (2020). *County Durham Plan (Adopted 2020)*. Available at: <https://durham.gov.uk/media/34069/County-Durham-Plan-adopted-2020-/pdf/CountyDurhamPlanAdopted2020vDec2020.pdf> [Accessed March 2026].
- Ref 16-13 Durham County Council. *Emerging County Durham Plan*. Available at: <https://www.durham.gov.uk/cdp> [Accessed March 2026].
- Ref 16-14 North Yorkshire Council (2025). *North Yorkshire Local Plan: Our First Consultation*. Available at: <https://edemocracy.northyorks.gov.uk/documents/s52420/Appendix%201>



[%20North%20Yorkshire%20Council%20First%20Conversation%20consultation.pdf](#) [Accessed March 2026].

Ref 16-15 Richmondshire District Council (2014). *Richmondshire Local Plan 2012 – 2028 Core Strategy*. Available at:

<https://www.richmondshire.gov.uk/media/5219/core-strategy-2012-28.pdf>
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EIA Guide to: Climate Change Resilience and Adaptation. Available at:
<https://www.iema.net/resources/reading-room/2020/06/18/iema-eia-guide-to-climate-change-resilience-and-adaptation> [Accessed March 2026].

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<https://www.iema.net/resources/reading-room/2017/11/28/assessing-greenhouse-gas-emissions-and-evaluating-their-significance> [Accessed March 2026].

Ref 16-18 World Resources Institute (WRI) and World Business Council for Sustainable Development (WBCSD) (2004). *The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)*. Available at: <https://ghgprotocol.org/corporate-standard>
[Accessed March 2026].



17. Socio-Economics

17.1. Introduction

- 17.1.1. This chapter sets out the proposed scope and methodology for the consideration of socio-economic effects arising from the construction, operation and management, and decommissioning of the Project, including cumulative effects. It identifies the socio-economic matters considered at the scoping stage and explains how likely significant effects have been identified for the purposes of the EIA.
- 17.1.2. Socio-economic effects can arise from a development through, for example, construction and operational employment, expenditure in the supply chain, effects on tourism and recreation, changes in population and labour demand, and interactions with other environmental topics such as traffic and transport. These matters have been considered having regard to the nature, scale and duration of the Project and the characteristics of the surrounding area.
- 17.1.3. On this basis, no likely significant socio-economic effects are anticipated for the purposes of the EIA. This is because the principal socio-economic effects of the Project are expected to relate to temporary construction activity and limited operational employment, with any beneficial effects likely to be dispersed across a wider labour market and supply chain rather than of a scale or concentration likely to materially alter local socio-economic conditions. No clear pathway has been identified by which the Project would be likely to give rise to significant adverse effects on local population, employment structure, businesses, tourism activity or community infrastructure.
- 17.1.4. It is therefore proposed that the assessment of socio-economic impacts should be scoped out of the EIA. However, recognising that socio-economic and tourism matters will be of interest to stakeholders and relevant planning authorities, a proportionate standalone socio-economics and tourism report will be prepared and submitted alongside the EIA documentation. This will consider matters such as employment generation, local expenditure, tourism, and any indirect or induced effects arising from the Project.
- 17.1.5. This is in line with the latest Overarching National Policy Statement (NPS) for Energy (EN-1) (Ref 17-1), which states that in addition to an assessment of likely impacts: “The Secretary of State should consider any relevant positive provisions the applicant has made or is proposing to make to mitigate impacts (for example through planning obligations) and any legacy benefits that may arise.” Both these outcomes are better achieved through a standalone report than an EIA chapter.
- 17.1.6. Details of the construction, operation and maintenance, and decommissioning of the Project are set out in **Chapter 2: Project Description**.
- 17.1.7. This chapter is supported by the following Figure (provided in **Volume A**):



- **Figure 17.1:** Socio-economics Study Area

17.2. Study Area

- 17.2.1. The Project spans the administrative boundaries of County Durham and North Yorkshire. For the purposes of the baseline description, a tiered Study Area, presented in **Figure 17.1**, has been defined to reflect the geographical scales at which socioeconomic effects may occur. The **Local Area**, is defined as the combined wards of:
- Upper Dales,
 - Upper Teesdale, and
 - North Richmondshire.
- 17.2.2. This area represents the communities most likely to experience direct interactions with the Project.
- 17.2.3. At a broader scale, the **Regional Area** is defined as the jurisdictions of
- County Durham; and
 - North Yorkshire.
- 17.2.4. This regional context provides an appropriate basis for understanding labour market dynamics, supply-chain capacity, and wider socioeconomic conditions relevant to the Project. For effects that extend beyond the regional economy, particularly those associated with national industry, policy, and employment, the report will also consider the UK as a whole.
- 17.2.5. Economic impacts will be quantified for the Regional Area, and the UK, while key tourism impacts will be considered for specific assets for which significant residual environmental effects are identified by other EIA chapters, such as the Landscape and Visual Impact Assessment (LVIA), will be included to support the assessment of potential effects on tourism-related activity and visitor experience. Tourism assets with the potential to experience significant residual environmental effects are expected to be located within 15 km of the Project.

17.3. Baseline Environment

Overview of Available Data Sources

- 17.3.1. **Table 17-1** outlines the key data sources that will be used to define the socio-economic characteristics (baseline) for the Project.

Table 17-1: Key sources of UK wide information for Socio-Economics

Source	Summary	Spatial Coverage of Study Area
Office for National Statistics (ONS) (Ref 17-2), Population Estimates – Small Area by Single Year of Age	Population by age demographic	Local Area

Source	Summary	Spatial Coverage of Study Area
ONS (Ref 17-3), Population Estimates – Local Authority Based by Single Year of Age	Population by age demographic	Regional Area and UK
ONS (Ref 17-4), Population Projections for Local Authorities (2018-based).	Projections of population by age demographic	Regional Area and UK
Welsh Government (Ref 17-5), 2022-based local authority projections for Wales, 2022 to 2047,	Projections of population by age demographic	Wales
ONS (Ref 17-6), Population projections - local authority based by single year of age	Projections of population by age demographic	Regional Area and England
National Records of Scotland (Ref 17-7), Population Projections for Scottish Areas (2022-based)	Projections of population by age demographic	Scotland
Northern Ireland Statistics and Research Agency (NISRA) (Ref 17-8), 2022-based Population Projections for Northern Ireland	Projections of population by age demographic	Northern Ireland
ONS (Ref 17-9), Business Register and Employment Survey	Breakdown of employment by sector	Local Area, Regional Area and UK
ONS (Ref 17-10), Annual Population Survey	Economic activity rate by area	Regional Area and UK
ONS (Ref 17-11), Annual Survey of Hours and Earnings	Median annual gross income of residents by area	Regional Area and UK
ONS (Ref 17-12), Model-Based Estimates of Unemployment	Unemployment rates by area	Regional Area and UK
ONS (Ref 17-13), Sub-regional Fuel Poverty England 2023	Fuel poverty rates by area of England	Regional Area and England

Overview of Baseline Environment

Population

- 17.3.2. As shown in **Table 17-2** below the estimated population of the Local Area in 2024 was 21,350, equivalent to 1.8% of the Regional Area's population of 1,173,281. The population of the Regional Area accounted for approximately 1.7% of the total population of the UK.
- 17.3.3. The working age population makes up a smaller population of residents in the Local Area (57%) and the Regional Area (60%) compared to the UK as a whole (63%).

Table 17-2: Population, 2024

	Local Area	Regional Area	UK
Total	20,629	1,173,281	69,281,437
0-15	12%	16%	18%
16-64	57%	60%	63%
65+	31%	24%	19%

Source: ONS (Ref 17-2), Population Estimates – Small Area by Single Year of Age and ONS (Ref 17-3), Population Estimates – Local Authority Based by Single Year of Age

Population Projections

- 17.3.4. Population projections are not available for areas smaller than local authorities, as modelling population projections is less reliable when utilising more granular data. As shown in **Table 17-3**, over the period between 2024 and 2043, the population of the Regional Area is projected to increase by 8.4% to 1,272,130. This is lower than the projected increase in UK population of 9.1%.
- 17.3.5. Overall, the working age population in the Regional Area is projected to increase by 4.5% between 2024 and 2043, equivalent to an increase of 31,916 working age people. However, the population of people aged 65+ is expected to increase at a faster rate (30.1%). Consequently, the share of the total population of the Regional Area accounted for by working age people is projected to fall from 60% in 2024 to 58% in 2043, with the share accounted for by this demographic expected to be lower in the Regional Area compared to the UK as a whole (62%).
- 17.3.6. Across the UK, the working age population is expected to increase at a faster rate compared to the Regional Area, by 8.0% during the same period.

Table 17-3: Population Projections, 2024-2043

	Regional Area		UK	
	2024	2043	2024	2043
Total	1,173,281	1,272,130	69,281,437	75,585,236
0-15	16%	13%	18%	15%
16-64	60%	58%	63%	62%
65+	24%	29%	19%	23%

Source: Welsh Government (Ref 17-5), 2022-based local authority projections for Wales, 2022 to 2047, ONS (Ref 17-6), Population projections - local authority based by single year of age, National Records of Scotland (Ref 17-7), Population Projections for Scottish Areas (2022-based), NISRA (Ref 17-8), 2022-based Population Projections for Northern Ireland.

Industrial Structure

- 17.3.7. The sector that contributes the highest share of employment in the Local Area is accommodation and food services, generally associated with the



tourism sector, which accounts for 23% of employment, compared to 10% across the Regional Area and 8% across the UK (**Table 17-4**).

- 17.3.8. The professional, scientific and technical sector is also a significant employer, accounting for 17% of employment in the Local Area. This is above average compared to both the Regional Area (7%) and the UK (9%).
- 17.3.9. Other notable features include a high proportion of employment in construction (8%), compared to the Regional Area (6%) and the UK (5%).

Table 17-4: Industrial Structure, 2024

	Local Area	Regional Area	UK
Accommodation & food services	23%	10%	8%
Professional, scientific & technical	17%	7%	9%
Manufacturing	9%	11%	7%
Construction	8%	6%	5%
Retail	6%	8%	8%
Business administration & support services	6%	7%	8%
Education	5%	9%	8%
Arts, entertainment, recreation & other services	4%	5%	4%
Health	4%	12%	14%
Wholesale	4%	3%	4%
Transport & storage	3%	4%	5%
Property	3%	2%	2%
Information & communication	2%	1%	4%
Public administration & defence	2%	6%	5%
Motor trades	2%	2%	2%
Agriculture, forestry & fishing*	1%	4%	1%
Mining, quarrying & utilities	1%	1%	1%
Financial & insurance	0%	1%	3%
Total	6,800	495,500	32,402,000

Source: ONS (Ref 17-9), Business Register and Employment Survey *Note due to significant levels of seasonal variation in agricultural employment, this category excludes the majority of farm based employment. This data is only available at the National or Regional Level and is therefore excluded from the Business Register and Employment Survey

Economic Activity

- 17.3.10. The ONS reports data on economic activity, unemployment and income at the local authority and national level. Between June 2024 and June 2025, the economic activity rate in the Regional Area was 76.7%, slightly below the UK average of 78.7%. Over the same period, the unemployment rate stood at 2.8%, notably lower than the UK average of 5.0%.
- 17.3.11. In 2025, median annual gross earnings in the Regional Area were £30,306, which was below the UK average of £32,890.

Table 17-5: Economic Activity Rates and Wages, 2024/25

	Regional Area	UK
Economic Activity Rate	76.7%	78.7%
Unemployment Rate	2.8%	5.0%
Median Annual Gross Income (All Residents)	£30,306	£32,890

Source: ONS (Ref 17-10), Annual Population Survey, ONS (Ref 17-12), Model-based estimates of unemployment - Data for Jul 2024-Jun 2025 and ONS (Ref 17-11), Annual survey of hours and earnings - resident analysis data

Fuel Poverty

- 17.3.12. A household is considered to be in fuel poverty if the total fuel cost, necessary to maintain an adequate heating regime, exceeds 10% of the given household adjusted net income.¹⁵
- 17.3.13. In 2023, 13% of households in the Regional Area, equivalent to 68,053 households, were considered to be living in fuel poverty. This was a higher proportion than England as a whole, where 11% of all households are in fuel poverty.

Table 17-6: Fuel Poverty

	Regional Area	England
All Households	527,969	24,568,372
Number of Households in Fuel Poverty	68,053	2,801,647
Proportion of All Households in Fuel Poverty	13%	11%

Source: ONS (Ref 17-13), Sub-regional Fuel Poverty England 2023

Tourism Employment

- 17.3.14. In 2024, there were 2.6 million people employed in tourism-related sectors¹⁶ in Great Britain (8% of total employment), including 51,000 in the

¹⁵ UK Parliament (2025), Fuel Poverty in the UK

¹⁶ Scottish Government (2026), Sector Briefing – Sustainable Tourism



Regional Area (10% of employment) (Ref 17-9). In the Local Area, the proportion was significantly higher, with 19% of all employment accounted for by tourism-related sectors, representing employment of 1,650.

Drivers of Tourism

17.3.15. Tourism plays a significant role in the economy of North Yorkshire, supported by a diverse natural, cultural, and heritage offer that attracts visitors throughout the year. To guide sustainable growth in the sector, North Yorkshire Council has developed the Destination Management Plan for North Yorkshire 2024-2034 (Ref 17-14). The Plan sets out a long-term vision to “recognise, harness and embrace North Yorkshire’s strengths, while identifying sustainable growth opportunities, creating a place for all to be proud of.” Within this framework, the strategy highlights eight key themes that define the region’s appeal to tourists;

- **The Great Outdoors:** diverse landscapes, including two National Parks, three National Landscapes, and a coastline;
- **Culture & the Arts:** a thriving cultural scene for theatre goers, music lovers and arts fans;
- **History and Heritage:** a rich and varied heritage shown in historic market towns, various castles, stately homes, ancient ruins, museums, and a UNESCO World Heritage Site;
- **As Seen on Screen:** various key locations from film, television, stage and books;
- **A Foodie’s Paradise:** a variety of restaurants, fine dining, famous brands, artisan makers, craft breweries and distilleries;
- **Family Fun:** various attractions to suit families, including sea side experiences, museums, farm attractions, wildlife experiences, soft play, theme parks, outdoor adventure parks; and
- **Indulgence, Health & Wellbeing:** a rich spa heritage and luxury accommodation, offering places to enjoy the fresh air and countryside, showcase the shopping and retail offer, and enjoy a premium break in beautiful surroundings.

17.3.16. Similarly, County Durham has also a Durham Destination Management Plan (Ref 17-15). This report highlights that the visitor economy contributed £1.04 billion to the economy of the County, attracted almost 18 million visitors and supported 11,700 jobs. The Destination Management Plan notes that the visitor economy can contribute to the three priorities of the County which are identified in the County Durham Vision 2035, namely;

- More and better jobs;
- People live long and independent lives; and
- Connected communities;

17.3.17. An understanding of the key drivers of tourism in North Yorkshire and County Durham is important for the wider economic appraisal, as tourism

represents a significant contributor to the regional economy and supports a broad range of employment, supply chain activity and visitor spending patterns. By identifying the strengths and characteristics that underpin the region's visitor offer, the appraisal can more accurately assess the potential economic interactions between the Project and the tourism sector, including opportunities to support local growth, reinforce strategic objectives set out in the Destination Management Plan, or mitigate risks to visitor experience and associated economic value.

17.4. Proposed Approach to the consideration of Socio-economic Effects

Proposed Methodology for the Standalone Socio-economics and Tourism Report

- 17.4.1. A standalone socio-economics and tourism report will be prepared to consider the likely socio-economic and tourism effects of the Project. The report will have regard to relevant policy and guidance, including the matters identified in the Overarching NPS (EN-1) (Ref 17-1), where relevant to the Project. It will also describe any measures and commitments intended to help maximise the socio-economic benefits of the Project to the Local Area and the wider UK economy.
- 17.4.2. It is anticipated that the contents of the socio-economic report will include:
 - Executive Summary;
 - Introduction to the socio-economic impacts of the project;
 - Strategic and socio-economic context;
 - Economic analysis;
 - Maximising socio-economic benefits;
 - Tourism assessment; and
 - Methodological Appendix.
- 17.4.3. The report will estimate the level of economic activity and employment likely to be supported during the construction phase and the operation and maintenance phase of the Project. The analysis will be undertaken using an established industry approach and will provide a proportionate estimate of the likely direct, indirect and induced economic effects associated with the Project.
- 17.4.4. The economic impact analysis will be undertaken using the methodology developed by BiGGAR Economics (Ref 17-16) Supply Chain Capability Assessment, which has been applied to a substantial number of onshore wind farm developments across the UK and draws on case study evidence from comparable projects. The analysis will consider the likely economic effects arising from relevant elements of the Project.
- 17.4.5. Government and industry reports will be used to inform assumptions regarding the likely capital and operational expenditure associated with the

Project, including the anticipated distribution of expenditure across different contract types (for example turbines and balance of plant). Reasoned assumptions will then be applied to estimate the proportion of expenditure likely to be secured within the Local Area, Regional Area and the UK. This will be used to estimate the likely economic effects of the Project within each Study Area.

Relevant Policy, Legislation and Relevant Guidance

17.4.6. The potential effects of the Project on socio-economics and tourism would be considered in the relevant stand-alone impact report, which would cross-reference, as appropriate, relevant policy including, but not limited to:

- National Policy
 - National Planning Policy Statements (NPS):
 - Overarching National Policy Statement for Energy (EN-1) (Ref 17-1)
 - National Policy Statement for Renewable Energy Infrastructure (EN-3) (Ref 17-17)
 - National Planning Policy Framework (NPPF) ()
- Local Policy
 - County Durham Plan (Adopted 2020) (Ref 17-19). Relevant policies may include:
 - Policy 33: Renewable and Low Carbon Energy
 - Policy 34: Wind Turbine Development.
 - Emerging County Durham Plan (Ref 17-20)
 - Emerging North Yorkshire Council Local Plan (Ref 17-21)
 - Richmondshire Local Plan 2012-2028: Core Strategy (Adopted 2014) (Ref 17-22). Relevant policies may include:
 - Core Policy CP7: Promoting a Sustainable Economy; and
 - Core Policy CP8: Achieving Rural Sustainability.

17.4.7. There is no legislation or guidance specific to socio-economics and tourism assessment of proposed onshore wind developments in England.

Further Baseline Data

Desk Study

17.4.8. In addition to the sources listed in **Table 17-1**, the standalone socio-economic report will also consider the following sources to inform the strategic and socio-economic context:

- Department for Energy Security and Net Zero (DESNZ) (Ref 17-23) Renewable Energy Planning Database;



- RenewableUK (Ref 17-24) EnergyPulse Database;
- Department for Environment, Food and Rural Affairs (DEFRA) (Ref 17-25) People and Nature Survey Greenspace Visits (Local Authority 2023); and
- ONS (Ref 17-26) UK Measures of National Well-being (UKMNW) Dashboard.

Consultation

- 17.4.9. The assessment will use desk-based information sources to assess the likely effects, supplemented by consultation with stakeholders if relevant.

17.5. Design, Mitigation and Enhancement Measures

- 17.5.1. As part of the iterative design process for the Project, a number of potential measures are being considered with the aim of reducing the potential for adverse socio-economic effects and maximising the socio-economic and wider community benefits of the Project. At this stage, these measures remain subject to ongoing design development, technical and environmental review, landowner discussions and consultation feedback, and should therefore be regarded as indicative rather than committed measures.
- 17.5.2. The Applicant is seeking to identify opportunities to maximise the beneficial effects of the Project for the Local Area and the wider region. Measures currently being considered include the potential establishment of a community benefit fund. This is being explored on the basis of an annual contribution based on installed capacity rather than electricity generation output, such that its value would remain fixed irrespective of annual energy production. The Applicant will work with local communities to determine how the fund will be administered and to understand how it might be best used support local initiatives and address local concerns, with flexibility to adapt to evolving priorities.
- 17.5.3. In addition, the Applicant is exploring opportunities for the Project to deliver wider environmental, cultural and community enhancements through the design process. This may include measures to enhance local biodiversity through planting, habitat creation and habitat enhancement; opportunities to reduce surface water runoff through the incorporation of natural flood management measures; improvements to public rights of way and access arrangements; and promotion of cultural heritage that celebrates the current and historic legacy of the Site. The Applicant is also committed to exploring opportunities to strengthen existing land practices, such as supporting access to skills training for local farmers and residents, or funding dry stone dyke repair. Together, such measures may increase opportunities for recreation and public access and have the potential to contribute to the longer-term environmental quality and amenity value of the area, in addition to any direct socio-economic benefits arising from the Project.



- 17.5.4. The socio-economics and tourism report will identify, where relevant, those mitigation and enhancement measures that are reasonably likely to be taken forward, having regard to the evolving design of the Project, the characteristics of the Local Area and Regional Area, environmental and technical constraints, land requirements, viability considerations and consultation responses. As part of the design process for the Project, several embedded standard mitigation measures are proposed to reduce the potential for impacts on socio-economics and tourism. It is expected that these may evolve throughout the design evolution of the Project as the EIA progresses and in response to consultation.
- 17.5.5. The Applicant is committed to maximising the socio-economic benefits of the Project through measures which enhance the beneficial impacts associated with onshore wind development. The socio-economic report will identify which activities will enhance the beneficial effects based on the context of the Local Area and the Regional Area.

17.6. Further Consideration for Consultees

- 17.6.1. The following questions are provided to help frame the consultees comments on the Scoping Report for socio-economics:
- Q17.1: Do the consultees agree with the approach of scoping socio-economics out of the EIA and into a standalone report to better address the socio-economics requirements of NPS (EN-1) (Ref 17-1)?
 - Q17.2: Do the consultees agree that the scope of the proposed socio-economic report is appropriate?
 - Q17.3: Are there specific socio-economic effects that should be considered in the standalone report?

17.7. References

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18. Other Environmental Topics

18.1. Introduction

- 18.1.1. This chapter of the Scoping Report presents the environmental topics that are proposed to be scoped out of further assessment within the EIA. The rationale for scoping out these matters is based on a review of available baseline information and the findings of desk-based studies undertaken to date, including publicly available datasets, relevant policy and guidance, and professional judgement.
- 18.1.2. These environmental topics are:
- Material Assets and Waste;
 - Human Health; and
 - Major Accidents and Disasters.
- 18.1.3. This chapter is supported by the following Figures (provided in **Volume A**):
- **Figure 18.1:** Material Assets and Waste Study Area;
 - **Figure 18.2:** Inert Landfill Site Locations;
 - **Figure 18.3:** Non-inert Landfill Site Locations;
 - **Figure 18.4:** Material Recycling Facility (MRF) Infrastructure (Receiving over 10 kt of Construction and Demolition Wastes);
 - **Figure 18.5:** Energy from Waste (EfW) Facility Infrastructure; and
 - **Figure 18.6:** Anaerobic Digestion (AD) Facility Infrastructure.
 - **Figure 18.7:** Human Health Study Area;
 - **Figure 18.8:** Indices of Multiple Deprivation – Overall Deprivation;
 - **Figure 18.9:** Indices of Multiple Deprivation – Health Deprivation;

18.2. Material Assets and Waste

Baseline

Study Area

- 18.2.1. The material assets and waste scoping assessment presented in this section has been undertaken with consideration of the Study Area described below.
- 18.2.2. The Study Area is defined as encompassing the English Government regions of Yorkshire and the Humber and the North East. This has been defined based on the assumption that any waste requiring off site management would predominantly be managed within such a catchment area.
- 18.2.3. The Study Area for material assets and waste is visually shown in **Figure 18.1**.



- 18.2.4. With regards to the production of waste from the Project, the Study Area includes the appropriately licensed waste management infrastructure within the Yorkshire and the Humber and the North East regions. Such infrastructure could accept waste generated from the construction, operation and maintenance, and decommissioning of the Project.
- 18.2.5. This section of the Scoping Report should be read alongside **Chapter 16: Carbon and Climate Change**, which in addition to an assessment on effects from greenhouse gases and climate reliance, also includes consideration of the likely significant effects of the Project on material use, particularly in the construction phase of the Project. Therefore, material use is not considered further in this section of the report.

Overview of Data Sources

- 18.2.6. Key sources of information for material assets and waste are presented in **Table 18-1**.

Table 18-1: Key Sources of Information for Material Assets and Waste

Source	Summary	Spatial Coverage of Study Area
Environment Agency and data.gov.uk website (Environment Agency, 2025)	Waste Data Interrogator for permitted waste management sites in England and Waste Summary Tables for England (calendar year 2024).	These are national datasets providing full coverage of the Study Area.

- 18.2.7. As detailed above, for the purpose of this Scoping Report, waste is defined in Article 3(1) of the European Waste Framework Directive (Ref 18-1) as, ‘any substance or object which the holder discards or intends to discard or is required to discard’.
- 18.2.8. The Scoping Boundary of the Project, which encompasses an area of open moorland, is not believed to contain any waste generating activities at present. As such, this section of the report provides a summary of the current baseline regional waste management infrastructure for the Study Area.
- 18.2.9. The sensitive receptor for waste is landfill capacity. Baseline waste levels in the Study Area for this receptor are set out in the Waste Summary Tables published by the Environment Agency (EA) for England (Ref 18-2), and summarised in **Table 18-2** and **Table 18-3**. The waste streams which are relevant to the Project are as follows:
- Construction, Demolition and Excavation (CD&E) waste;
 - Industrial and Commercial (I&C) wastes; and
 - Hazardous waste.

Table 18-2: Landfill Inputs 2024, kt (Ref 18-2)

Landfill Type	Region	
	North East	Yorkshire and Humber
Hazardous Merchant	278	123
Hazardous restricted	-	-
Non hazardous with SNR HW cell	1,228	156
Non hazardous	844	1,618
Non hazardous restricted	-	252
Inert	996	740
Total	3,345	2,889

Table 18-3: Landfill Capacity 2024, k×m3 (Ref 18-2)

Landfill Type	Region	
	North East	Yorkshire and Humber
Hazardous Merchant	3,729	450
Hazardous restricted	-	-
Non hazardous with SNR HW cell	1,420	1,243
Non hazardous	6,799	37,631
Non hazardous restricted	-	-
Inert	6,373	14,387
Total	18,320	53,712

18.2.10. The EA Waste Data Interrogator dataset (Ref 18-2) is used to summarise the current management of waste within the Study Area for this environmental topic.

18.2.11. It is assumed that the waste generated by the different phases of the Project will follow the waste hierarchy (Ref 18-3), which ranks waste management options according to what is best for the environment, which is recreated here in **Table 18-4**.

Table 18-4: The Waste Hierarchy (Ref 18-3)

Stage	Definition
Prevention	Using less material in design and manufacture. Keeping products for longer; re use. Using less hazardous materials.
Preparing for re-use	Checking, cleaning, repairing, refurbishing, whole items or spare parts.
Recycling	Turning waste into a new substance or product. Includes composting if it meets quality protocols.
Other recovery	Includes anaerobic digestion, incineration with energy recovery, gasification and pyrolysis which produce energy (fuels, heat and power) and materials from waste; some backfilling.
Disposal	Landfill and incineration without energy recovery.

- 18.2.12. It is also assumed that if waste generated by the Project is recycled, recovered through other means or disposed of, it will be done so within existing waste management infrastructure within the Study Area. The Project is not anticipated to require a standalone project-specific waste management facility (or facilities) to be constructed.
- 18.2.13. The sensitive receptor for waste will focus on landfill capacity, which is in accordance with the Institute for Environmental Management and Assessment guidance (IEMA) (Ref 18-4).
- 18.2.14. There are 51 No. landfill sites in the Study Area, split as follows by material accepted:
- 21 No. inert landfills (see **Figure 18.2**); and
 - 30 No. non-inert landfills (26 non-hazardous sites and four hazardous sites, see **Figure 18.3**).
- 18.2.15. In 2024, the most recent year for which there is published data, circa 72 million cubic metres (Mm³) of landfill void was remaining in the Study Area. This was comprised of 47.1 Mm³ void in non-hazardous sites, 20.8 Mm³ void in inert sites, and 4.2 Mm³ void in hazardous sites.
- 18.2.16. Although the IEMA guidance states that landfill infrastructure is the sensitive receptor, in reality, and in compliance with the waste hierarchy and circular economy principles, it will be necessary to divert waste arising from the Project to other (non-landfill) facility types. Alternative (non-landfill based) waste management options in the Study Area include:

- 297 No. materials recycling facilities (see **Figure 18.4** shows the 90 No. material recycling facilities receiving over 10kt of Construction and Demolition Wastes in the calendar year 2024)¹⁷;
- 11 No. energy from waste facilities (see **Figure 18.5**). This facility type is considered in this section to take account of the waste management needs of the construction workforce, welfare facility waste generation and the management of equipment supply packaging that cannot be readily recycled; and
- 11 No. anaerobic digestion facilities (see **Figure 18.6**). This facility type is considered in this section to take account of management of food wastes (for example food residues, tea bags) arising from construction workforce welfare facilities. Note that the map only shows those AD sites which received food wastes in 2024. There are other AD sites in the Study Area, but those sites process different feedstocks such as energy crops and agricultural wastes.
- In addition to the above, waste can often be routed through a waste transfer station, prior to reaching the final point of processing. The waste transfer station infrastructure in the Study Area has not been shown, instead the focus has been on those facilities that will process the waste.

18.2.17. As mentioned previously, material use is not considered in this section of the report, for the main reason that it will be assessed in **Chapter 16: Carbon and Climate Change**. The Project has not reached design freeze and as such, quantities of construction materials required for the construction works are not yet known. It is however anticipated that turbine components will be sourced from outside the Study Area and a substantial proportion of material for track construction would be sourced from on-site borrow pits (subject to rock suitability), so demand for material from local markets within the Study Area is currently expected to be limited.

Design, Mitigation and Enhancement Measures

18.2.18. As part of the design process for the Project, several embedded and standard mitigation measures are proposed to reduce the potential for impacts on material assets and waste. These are presented below. It is expected that these may evolve throughout the design evolution of the Project as the EIA progresses and in response to consultation. The Applicant is committed to implementing these measures, and also various standard sectoral practices and procedures. It is therefore considered that these measures are inherently part of the design of the Project.

18.2.19. Further detail on the role of mitigation commitments, as part of a proportionate EIA approach, is provided in **Chapter 3: Approach to EIA**. A full description of the mitigation commitments identified so far is provided in

¹⁷ The 90 facilities shown on the map in **Figure 18.4** received 91% of the total C&D waste received across all 297 materials recycling facilities in the Study Area in 2024.



Appendix 3A: Draft Register of Environmental Actions and Commitments (REAC).

18.2.20. Mitigation measures adopted as part of the Project will include:

- An outline Construction Environment Management Plan (CEMP), which will form part of the application for development consent and which will include:
 - An outline Materials Management Plan (MMP) would be included in the outline CEMP to set out the approach to the handling, storage, movement and reuse of excavated soils and construction materials, so these activities are undertaken in a controlled, efficient and compliant manner throughout the construction phase. The MMP will set out procedures for the segregation of materials to maximise reuse potential, minimise contamination, and avoid generating unnecessary waste. It will also include measures to reduce double-handling and optimise material movements to limit waste arisings and preserve material quality. The outline MMP will set out the principles to be followed when the MMP is finalised.
 - An outline Soil Management Plan (SMP) would be included in the outline CEMP, which will set out how soils will be protected, handled, stored and reinstated during the construction phase of the Project. The outline SMP will set out the principles to be followed when the SMP is finalised.
 - An outline Site Waste Management Plan (SWMP) will be included in the outline CEMP outlining arrangements for the management of waste arising during construction in accordance with relevant legal and good practice requirements. The outline SWMP will set out measures for segregating waste at source, maximising reuse and recycling, and minimising material sent to disposal. It will establish appropriate storage, handling and monitoring procedures to prevent pollution and track waste movements. The outline SWMP will set out the principles to be followed when the outline SWMP is finalised.
- An outline Peat Management Plan (PMP) will be prepared to outline the overall approach to minimising disruption to peatland present on Site. It will aim to identify and take forward all further opportunities to minimise peat disturbance and extraction during detailed design and construction of the Project. An outline PMP (a Stage 1 PMP), will be developed, as part of the application for development consent, to establish the peat management strategy for the Project and inform the EIA by identifying peat risks, sensitivities, and likely effects associated with the Project. A Stage 2, construction-phase, PMP would be developed prior to the construction phase of the Project.
- Development of, and adherence to, an outline Operational Waste Management Plan (OWMP) will be prepared to outline how waste generated during operation will be managed efficiently and in

compliance with relevant legislation. The outline OWMP will set out procedures for segregating waste, maximising reuse and recycling and ensuring sustainable storage and collection arrangements. This will support sustainable waste practices and minimise the environmental impact of the operational phase. At this stage, it is anticipated that the OWMP will form part of an Operational Phase Environmental Management Plan (OPEMP). An outline OPEMP will be provided with the application for development consent, which will set out the principles to be followed when the final OPEMP is finalised.

- Development of, and adherence to, an outline Decommissioning Plan would be prepared for the Project prior to decommissioning in accordance with the latest available guidance and legislation. An outline Decommissioning Plan will be prepared as part of the application for development consent and will set out the principles to be followed when the final Decommissioning Plan is finalised. The material asset and waste management input would describe how dismantling of the infrastructure, and restoration of the Site would be undertaken in a safe, efficient, and environmentally responsible manner. It will identify materials likely to arise, prioritise reuse and recycling, and set out procedures for segregating, storing and removing waste responsibly.

18.2.21. The requirement for, and feasibility of, any mitigation measures will be subject to consultation with consultees throughout the pre-application phase of the Project.

Rationale for Scoping Out Material Assets and Waste from the EIA

18.2.22. The intention is that the majority of the material assets and waste arising from the Project would be managed on-Site. Where off-Site management is required, recycling and recovery routes would be preferred, with landfill disposal as the final option.

18.2.23. At the time of writing, the quantities of materials required for the construction and operation (e.g. steel and concrete) of the Project has not been quantified. At this stage of the EIA process, it is assumed that materials for the proposed infrastructure are likely to be sourced from a global market where their impact would be negligible compared to annual production rates. As the design and technical elements of the proposed infrastructure evolves, the material requirements would be refined, and the quantities and material types would be detailed in the MMP.

18.2.24. With regards to the impact of those materials which are required in the highest quantities or are high in embodied carbon, this aspect of the assessment will be addressed as set out in **Chapter 16: Carbon and Climate Change**, only and is not included within the scope of the material assets and waste assessment.

18.2.25. With regards to the materials required for the infrastructure works such as aggregates, quantities required have not been fully defined but it is thought that these will be sourced from borrow pits (within the red line boundary of the Project) and local markets. Depending upon the quantities of materials



- required, there is the possibility that these may put pressure on existing local supply chains in the region. To manage the materials on-Site during the construction phase, a detailed MMP will be prepared (which will be substantially in accordance with the outline MMP) as part of the CEMP, to optimise this process and minimise Project impacts in relation to material use (and ultimately waste management infrastructure demand). The outline MMP will focus on the efficient resource management for the Project resulting in a reduction in waste as far as is practicable.
- 18.2.26. Prior to commencement of onsite works, a Stage 2 outline PMP will be prepared to minimise environmental impact by limiting peat excavation, reducing carbon loss, and ensuring safe reuse. An outline SMP will also be prepared, as part of the outline CEMP, to help monitor, protect, and improve soil health while reducing risks like erosion, surface runoff, compaction and pollution.
- 18.2.27. Waste will be produced during the construction, operation and decommissioning of the Project. Through careful site management (e.g. implementation of a MMP during the construction phase) waste generated on site should be minimised as far as practicable. During the construction phase, adherence to a SWMP will enable waste to be effectively managed on-Site and monitored and reported.
- 18.2.28. Operational waste will be generated from routine maintenance activities during the lifetime of the Project. The Project will not be actively staffed (i.e. there will not be any on-Site staff compound and welfare facilities once the Project is operational). Therefore, any operational waste arising from maintenance activities will be taken off-Site by the maintenance operatives for onward treatment or disposal in accordance with the Standard Operating Procedures (SOP) that are to be developed and implemented. Where the SOP does not address waste management, an outline OWMP will be prepared. The outline OWMP document would list the operational wastes that are likely to be generated during the lifetime of the Project and set out how they would be managed.
- 18.2.29. The detailed quantities and types of waste produced during the decommissioning of the Project is not fully understood. There is also uncertainty over future recycling technologies which may be available when the Project is decommissioned (the Project has an anticipated lifetime of 30 years). Therefore, at this stage of the process, there is the potential for impacts from waste produced during the decommissioning phase of the Project, but this can be mitigated through the development of a Decommissioning Plan at the appropriate time prior to the end of the Project's anticipated operational life, or planned repowering). The aim of the Decommissioning Plan would be to set out the requirements and methods for decommissioning, prior to those activities taking place at the end of the operational life of the Project. The Decommissioning Plan would provide a description of the components to be decommissioned and their proposed decommissioning measures alongside anticipated recycling and recovery targets.



Table 18-5: Potential Impacts on Material Assets and Waste and Rationale for Scoping Out

Impact	Rationale for Scoping Out
Construction	
Construction waste (including demolition and excavation wastes)	Wastes generated on site during the construction phase of the Project are anticipated to be largely excavation wastes, although other general construction wastes would also be generated. There is not anticipated to be any demolition waste production from the Project; it is understood that no structures on site requiring removal. Initial calculations estimate construction waste generation (including excavation wastes) could be in the order of 287,900 m³. Due to limited design details being available at the Scoping Report stage the calculation is subject to a number of caveats¹⁸ and is based on the higher value of ranges from publicly available information; this is therefore a conservative (worst case) calculation. The initial construction waste estimate is compared against landfill capacity in the Study Area of 72 million cubic metres (of which 20.8 million cubic metres is capacity in inert landfills). Although the IEMA guide requires that waste is assessed against landfill void as the sensitive receptor, in reality, recycling and recovery would be the preferred approach to landfill disposal; this approach accords with the principles of the Waste Hierarchy and circular economy principles. However, in the unlikely situation that all construction waste is disposed to landfill (as opposed to the Project intention of reuse on site, reuse offsite, recycling and recovery with landfill disposal as the last resort) this equates to a requirement of 0.4% of the currently reported available landfill void. Commitment to develop an MMP, Stage 2 PMP, SMP and SWMP as part of the CEMP for the Project prior to the commencement of construction works which would support the management of construction waste. Furthermore where waste is managed off-site, it would be managed at a licenced waste management facility which has itself received / maintained the appropriate environmental and planning consents through which the environmental impact of processing wastes has been assessed.

¹⁸ (1) All numbers are based on high level cut only. No topographical data has been included. (2) No modelling had been completed or included here. (3) Cut based on ground level to formation only. (4) This is scoping design, not freeze, so will change. (5) Tracks to 0.5m depth, weight bearing hardstands to 1m depth (turbine hardstand and compounds). (6) Turbine foundations to 4m max. (7) No number reduction for cut fill balance. Only 100% import and export of cut material. (8) Borrow pits not included.

Impact	Rationale for Scoping Out
Operation and Maintenance	
Operational wastes (including those generated during routine maintenance)	Wastes quantities produced during routine maintenance activities are anticipated to be low. Waste materials from maintenance could include items such as used personal protective equipment, packaging materials, replaced sensors and electrical components, cleaning materials, paints and oils. The maintenance team would have a base offsite, and it is anticipated that any operational wastes generated within the red line boundary would be returned to base and managed from there using licenced waste management contractors and waste management facilities. Information provided in the SOPs. If waste management is not accounted for in a SOP, commitment to develop an OWMP for the Project prior to the commencement of commercial operations.
Decommissioning	
Demolition wastes generated when the Project is decommissioned	Commitment to develop a Decommissioning Plan to set out the requirements and methods for decommissioning, prior to those activities taking place at the end of the operational life of the Project. The Decommissioning Plan would be prepared in the future as decommissioning would take place beyond 2050 when it is anticipated that technological advancements would support greater recycling and recovery of turbines and their constituent materials.
Cumulative	
Cumulative generation of waste volumes or material demand	Even under conservative assumptions, the Project would not generate waste volumes or material demands of a scale that could meaningfully interact with other development, including the A66 TransPennine Project, to create a significant cumulative effect. Construction waste estimates represent a very small proportion of regional landfill capacity, and the Project would prioritise onsite reuse, recycling and recovering, in accordance with the waste hierarchy. As a result, the amount of waste requiring treatment at off-site facilities would be minimal. With the embedded commitments to prepare an MMP, PMP, SMP and SWMP to minimise waste generation and maximise beneficial reuse, there is no realistic pathway by which the Project could combine with other developments to give rise to significant cumulative effects. Therefore, cumulative material assets and waste impacts are proposed to be scoped out of the EIA.

18.2.30. Based on the indicative construction waste volumes and the substantial capacity of existing regional waste infrastructure as set out in **Table 18-5**, and the embedded commitments set out in **Section 18.4**, no likely significant effects on material assets and waste are anticipated during the

construction, operation, maintenance, and decommissioning of the Project. As waste would be managed in accordance with the waste hierarchy, it is assumed that disposal to landfill would be minimal, and it is on this basis that (with a commitment to develop the outline management plans set out at **Paragraph 18.2.20** above) it is proposed that the material assets and waste topic is scoped out of the EIA and further assessment is not proposed.

18.3. Human Health

Baseline

Study Area

- 18.3.1. Health effects can occur and be experienced in different ways at different spatial levels, and the significance can vary between areas. A Zone of Influence (Zoi) has been established to assist with compiling appropriate baseline data to determine whether likely significant effects (LSE) on human health may arise as a result of biophysical or social changes, such as impacts on air quality or access to labour markets.
- 18.3.2. The Zoi has been determined by the extent and characteristics of the Project, and the communities directly and indirectly affected by the Project. The smallest jurisdiction boundaries for the Project are Lower Super Output Areas (LSOA)¹⁹ which lie within or adjacent to the Scoping Boundary.
- 18.3.3. The LSOAs within or adjacent to the Scoping Boundary have formed the basis of the Zoi for health because they are the communities that are most likely to experience direct and/ or greater health impacts.
- 18.3.4. The three LSOAs used are:
 - County Durham 067G;
 - Richmondshire 001F; and
 - Richmondshire 005D.
- 18.3.5. For wider localised effects the local authorities of North Yorkshire and County Durham were considered as the 'Local Study Area'.
- 18.3.6. For regional effects North Yorkshire and the Humber and the North East of England were considered as the 'Regional Study Area'.
- 18.3.7. The Study Area for human health is shown in **Figure 18.7**.

Baseline Data Sources

- 18.3.8. Baseline information has been collected at the lowest jurisdiction available. Key sources of information for human health are presented in **Table 18-6**.

¹⁹ Lower Super Output Areas (LSOAs) are small, consistent geographic units used for collecting and publishing statistics in England and Wales, designed by the Office for National Statistics (ONS) to improve the reporting of small area data. They typically contain 400–1,200 households and 1,000–3,000 residents.



Table 18-6: Key sources of information for Human Health

Source	Summary	Spatial Coverage of Study Area
Office for National Statistics (ONS) Census Data, 2021 (Ref 18-5, Ref 18-6)	Census data provides a detailed snapshot of the population and its characteristics within the Study Areas.	Local study area and Zol
ONS Annual Population Survey 2025 (Ref 18-7, Ref 18-8)	Annual population data provides a detailed snapshot of the population and its characteristics within the Study Areas.	Regional and Local Study Areas
Fingertips Public Health Profile (Department of Health and Social Care 2025) (Ref 18-9, Ref 18-10, Ref 18-11, Ref 18-12)	Provides public health data and health trends at the local, regional and national levels.	Regional and Local Study Areas
English Indices of Deprivation (Ministry of Housing, Communities and Local Government 2025) (Ref 18-13)	Provides details on areas of deprivation across the Study Area.	Local Study Area and Zol

Population

- 18.3.9. In 2024, the population in North Yorkshire was 635,270 and the population in County Durham was 538,011, giving a total population across the Local Study Area of 1,173,281 people (Ref 18-7).
- 18.3.10. Looking more closely at the LSOAs that make up the Zols, the total population in 2024 was 3,795, with County Durham 067G having the highest total population at 1,386, whilst Richmondshire 005d has the lowest at 1,072 (Ref 18-7).

Table 18-7: Zol Total Population

LSOA	Total Population	% of Zol
County Durham 067G	1,386	36.5%
Richmondshire 001F	1,337	35.2%
Richmondshire 005d	1,072	28.3%
Total	3,795	100%

- 18.3.11. In terms of population density, North Yorkshire is less densely populated than its regional average (Yorkshire and the Humber) as well as the national average. Similarly, County Durham is less densely populated than its regional average (North East) as well as the national average but is



significantly more densely populated than North Yorkshire. See **Table 18-8** below for more details (Ref 18-6).

Table 18-8: Population Density

Council	Number of usual residents per km ²	Regional average	National average
North Yorkshire	79	830	580
County Durham	242	1,235	580

18.3.12. In North Yorkshire, the median age is 48 years, while in County Durham it is 43 years. Both of these figures are higher than the average for England which is 42 years, as well as the regional average which is also 42 years (Ref 18-5).

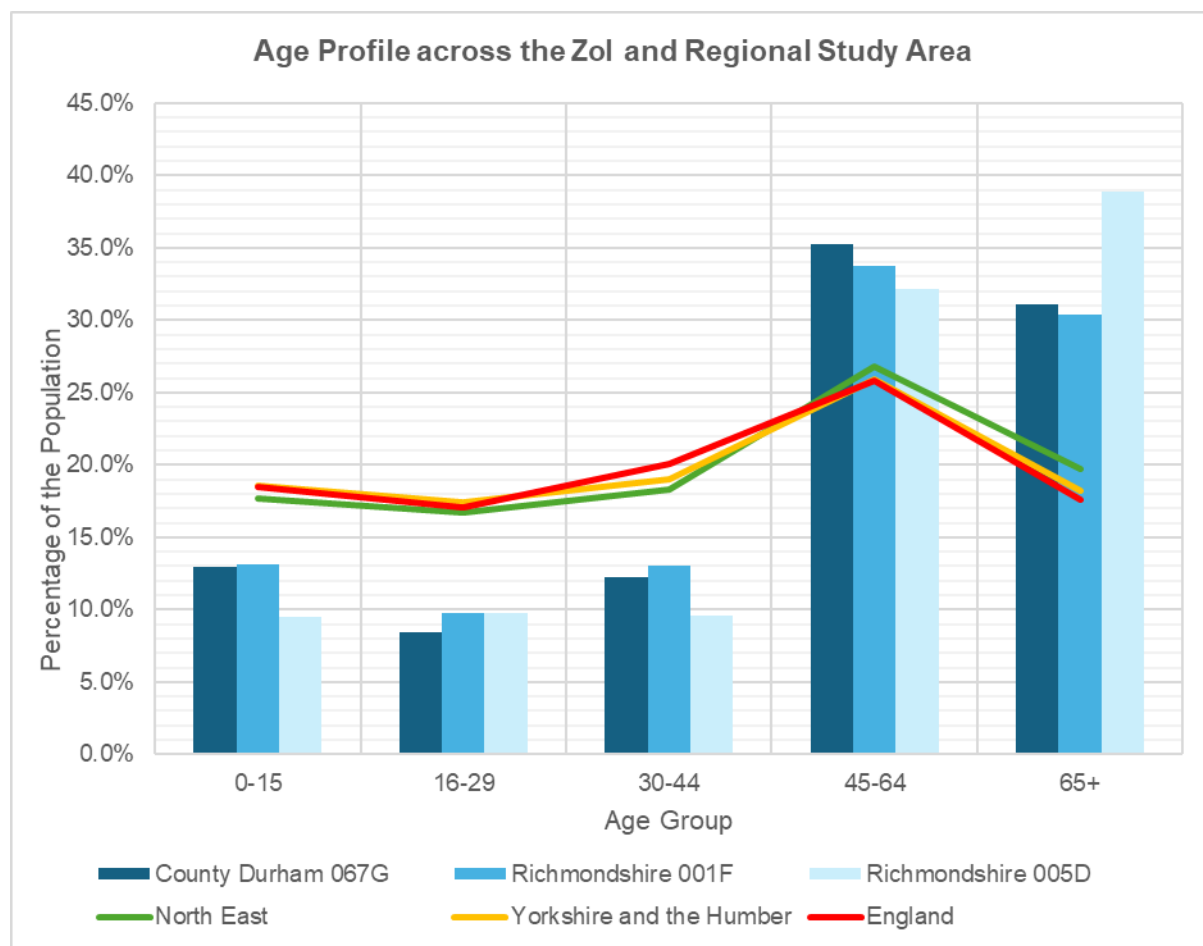
18.3.13. The age distribution of the population in the Local Study Area shows that both North Yorkshire and County Durham have a slightly older population on average than the rest of England. In North Yorkshire, 26% of the population were over the age of 65, and in County Durham 21.9% of the population were over the age of 65, compared to the national average of 20.2% (Ref 18-7).

Table 18-9: Age distribution (Ref 18-7)

Age Range	North Yorkshire	County Durham	National Average
0-15	15.8%	16.4%	17.7%
16-64	58.2%	61.7%	61.4%
65+	26.0%	21.9%	20.2%

18.3.14. Looking more closely at the Zol, it is clear from Chart 18-1 below that the population is older than the both the regional and national averages. LSOA Richmondshire 005D has the highest percentage of the population aged over 65 with 38.9% of the population falling within this age group (Ref 18-7). Overall, this figure shows that the Zol has an ageing population when compared regionally and nationally.

Chart 18-1: Age Profile across the ZOI and Regional Study Area



General Health

- 18.3.15. In North Yorkshire, life expectancy is 80.7 years for males, which is higher than the regional average of 78.7 years and the national average of 79.6 years (Ref 18-11). For females, life expectancy is 84.2 years, which is also higher than the regional average of 82.4 years as well as the national average of 83.2 years (Ref 18-11).
- 18.3.16. In County Durham, life expectancy is 78.2 years for males, which is higher than the regional average of 77.9 years, but lower than the national average of 79.6 years (Ref 18-12). For females, life expectancy is 81.5 years, which is lower than both the regional average of 81.7 years and the national average of 83.2 years (Ref 18-12).
- 18.3.17. The percentage of people considered disabled under the Equality Act is significantly higher in County Durham than the national average – 35.5% of working age people (aged 16-64) compared to 25.6% nationally (Ref 18-12). In North Yorkshire, the figure is slightly lower than the national average at 24.8% (Ref 18-11).
- 18.3.18. Levels of physical activity in adults in County Durham (64.3%) is lower than the national average of 67.4% (Ref 18-9). Comparatively, in North Yorkshire, levels are slightly higher than the national average at 69.9% (Ref



18-9). Lower levels of physical are a primary contributor to higher levels of obesity and increased body mass index. The lower levels of physical activity are reflected in County Durham, where obesity prevalence is 34.4% compared to the national average of 26.5% (Ref 18-11). Obesity prevalence in North Yorkshire is also slightly higher than the national average at 28.0% (Ref 18-12).

18.3.19. Poor air quality is a significant public health issue and there is clear evidence that particulate matter has a significant contributory role in mortality. Each year in the UK between 28,000 and 36,000 deaths a year are attributed to long-term exposure to poor air quality (Ref 18-14). Air pollution can also be linked to cardiovascular disease, diabetes, and dementia. Sufferers of chronic respiratory diseases such as Chronic Obstructive Pulmonary Disease (COPD) and asthma are especially vulnerable to the effects of air pollutants (Ref 18-15). Air pollution has also been shown to have an increased health impact on those in lower socio-economic groups.

18.3.20. **Table 18-10** below shows the mortality rates from respiratory and cardiovascular diseases across the Local Study Area (Ref 18-16). This shows that County Durham has a higher mortality rate for all diseases with levels significantly higher than the national average. Conversely, with the exception of asthma, mortality rates from respiratory disease and COPD are significantly lower than the national average in North Yorkshire.

Table 18-10: Mortality rates from respiratory and cardiovascular diseases (per 100,000 people)

Indicator	County Durham	North Yorkshire	England
Mortality rate from respiratory disease (all ages)	140.1	95.3	112
Mortality rate from COPD (all ages)	68.7	30.8	45.5
Mortality rate from Asthma (all ages)	2.33	2.31	2.07
Mortality rate from ischaemic heart disease (under 75)	45.3	37	40.6

18.3.21. Environmental noise is one of the leading environmental risks for physical and mental health and well-being, contributing significantly to the burden of disease. The main sources of environmental noise include transportation (aircraft, trains and motor vehicles), industry, wind turbines and leisure activities. Long-term exposure to noise can cause a variety of health effects including annoyance, sleep disturbance, adverse effects on the cardiovascular and metabolic system, as well as cognitive impairment in children (Ref 18-17).

18.3.22. A full review of baseline conditions for air quality and noise receptors are outlined in **Chapter 12: Noise and Vibration** and **Chapter 15: Air Quality**.

Deprivation

- 18.3.23. The Indices of Multiple Deprivation (IMD) is a set of seven measures of deprivation that are combined to create an overall score which ranks areas in England from most to least deprived, where a rank of 1 indicates most deprived, and a rank of 296 indicates least deprived (Ref 18-13).
- 18.3.24. **Table 18-11** below presents IMD data across the Local Study Area. Health domains refer to the different, interconnected areas that make up a person's overall wellbeing. IMD uses seven measures of different domains of deprivation, and an overall rank which combines the seven domains.
- 18.3.25. There is a clear difference between the two local authorities, with County Durham ranking consistently amongst the most deprived in England across a majority of the health domains, particularly for health, employment and crime, and least deprived for barriers to housing. In contrast, North Yorkshire ranks amongst the least deprived overall, especially in relation to crime, income and employment.

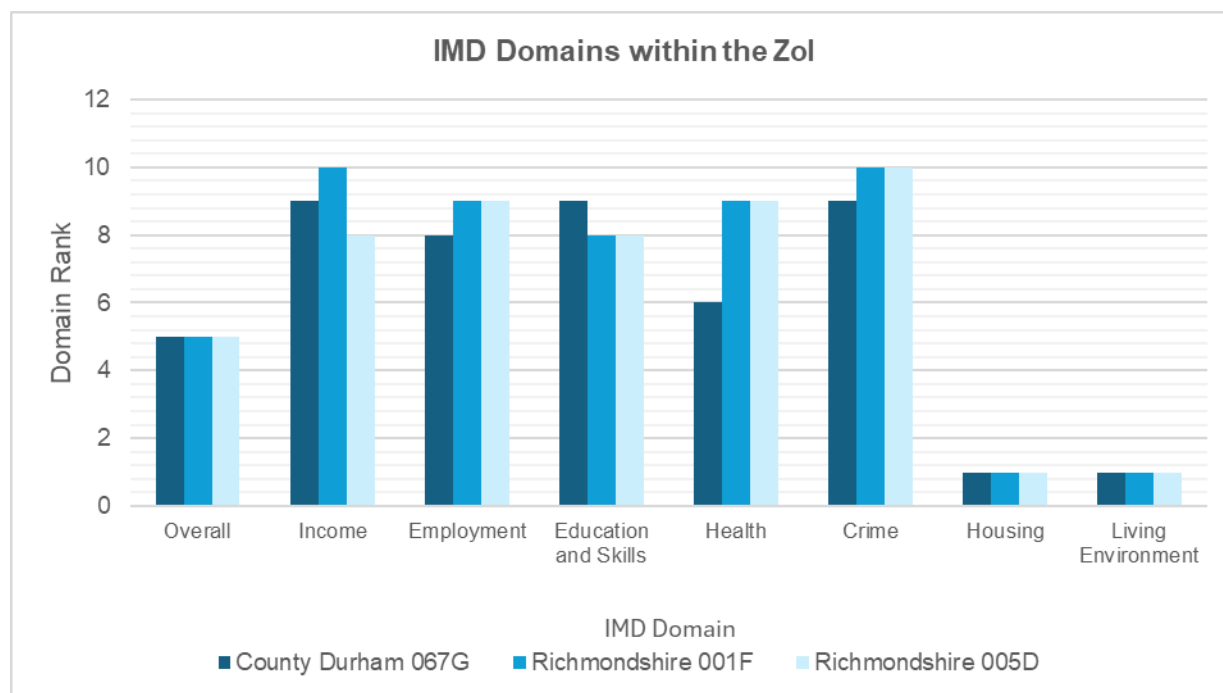
Table 18-11: Indices of deprivation (Ministry of Housing, Communities and Local Government 2025)

IMD Domain	North Yorkshire	County Durham
Overall	189	47
Income	234	77
Employment	225	39
Education	196	92
Health	203	17
Crime	268	60
Barriers to housing	112	176
Living environment	83	168

- 18.3.26. **Chart 18-2** below shows the domains of deprivation for the LSOAs that make up the ZoI (Ref 18-13). This has ranked the domains 1-10, where a rank of 1 represents the most 10% of deprived neighbourhoods nationally. Overall, all LSOAs fall within the top 50% of least deprived neighbourhoods nationally, however, for both the housing and living environment domains all LSOAs fall within the top 10% of most deprived neighbourhoods nationally. These domains specifically look at physical and financial accessibility of housing and services and the quality and accessibility of both the indoor and outdoor environment.
- 18.3.27. The biggest disparity between the LSOAs is within the health domain which measures the risk of premature death and impairment of life quality through poor physical and/or mental health. County Durham 067G has a rank of six compared to both Richmondshire 001F and 005D which has a rank of nine, placing it amongst the top 10% of least deprived neighbourhood nationally.



Chart 18-2: IMD Domains within Zol



Local Community Facilities

18.3.28. Within the Zol the key settlements in close proximity to the Site are the villages of Newsham, Dalton and Barningham, with the western part of Newsham falling within 500m of the Scoping Boundary. These villages are primarily residential, but they do provide the following community facilities:

- Newsham Village Hall, Newsham;
- Tavern House Caravan Park, Newsham;
- The Millbank Arms, Barningham;
- Barningham St Micheal and All Angels Church, Barningham;
- Barningham Village Hall, Barningham;
- Coghlan's Tearoom, Barningham;
- Holmdale Bed and Breakfast, Dalton; and
- Dalton and Gayles Village Hall, Dalton.

18.3.29. The nearest primary school is located in Ravensworth (located approximately 7 km south east – eight minute drive), whilst the nearest secondary school is located in Barnard Castle – located approximately a 10.5 km north-west of the Site (12 minute drive). Similarly, the closest healthcare facilities are located in Barnard Castle, which has a GP surgery and community hospital. The closest major hospital (with an accident and emergency department) is located in Darlington, approximately 28 km north-east of the Site (26 minute drive).

- 18.3.30. A large amount of the surrounding landscape is comprised of agricultural land which included both pasture/grazing and arable. There are a number of isolated farm buildings some of which fall within 500 m of the Scoping Boundary as well as several farms located around the three villages.
- 18.3.31. In terms of transport and access, the A66 runs through the ZOI and also has adjoining roads such as Lanehead Lane and Low Lane as well as several roads that run through or out of Newsham, including Dyson Lane, Low Lane, High Lane, Dark Lane and Moor Lane. The three villages are served by the 79/X79 bus service, linking to Barnard Castle and Richmond.

Design, Mitigation and Enhancement Measures

- 18.3.32. As part of the design process for the Project, several embedded and standard mitigation measures are proposed to reduce the potential for impacts on human health. These are presented below. It is expected that these may evolve throughout the design evolution of the Project as the EIA progresses and in response to consultation. The Applicant is committed to implementing these measures, and also various standard sectoral practices and procedures. It is therefore considered that these measures are inherently part of the design of the Project.
- 18.3.33. Measures adopted as part of the Project to mitigate potential adverse impacts on human health will include:
- All development would be subject to standard good practice mitigation measures employed to avoid and minimise potential effects on community and recreational facilities.
 - All construction work would be undertaken in accordance with a Public Access Management Plan (PAMP). The DCO application will include an outline PAMP, that will outline the measures to be applied would seek to promote public safety, maintain appropriate access where reasonably practicable, and minimise disruption to existing public access routes (during all phases of the Project).
 - Continued community engagement and sharing of information relating to the Project, throughout all phases of the Project, would be undertaken to reduce the impacts on human health by enabling people to raise concerns and improve understanding of potential health effects.
 - To reduce exposure to electromagnetic fields (EMF), the Project would comply where reasonably practicable with exposure standards set out in the Department for Energy and Climate Change (DECC) Voluntary Code of Practice (Ref 18-18) and the International Commission on Non-Ionizing Radiation Protection (ICNIRP) EMF guidelines (Ref 18-19). Adhering to the Control of Electromagnetic Fields at Work Regulations 2016 (Ref 18-20) will also help to maintain safety operational workers. Making clear that these standards are met and that the public are aware, will help to reduce levels of fear and anxiety.
 - All construction work should be undertaken in accordance with the Secured by Design Construction Site Security Guide, 2021 (Ref 18-21).



- Both a Construction Environment Management Plan (CEMP) and a Decommissioning Plan will be developed and outline versions will be provided in the DCO application. These will include mitigation measures to reduce effects of air and noise pollution on health receptors.

18.3.34. Further detail on the role of mitigation commitments, as part of a proportionate EIA approach, is provided in **Chapter 3: Approach to EIA**. A full description of the mitigations commitments identified so far is provide in **Appendix 3A: Draft Register of Environmental Actions and Commitments (REAC)**.

Rationale for Scoping-Out Human Health from the EIA

18.3.35. Based on the baseline and mitigation information presented above, a range of potential impacts on human health have been identified which could occur during construction, operation and maintenance, and decommissioning phases. However, when considering the health characteristics of the Zol and the mitigation outlined above, it is considered unlikely to result in any significant beneficial or adverse human health effects. It is therefore proposed that human health is scoped out of further assessment. Further details are provided in **Table 18-12**.

18.3.36. Given the multifaceted nature of human health, many health impacts would also be covered by other assessments scoped into the ES. Further details have been provided in **Chapter 12: Noise and vibration**, **Chapter 15: Air quality** and **Chapter 17: Socio-economics**.

Table 18-12: Potential Impacts on Human Health and Rationale for Scoping Out

Impact/ Determinant of Health	Rationale for Scoping Out
Construction	
Health impacts associated with increased levels of air pollution (bio-physical environment)	The Site does not lie within an Air Quality Management Area (AQMA) as identified in the air quality chapter (Chapter 15: Air Quality) of this Scoping Report. Potential construction impacts in terms of dust and emissions are associated with various health and wellbeing issues. Adverse effects include lung and heart disease. The baseline shows that there are disparities between North Yorkshire and County Durham with regards to mortality rates for respiratory and cardiovascular diseases, however, there are a limited number of sensitive receptors within close proximity to the Project. Construction effects of the Project on air quality, including impacts on human health, would be considered within the air quality assessment (Chapter 15: Air Quality). It is, therefore, not considered necessary to include a separate human health chapter for the consideration of these aspects of the Project.

Impact/ Determinant of Health	Rationale for Scoping Out
Increased levels of annoyance from noise and vibration (bio-physical environment)	Increased levels of noise and vibration can lead to unhealthy living environments, general disturbance from excessively noisy activities and uses, and physical inactivity as a result of poor environment. Effects of noise and vibration from the Project, including impacts on noise sensitive receptors (including residential properties), would be considered within the noise and vibration assessment (Chapter 12: Noise and Vibration). It is, therefore, not considered necessary to include a separate human health chapter for the consideration of these aspects of the Project.
Reduced levels of physical activity and enjoyment of the outdoors (health related behaviours and social environment)	There are a number of public rights of way (PRoW) across Hope Moor that intersect the Site, which may be affected by temporary diversions and closures and loss of visual amenity during construction. As physical activity is an important determinant of health effects, the extent to which PRoW users may be affected by temporary diversions or crossings required to facilitate construction and reductions in accessibility and convenience, would be covered in the traffic and transport assessment (Chapter 11: Access, Traffic and Transport). Loss of visual amenity can also impact how people use outdoor space. This would be covered within the landscape and visual assessment (Chapter 5: Landscape and Visual). It is, therefore, not considered necessary to include a separate human health chapter for the consideration of these aspects of the Project.
Decreased social cohesion and loss of community identity (social environment)	The Project would not directly affect land used for community interaction (e.g., meeting places, village greens, community centres) that promote community voluntary, social, cultural or spiritual participation. Temporary effects, including noise, dust, lighting and temporary changes in views, are not expected to influence community identity or disrupt community gatherings to an extent that could affect population health. Effects on human health are therefore not considered to be significant. Landscape helps shape community identity by creating a shared place where people feel connected and belong. Access to Hope Moor and other areas of common land may be affected by diversions and closures of PRoWs as well as loss of visual amenity particularly during construction. This would reduce the availability of land for community use. Loss of visual amenity and reduced access to the surrounding landscape could reduce overall community identity. Changes in visual amenity would be covered within the landscape and visual assessment (Chapter 5: Landscape and Visual), whilst reductions in accessibility (including PRoWs), would be covered in the traffic and transport assessment (Chapter 11: Access, Traffic and Transport).

Impact/ Determinant of Health	Rationale for Scoping Out
	It is, therefore, not considered necessary to include a separate human health chapter for the consideration of these aspects of the Project.
Increased employment opportunities (economic environment)	The Project would generate a number of construction employment opportunities, both directly and indirectly through local supply chains. Whilst access to employment opportunities is associated with various physical and mental health and wellbeing benefits, the standalone socio-economics and tourism report (Chapter 17: Socio-economics) would consider generation of employment and increased training opportunities throughout the construction, operation and decommissioning phases of the Project. It is, therefore, not considered necessary to include a separate human health chapter for the consideration of these aspects of the Project.
Reduced access to community services and facilities and increased demand on local services (institutional and built environment/ social environment)	Periods of construction are anticipated to inevitably cause some disruption in terms of accessibility and travel across the Local Study Area due to construction traffic movements. Such disruption may have the potential to affect psychological health in terms of stress or anxiety related conditions, particularly for those commuting or travelling in proximity to the Site on a regular basis, as daily routines may be affected. Effects on accessibility would be assessed within the traffic and transport assessment (Chapter 11: Access, Traffic and Transport). Given the limited number of facilities within the Zol, it is unlikely that the construction workforce would put pressure on the local community facilities given the nature of these services and limited amount of accommodation available. Effects on health are therefore not considered to be significant.
Crime and community safety (social environment)	The Site would be managed and operated in accordance with the Health and Safety at Work Act 1974 (Ref 18-22) and comply with relevant Health and Safety Regulations. All construction work should also be undertaken in accordance with the Secured by Design Construction Site Security Guide (Ref 18-21). This will help to maintain safety and reduce crime on Site. Effects on health are therefore not considered to be significant.
Operation and Maintenance	
Perceived fear and anxiety of EMFs and increased mental health burden (bio-physical environment/ social environment)	Whilst EMFs from wind farms are strictly regulated to remain below international safety guidelines and pose no known risk to human health, public perceptions and understanding of EMFs can lead to anxiety affecting both mental health and wellbeing. Adhering to where reasonably practicable, DECC's Voluntary Code of Practice (Ref 18-18) and ICNIRP EMF guidelines (Ref 18-19) as well as sharing non-technical information as part of community engagement would help to



Impact/ Determinant of Health	Rationale for Scoping Out
	reduce levels of fear and anxiety. Effects on health are not considered to be significant.
Annoyance and perceived fear from operational noise and shadow flicker (bio-physical environment)	Some people living near turbines reported sleeplessness and stress. Stress, tension and irritation can be linked with the perception of there being a noise, rather than noise itself. According to the research from Public Health Wales regarding the health impacts of wind turbine noise (Ref 18-23), although the potential for annoyance well documented, a direct relationship between operational turbine noise and health is not established. However, the impacts of operational noise on noise sensitive receptors will be assessed within Chapter 12: Noise and Vibration. Intermittent shadow flicker may occur at residential properties within ten rotor diameters when turbines rotate in specific sun and weather conditions. As part of the Shadow Flicker assessment (Chapter 14: Shadow Flicker) further shadow flicker modelling will be undertaken to identify sensitive receptors. It is, therefore, not considered necessary to include a separate human health chapter for the consideration of these aspects of the Project. As stated in Chapter 14: Shadow Flicker, modern three-bladed wind turbines, with a rotor diameter comparable to the model being considered for this Project, typically operate at low rotational speeds. Seizures (associated with photosensitive epilepsy) are generally triggered by flashing light between 3 – 30 hertz (Hz) (flashes per second) however, the Project is anticipated to run well below this threshold at up to 0.2 Hz depending on wind conditions.
Reduced levels of physical activity and enjoyment of the outdoors (health related behaviours and social environment)	There are a number of PRoW across Hope Moor and areas of common land that intersect the Site, which may be affected by diversions and loss of visual amenity. Public perceptions on changes to the landscape from wind farms can be subjective, but loss of visual amenity can impact how people use outdoor space. Assessment on tourism and recreation and changes in accessibility would be covered within the standalone socio-economics and tourism report (Chapter 17: Socio-economics and Tourism). Assessment of effects of any alterations to PRoWs on PRoW users would be considered in Chapter 11: Access, Traffic and Transport. Effects of operational vehicles on PRoWs have been scoped out of further assessment within the traffic and transport assessment (Chapter 11: Access, Traffic and Transport). It is therefore, not considered that there would be significant human health effects. Changes in visual amenity would be covered within the landscape and visual assessment (Chapter 5: Landscape and Visual).



Impact/ Determinant of Health	Rationale for Scoping Out
Decommissioning	
Health impacts associated with increased levels of air pollution (bio-physical environment)	Decommissioning activities are unlikely to result in significant changes to air quality which could impact on human health. The scale of work involved in decommissioning would be less than that for construction and will be controlled by mitigation measures as set out in a Decommissioning Plan, such that no significant effects are anticipated. Operational effects of the Project on air quality, including impacts on human health, have been scoped out of further assessment within Chapter 15: Air Quality . It is therefore not considered to pose a significant impact on human health.
Increased levels of annoyance from noise and vibration (bio-physical environment)	Chapter 12: Noise and Vibration states that “activities during decommissioning would likely be similar to those during construction. However, some elements of the Project (such as below ground infrastructure) may remain. Hence decommissioning of the Project is likely to generate lesser effects than construction”. For this reason, it is scoped out of further assessment. It is, therefore, not considered that significant human health effects would occur.
Reduced levels of physical activity and enjoyment of the outdoors (health related behaviours and social environment)	PRoWs that intersect the Site may be affected by diversions and closures and loss of visual amenity during decommissioning. Following decommissioning there would likely be greater access across Hope Moor. Impacts on physical activity during decommissioning would be covered within the standalone socio-economics and tourism report and the access, traffic and transport assessment (Chapter 11: Access, Traffic and Transport and Chapter 17: Socio-economics). Loss of visual amenity can also impact how people use outdoor space. This would be covered within the landscape and visual assessment (Chapter 5: Landscape and Visual).
Decreased social cohesion (social environment)	The Project would not directly affect land used for community interaction (e.g., meeting places, village greens, community centres) that promote community voluntary, social, cultural or spiritual participation. Temporary effects, including noise, lighting and temporary changes in views, are not expected to influence community identity or disrupt community gatherings to an extent that could affect population health. Effects on human health are therefore not considered to be significant.
Reduced access to community services and facilities and increased demand on local services (institutional and built environment/ social environment)	Periods of decommissioning are anticipated to inevitably cause some disruption in terms of accessibility and travel in the local area due to construction traffic movements. However, effects on accessibility during decommissioning would be assessed within the traffic and transport assessment (Chapter 11: Access, Traffic and Transport). Given the limited number of facilities within the Zol, it is

Impact/ Determinant of Health	Rationale for Scoping Out
	unlikely that the decommissioning workforce would put pressure on the local community facilities given the nature of these services and limited amount of accommodation available. Effects on human health are therefore not considered to be significant.
Cumulative	
Reduced access to community services and facilities and increased demand on local services (institutional and built environment/ social environment)	Cumulative periods of construction associated with the A66 Northern TransPennine Project could cumulatively cause some disruption in terms of accessibility and travel across the Local Study Area due to construction traffic movements. Such disruption may have the potential to affect psychological health in terms of stress or anxiety related conditions, particularly for those commuting or travelling in proximity to the Site on a regular basis, as daily routines may be affected. However, cumulative impacts on accessibility would be assessed within the traffic and transport assessment (Chapter 11: Access, Traffic and Transport).
Cumulative increase in employment opportunities (economic environment)	In combination with the A66 Northern TransPennine Project, there is potential for a cumulative increase in employment opportunities across the Local and Regional Study Areas, which can have significant health benefits. However, to avoid duplication, the standalone socio-economics and tourism report (Chapter 17: Socio-economics) would consider cumulative employment generation.

Summary

18.3.37. It is considered feasible to scope out human health from the EIA for the Project because all potential health-related pathways – such as air quality, noise, access, traffic, landscape, and socio-economics – will be fully addressed within the technical assessments scoped into the ES. These topic-specific assessments will manage and mitigate any environmental changes that could influence human health, and the baseline evidence shows no characteristics within the Zol that would lead to likely significant effects on human health once mitigation is applied.

18.4. Major Accidents and Disasters

Baseline

- 18.4.1. Regulation 18(3)(b) and Schedule 4, paragraph 8 of the EIA Regulations (Ref 18-24) require EIA to consider: "the expected effects arising from the vulnerability of the project to risks of major accidents and/or disasters relevant to the project concerned."
- 18.4.2. This includes consideration of whether a project could be vulnerable to, or could increase the likelihood or consequences of, major accidents or disasters, including those associated with existing industrial activities.



- 18.4.3. A review of baseline information confirms there are no Control of Major Accident Hazards (COMAH) sites or other major accident hazard facilities located within or in close proximity to the Project.
- 18.4.4. The Zetica website was reviewed for potential Unexploded Ordnance (UXO) and indicated that the Site is at a low risk of UXO being present. A review of OS 1:25,000 mapping indicates a Danger Area named as Feldon Ranges approximately 500 m east of the Scoping Boundary, which may be source of UXO.

Rationale for Scoping-Out Major Accidents and Disasters from the EIA

- 18.4.5. **Table 18-13** identifies the potential hazards to which the Project itself may be vulnerable, (i.e. risks from potential hazards/risks) and potential hazards occurring as a result of the Project and provides a rationale for why each has been scoped in or out of the EIA.
- 18.4.6. Major accidents or disasters would be scoped into an EIA where they represent a realistic risk to the Project, either due to a reasonable likelihood of occurrence or because the consequences would be of such a nature that mitigation measures would extend beyond standard construction or operational controls. In this context, risk is evaluated taking account of mitigation measures and standard industry controls. Where risks can be appropriately controlled, it is anticipated that they would not give rise to likely significant effects, and they are therefore scoped out of further assessment within the ES.

Table 18-13: Likelihood of Major Accidents and Disasters Arising and Rationale for Scoping Out

Major Accident or Disaster	Risk due to location	Risk due to Project	Rationale for Scoping Out	Scoped in / out due to Risk
Extreme weather (strong winds, lightning, extreme temperatures, and storms)	Yes	No	Wind turbines are designed to withstand extreme weather conditions over their operational lifetime and incorporate a range of safety measures including: • continuous monitoring of wind speed, vibration and temperature; • automatic shutdown in high winds and icing conditions; • blade feathering and braking systems to prevent overspeed during storms; and • integrated lightning protection and grounded electrical systems. With the robust design measures and standards, and automated control systems, incorporated into wind turbine design, it is therefore considered that likely significant effects are not anticipated as a result of extreme weather.	Out
Collision risk with existing road users on the public road network	Yes	Yes	The potential risk of major transport accidents during the construction phase of the Project would be managed through the implementation of a Construction Traffic Management Plan (CTMP). An outline CTMP will be provided with the application for development consent that sets out the principles to be followed when the final CTMP is finalised. Mitigation measures proposed within the CTMP would include, but not be limited to, the following to minimise risk to other road users: • the identification of prescribed vehicle routes for construction traffic; • timing of deliveries to avoid any sensitive times (e.g. school start / finish times); and • the use of Global Positioning Systems (GPS) trackers on all HGVs allowing speed and routeing to be monitored;	Out



Major Accident or Disaster	Risk due to location	Risk due to Project	Rationale for Scoping Out	Scoped in / out due to Risk
			- code of conduct for HGV drivers; - physical measures to restrict speeds at any sensitive locations, wheel cleaning facilities and prevention of dust emissions; and - communication measures for disseminating project information including expected vehicles movements and work locations to interested parties. The production of the CTMP would be secured by a requirement in the DCO that the CTMP must be substantially in accordance with the outline CTMP. During operation, the Project would result in a limited vehicle trips associated with occasional maintenance and inspection traffic movements. During decommissioning, vehicle movements would likely be fewer than during construction, however it is anticipated that similar mitigation measures to those identified for the construction phase would be employed to minimise the risk to other road users. Such mitigation measures would be detailed within, and implemented as part of, the Decommissioning Plan. With these preventative measures in place, it is therefore considered that significant environmental effects associated with collision risk with existing road users on the public road network are not anticipated.	
Utility strikes	No	No	Utility strike risk will be addressed through a design-led approach, whereby available statutory undertaker records and baseline information will be reviewed to identify known underground and overhead services within and adjacent to the Site boundary. This information will be used to inform the siting and alignment of infrastructure, including access tracks, turbine foundations, cable routes and temporary works areas. The interaction with utilities will be	Out



Major Accident or Disaster	Risk due to location	Risk due to Project	Rationale for Scoping Out	Scoped in / out due to Risk
			avoided wherever practicable through micro-siting and design refinement. Where potential conflicts cannot be avoided at the design stage, further measures will be applied including, but not limited to, targeted underground services detection surveys; agreed crossing or protection designs where required; and construction control measures such as permit-to-dig procedures and task specific risk assessments and method statements. These measures would be implemented via the CEMP. An outline CEMP will be provided with the application for development consent that sets out the principles to be followed when the final CEMP is finalised. Under the Construction (Design and Management) Regulations 2015 (the CDM Regulations) (Ref 18-25), relevant information on known hazards (such as utilities, ground conditions, contamination or UXO) must be provided to designers and contractors by the Client²⁰ prior the commencement of construction, within the Pre-Construction Information (PCI) to help plan, manage and monitor health and safety risks before work starts. This information would be included within the Construction Phase Plan (CPP), also require under the CDM Regulations, which must be prepared before construction begins and included within the Health and Safety File for the Project at the end of the construction phase. With such measures in place, it is therefore considered that significant environmental effects associated with utility strike risk are not anticipated.	

²⁰ The 'Client' is a defined term under the CDM Regulations, and refers to the organisation or individual for whom a construction project is carried out, including anyone who commissions, managed or finances the project.



Major Accident or Disaster	Risk due to location	Risk due to Project	Rationale for Scoping Out	Scoped in / out due to Risk
UXO	Yes	No	The Site is at a low risk of UXO being present, however review of Ordnance Survey (OS) mapping indicates a Danger Area named as Feldon Ranges approximately 500m east of the Scoping Boundary, which may be source of UXO. A detailed UXO Risk Assessment of the Site will be carried out as a preventative measure to determine the potential risk of encountering UXO on Site and would be used to: • identify any areas of heightened sensitivity; • inform design decisions and micro-siting; and • mitigate the risk of UXO during Site surveys and construction activities. Potential risks of UXO would be communicated through the CEMP and Decommissioning Plan to all construction workers and risk assessments and method statements, and safety training would be provided by a competent UXO expert. Under the CDM Regulations (Ref 18-25), relevant information on known hazards (such as utilities, ground conditions, contamination or UXO) must be provided to designers and contractors by the Client²¹ prior the commencement of construction, within the Pre-Construction Information (PCI) to help plan, manage and monitor health and safety risks before work starts. This information would be included within the Construction Phase Plan (CPP), also required under the CDM Regulations, which must be prepared before construction begins and included within the Health and Safety File for the Project at the end of the construction phase.	Out

²¹ The 'Client' is a defined term under the CDM Regulations, and refers to the organisation or individual for whom a construction project is carried out, including anyone who commissions, manages or finances the project.



Major Accident or Disaster	Risk due to location	Risk due to Project	Rationale for Scoping Out	Scoped in / out due to Risk
			With such measures in place, it is therefore that significant effects associated with UXO risk are not anticipated.	
Mining	Yes	Yes	As presented in Chapter 10: Geology, Soils and Ground Conditions there is evidence of former underground coal and metal mining(lead) at the Site. A detailed Mining Risk Assessment (MRA) will be undertaken to inform Project design and to identify potential avoidance and mitigation measures relating to mining instability and risks associated with historical mining. With mitigation in place as identified in the MRA, it is considered that significant environmental effects associated with mining risks are not anticipated.	Out
Subsidence / unstable ground	Yes	Yes	Extensive areas of the Site are recorded to be underlain by limestone. The limestone may be susceptible to dissolution processes resulting in the formation of sink holes (locally shake holes) and result in localised unstable ground and subsidence. A Geo-Hazards Risk Assessment (GHRA) will be completed to outline areas of high susceptibility and document areas of know historical subsidence associated with sink hole formation. The GHRA will inform the design and siting of infrastructure to avoid development over, or within influencing distance of, any dissolution features. This will be supported by detailed investigation and geotechnical appraisal to confirm bedrock strength characteristics and determine the presence of any unanticipated buried dissolution features. The GHRA will be presented in the ES as a technical appendix to Chapter 10: Geology, Soils and Ground Conditions . With this preventative measure in place, it is therefore considered that significant environmental effects associated with subsidence / unstable ground are not anticipated.	Out
Peat landslide	Yes	Yes	Peat soils are present on Site and initial low resolution depth probing has indicated areas of deeper peaty soils in the across the western	Out



Major Accident or Disaster	Risk due to location	Risk due to Project	Rationale for Scoping Out	Scoped in / out due to Risk
			and central extent of the Site with shallower peat soils along the access track in the eastern area of the Site. Extensive peatland drainage and erosional features are also present across the Site. A Peat Landslide Hazard Risk Assessment (PLHRA) will be undertaken, where indicated by site conditions and best practice guidance, to determine whether the Project could reasonably increase the likelihood or consequences of a peat landslide event occurring on Site. The PLHRA will identify areas on Site susceptible to peat instability and inform the design and application of appropriate mitigation measures to manage risk. The PLHRA, if required, would be presented in the ES as a technical appendix to Chapter 10: Geology, Soils and Ground Conditions. With such preventative measures in place, it is therefore considered that significant environmental effects associated with peat landslide risk are not anticipated.	
Flooding	Yes	Yes	Construction activities such as vegetation removal, soil compaction, and the creation of temporary impermeable surfaces can increase the rate of surface runoff. These changes reduce natural infiltration and floodplain storage, thereby elevating flood risk to downstream areas. A Flood Risk Assessment (FRA) will be undertaken to assess the flood risk both to and from the Project and demonstrate how flood risk would be managed over the Project's lifetime. The FRA will give due regard to climate change. The FRA would be presented in the ES as a technical appendix to Chapter 9: Hydrology and Hydrogeology. With this preventative measure in place, it is therefore considered that significant environmental effects associated with flood risk are not anticipated.	Out
Release of chemicals	No	Yes	Only small quantities of chemicals (e.g. fuels, lubricants and transformer oils) are used or stored on wind farm sites and will be	Out



Major Accident or Disaster	Risk due to location	Risk due to Project	Rationale for Scoping Out	Scoped in / out due to Risk
			stored within sealed containment or appropriately bunded and controlled areas. Standard pollution prevention and spill-response measures will be set out in the CEMP and Decommissioning Plan, which will include environmental incident response procedures that set out how environmental emergencies or unexpected events will be prevented, identified, managed and reporting during the construction and decommissioning phases. With these preventative measures in place, it is therefore considered that significant environmental effects associated with release of chemicals are not anticipated.	
Fire	No	Yes	During the construction and decommissioning phases, potential ignition sources, such as fuels and plant, would be managed through measures set out within the CEMP, including bunded storage, plant maintenance and provision of firefighting equipment. During the operational phase, wind turbines and associated electrical equipment are designed and certified to recognised international standard and are equipped with internal fire suppression systems and monitoring systems to prevent fires. A fire risk assessment will be undertaken as part of the detailed design and construction planning process in accordance with UK health and safety legislation and industry good practice. Any on-site buildings will comply with relevant parts of the Building Regulations (Ref 18-26). The wind turbines will incorporate lightning protection and grounded electrical systems as part of the typical design standards and measures. With these preventative measures in place, it is therefore considered that significant environmental effects associated with fire risk are not anticipated.	Out



Major Accident or Disaster	Risk due to location	Risk due to Project	Rationale for Scoping Out	Scoped in / out due to Risk
Construction / decommissioning activities	No	Yes	The Site would be managed and operated in accordance with the Health and Safety at Work etc. Act 1974 (Ref 18-22) and comply with relevant Health and Safety Regulations, including: • The Management of Health and Safety at Work Regulations 1999 (Ref 18-27); • Electricity Safety, Quality and Continuity Regulations 2002 (Ref 18-28); and • CDM Regulations (Ref 18-25). Construction activities would be carried out in accordance with all relevant guidance including the Health and Safety Executive (HSE) guidance on health and safety in construction. Task-specific method statements and risk assessment would be prepared prior to commencement of works. All plant and equipment, including cranes and lifting equipment, would be operated by suitably qualified operatives and maintained in line with manufacturer All potentially hazardous areas would be fenced off, and all unattended machinery would be stored in the temporary construction compound(s) or immobilised to prevent authorised use. In addition, signage would be placed at the Site entrance(s) and in areas where there may be further danger, for example around open borrow pits. Public access around the Site will be restricted for health and safety purposes in order to facilitate the delivery of wind turbine components and construction materials, and construction activities. Measures to manage public access across the Site would be secured through measures including, but not limited to: • the preparation of a Public Access Management Plan (PAMP) to detail temporary diversions, signage and safety protocols;	Out

Major Accident or Disaster	Risk due to location	Risk due to Project	Rationale for Scoping Out	Scoped in / out due to Risk
			- the CTMP, which will set out measures to manage public interaction with construction traffic; and - seeking the temporary or permanent diversion of access routes where they intercept proposed infrastructure. These measures would also be applied, as relevant during the decommissioning phase of the project. Such mitigation measures would be detailed within, and implemented as part of, the Decommissioning Plan. With such preventative measures in place, it is therefore considered that significant environmental effects associated with construction and decommissioning activities are not anticipated.	
Operational activities, including wind turbine collapse	No	Yes	The wind farm operator has a duty to manage and control risk to employees in accordance with the Health and Safety at Work etc. Act 1974 (19-22). All operational activities would be carried out in compliance with relevant health and safety legislation including the Working at Height Regulations 2005 (Ref 18-29) and the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013 (RIDDOR) (Ref 18-30). Wind turbines and associated components would be designed, manufactured and installed in accordance with recognised international and British standards, including the International Electrotechnical Commission (IEC) 61400 series (Ref 18-31) and British Standards Institute (BSI) EN 61400-1 (Wind turbines – Design requirements) (Ref 18-32). Compliance with these standards would significantly reduce the likelihood of structural failure or abnormal events occurring during the operation of the Project. The Applicant's experience on operational wind farms has shown that allowing the public to access an operating wind farm does not lead to a compromise with respect to safety. During operation, a	Out



Major Accident or Disaster	Risk due to location	Risk due to Project	Rationale for Scoping Out	Scoped in / out due to Risk
			comprehensive control and signage strategy will be implemented with details to be set out in the PAMP. The PAMP will include improved access opportunities where appropriate, enhanced route connectivity, and clear signposting and information to support safe movement across the Site. With such preventative measures in place, it is therefore considered that significant environmental effects associated with operational activities are not anticipated.	

Summary

- 18.4.7. It is considered feasible to scope out major accidents and disasters from the EIA for the Project because there are no nearby COMAH sites or other significant hazard sources within, or located near to, the Site. All identified risks presented in **Table 18-13** will be managed through established design standards, risk assessments and control measures managed via measures to be set out in the CEMP, CTMP and Decommissioning Plan. With such measures in place significant effects are not expected, and further EIA assessment is not necessary.

18.5. Further Consideration for Consultees

- 18.5.1. The following questions are provided to help frame consultee comments on the Scoping Report for the other environmental topics addressed in this chapter:
- Q18.1: Do consultees agree that material assets and waste can be scoped out of the EIA?
 - Q18.2: Do consultees agree that human health can be scoped out of the EIA?
 - Q18.3: Do consultees agree that major accidents and disasters can be scoped out of the EIA?

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19. Summary

19.1. Introduction

- 19.1.1. This chapter of the Scoping Report summarises the impacts that are proposed to be scoped in and out of the Environmental Impact Assessment (EIA) for the Project. A detailed description of the assessment scope is provided in **Chapters 5 to 18** of this **Scoping Report**. The scoped-in impacts for each environmental topic Chapter (**Chapters 5 to 18**) are summarised in **Table 19-1** and the scoped-out aspects are summarised in **Table 19-2**.

Table 19-1: Summary of Scoped-In Impacts of the Assessment

Potential Impacts Scoped into the EIA for the Project	
Chapter 5: Landscape and Visual	
Construction and Decommissioning	Impact of the construction / decommissioning of the Project on landscape features.
	Impact of the construction / decommissioning of the Project on landscape character.
	Impact of the construction / decommissioning of the Project on designated landscapes.
	Impact of the construction / decommissioning of the Project on visual receptors / views.
Operation and Maintenance	Impact of the operation and maintenance of the Project on landscape fabric.
	Impact of the operation and maintenance of the Project on landscape character.
	Impact of the operation and maintenance of the Project on designated landscapes.
	Impact (daytime) of the operation and maintenance of the Project on visual receptors / views.
	Impact (night-time) of the operation and maintenance of the Project on visual receptors / views.
Cumulative	Cumulative effect of the operation and maintenance of the Project on landscape character, landscape designations and views / visual receptors.
Chapter 6: Archaeology and Cultural Heritage	
Construction	Direct physical impacts on designated heritage assets within the Site.
	Direct physical impacts on non-designated heritage assets within the Site.
	Indirect effects on heritage assets within the Site.
	Setting effects.
Operation and Maintenance	Direct physical impacts.
	Settings effects on designated heritage assets.
Decommissioning	No activities during this phase are scoped into the assessment. See Table 19-2 .



Potential Impacts Scoped into the EIA for the Project	
Cumulative	Direct effects on heritage assets within the Site.
	Settings effects.
Chapter 7: Ecology	
Construction	Indirect impacts North Pennine Moors Special Area of Conservation (SAC).
	Permanent and temporary loss or degradation of important habitat via excavation, through hydrological/hydrogeological changes or via degradation from dust deposition/air quality impacts.
	Impacts upon protected or otherwise notable terrestrial species or upon their resting or breeding sites.
	Habitat fragmentation and species isolation.
	Spread of invasive non-native species (INNS).
	Accidental Pollution.
Operation and Maintenance	Killing and injury to high collision* risk bat species recorded at the Site (common pipistrelle, soprano pipistrelle, Nathusius' pipistrelle, noctule). * in this context the term "collision" is taken to mean any form of injury or mortality associated with the operation of wind turbines, i.e. it includes mortality due to barotrauma.
	Disturbance via maintenance.
Decommissioning	Decommissioning impacts, which are anticipated to be similar in nature to those during construction but would be more limited in geographical extent and timescale.
Cumulative	For ecological features potential cumulative impacts are only likely to be significant for other developments which: • Are directly adjacent or very close to the Site and may affect the same habitats and species; • Are located within the same hydrological catchment(s) so may be affected by water-borne sedimentation or pollution events, e.g. brown trout; or • Are located within the regular range of more mobile species, e.g. bats. The short list of other developments for the cumulative assessment will therefore be restricted to other development projects within 2 km, or within 5 km and within the same surface water catchment, or within the Core Sustenance Zone distance of the most widely ranging bat species recorded at the Site. The cumulative assessment will be



Potential Impacts Scoped into the EIA for the Project	
	based on consideration of residual effects, assuming that proposed mitigation and compensation measures for other projects are implemented
Chapter 8: Ornithology	
Construction	Direct loss of habitat through the construction of the Project.
	Disturbance caused by construction activity.
Operation and Maintenance	Disturbance or displacement of bird species from habitat areas used for breeding, roosting, foraging and commuting through turbine (or other key infrastructure) presence, blade movement, maintenance access or other associated human activity. This will include for any potential barrier effects i.e resulting from birds moving around operational turbines between roosting, breeding and/or foraging areas, diverting from baseline patterns.
	Collision mortality risk to bird from operational turbines, where flight activity occurs within the rotor swept zone of the Project.
Decommissioning	Disturbance caused by decommissioning activities.
Cumulative	Combined collision mortality risk with other operational, consented or proposed wind farms or other major developments.
	Combined displacement effects with other operational, consented or proposed wind farms or other major developments.
Chapter 9: Hydrology and Hydrogeology	
Construction	Impacts on surface water and groundwater quality from pollution from fuel, oil, concrete or other hazardous substances.
	Discharge of sediment laden runoff to drainage systems and watercourses.
	Increased flood risk to areas downstream of the Site during construction through increased surface runoff.
	Changes in groundwater levels or groundwater flow paths in areas of Groundwater Dependent Terrestrial Ecosystem (GWDTEs).
	Potential adverse impacts to licenced and private water supplies.
	Disturbance and / or pollution resulting from borrow pit formation and use.



Potential Impacts Scoped into the EIA for the Project	
Operation and Maintenance	Increased runoff rates and flood risk, resulting from increases in areas of impermeable hardstanding areas.
	Increased flood risk from restriction of flow at permanent watercourse crossings.
	Changes in natural surface water drainage patterns.
	Changes to groundwater levels and groundwater movement.
	Longer term impacts on abstractions for water supplies, particularly any supplies dependent on groundwater.
Decommissioning	No activities during this phase are scoped into the assessment. See Table 19-2 .
Cumulative	Cumulative effects on hydrological and hydrogeological receptors, which will be assessed using the surface water catchments within the Study Area, with a maximum downstream distance of 5km from the Site boundary.
Chapter 10: Geology, Soils and Ground Conditions	
Construction	Disturbance and loss of carbon rich soils and peat deposits.
	Disturbance and loss of Agricultural Land.
	Sterilisation of Mineral Safeguarding Area.
	Ground instability (inc. peat slide risk if present).
	Impacts to contaminated land.
Operation and Maintenance	No activities during this phase are scoped into the assessment. See Table 19-2 .
Decommissioning	No activities during this phase are scoped into the assessment. See Table 19-2 .
Cumulative	Disturbance and loss of agricultural land as a direct impact from the construction of the project and the Project's impact on agricultural land availability on a regional basis.
	Potential for sterilisation of safeguarded minerals as a result of the Project.
Chapter 11: Access, Traffic and Transport	



Potential Impacts Scoped into the EIA for the Project	
Construction	Potential effects of additional vehicle movements on severance, road vehicle driver and passenger delay, non-motorised user delay, non-motorised user amenity, fear and intimidation of and by road users, road user and pedestrian safety, and hazardous / large loads. Temporary delay to users of Public Rights of Way (PRoW) where crossed by construction traffic or where a PRoW diversion is required.
Operation and Maintenance	Changes in journey length of PRoW users should changes to PRoW arise from the Project.
Decommissioning	Potential effects of additional vehicle movements on severance, road vehicle driver and passenger delay, non-motorised user delay, non-motorised user amenity, fear and intimidation of and by road users, road user and pedestrian safety, and hazardous / large loads.
Cumulative	As per construction.
Chapter 12: Noise and Vibration	
Construction	Noise and vibration from construction activities, including construction vehicle movements
Operation and Maintenance	Operational wind turbine noise
	Operational non-wind turbine noise
Decommissioning	No activities during this phase are scoped into the assessment. See Table 19-2 .
Cumulative	Potential cumulative effects due to noise from existing or proposed wind turbines within 10 km of the Project.
Chapter 13 Aviation, Radar and Telecommunications	
Construction	The potential for the Project to present an obstruction hazard to military low flying operations.
	The potential for requirement to raise minimum flight altitudes in relation to: • Teesside Airport Instrumental Flight Procedures (IFPs); and • RAF Leeming IFPs.
Operation and Maintenance	The potential for false radar plots and reduced probability of detection in relation to: • NERL Great Dun Fell Primary Surveillance Radar (PSR).



Potential Impacts Scoped into the EIA for the Project	
	• NERL Claxby PSR. • Newcastle Airport PSR. • Teesside Airport PSR. • RAF Leeming PSR. • MoD Staxton Wold PSR. • MoD Brizlee Wood PSR.
	The potential for the Project to present an obstruction hazard to military low flying operations.
	The potential for requirement to raise minimum flight altitudes in relation to: • Teesside Airport IFPs; and • RAF Leeming IFPs.
Decommissioning	The potential for the Project to present an obstruction hazard to military low flying operations.
	The potential for requirement to raise minimum flight altitudes in relation to: • Teesside Airport IFPs; and • RAF Leeming IFPs.
Cumulative	The potential for the Project, in combination with other existing and planned developments, to contribute to obstruction hazards to military low flying operations.
	The potential for requirement to raise minimise flight altitudes in relation to: • Tees-side Airport IFPs; and • RAF Leeming IFPs.
	The potential for false radar plots and reduced detection probability in relation to: • NERL Great Dun Fell PSR; • NERL Claxby PSR; • Newcastle Airport PSR; • Teesside Airport PSR;



Potential Impacts Scoped into the EIA for the Project	
	• RAF Leeming PSR; • MoD Staxton Wold PSR; and • MoD Brizlee Wood PSR.
Chapter 14: Shadow Flicker	
Construction	No activities during this phase are scoped into the assessment. See Table 19-2 .
Operation and Maintenance	Shadow flicker at nearby receptors within 10 rotor diameters from a proposed wind turbine.
Decommissioning	No activities during this phase are scoped into the assessment. See Table 19-2 .
Cumulative	No activities during this phase are scoped into the assessment. See Table 19-2 .
Chapter 15: Air Quality	
Construction	Effects of dust emissions from construction activities on human health and air quality local to the Project Site.
	Effects of dust emissions from construction activities on designated ecological sites local to the Project.
	Effects on human health of vehicle trips increasing emissions of Nitrogen Dioxide (NO ₂) and Particulate matter.
	Effects on local designated conservation sites due to changes in Nitrogen Oxide (NO _x), Ammonia (NH ₃) and Nitrogen / Acid Deposition due to emissions from construction plant and vehicles and increased road vehicle movements on the local road network
Operation and Maintenance	No activities during this phase are scoped into the assessment. See Table 19-2 .
Decommissioning	No activities during this phase are scoped into the assessment. See Table 19-2 .
Cumulative	A cumulative effects assessment for air quality is proposed to be scoped out on the basis that no significant cumulative air quality effects are anticipated. See Table 19-2 .
Chapter 16: Carbon and Climate Change – GHG Assessment	
Green House Gas Assessment	
Construction	Materials used in the construction of the Project.



Potential Impacts Scoped into the EIA for the Project	
	Fuel used in the operation of construction plants, vehicles and equipment.
	Transportation of materials and equipment to the Site.
	Transportation of construction workers to and from the Site.
	Waste generated from the construction process.
	Water supplied to, and water drained from the Site during the construction process.
	Land use change emissions resulting from the Project and construction processes.
Operation and Maintenance	Fuels used in the operation of Site plants, vehicles and equipment.
	Site consumption of electricity.
	Refrigerant and process gases used in Site equipment released from non-combustion process.
	Waste generated from operations.
	Water supplied to, and water drained from the Site from operational activities.
	Energy used to operate maintenance equipment.
	Materials used to repair and maintain the Project.
	Transportation of materials and equipment to the Site for maintenance activities.
	Land use change emissions during operations following the installation of the Project.
Decommissioning	Fuel used in the operation of plants, vehicles and equipment for the decommissioning process.
	Transportation of materials and equipment from the Site.
	Transportation of decommissioning workers to and from the Site.
	Waste generated from the decommissioning process.
	Water supplied to, and water drained from the Site during the decommissioning process.
Climate Resilience Assessment	

Potential Impacts Scoped into the EIA for the Project	
Project Lifetime	Projected future air temperature conditions at the Site.
	Projected future wind speed conditions at the Site.
	Projected future precipitation conditions at the Site.
Chapter 17: Socio-Economics	
See Table 19-2 which details the proposed approach to the consideration of socio-economics matters for the Project.	
Chapter 18: Other Environmental Topics	
See Table 19-2 which details the proposed rationale for scoping out material assets and waste, human health, and major accidents and disasters from the EIA for the Project.	

Table 19-2 Summary of Scoped-Out Impacts of the Assessment

Potential Impacts Scoped Out of the EIA for the Project	
Chapter 5: Landscape and Visual	
Construction and Decommissioning	Short term, temporary impact of the construction / decommissioning of the Project on landscape features outside of the site area. This is on the basis that landscape outside of the site area would not be physically affected by the Project.
	Short term, temporary impact of the construction / decommissioning of the Project on landscape character Landscape Character Areas (LCAs) beyond 20 km. This is on the basis that LCAs beyond 20 km are shown on the scoping ZTVs to have distant, limited or no visibility and therefore do not have the potential for likely significant visual effects.
	Short term, temporary impact of the construction / decommissioning of the Project on designated landscapes described in Table 5-2 as having no potential for significant effects.
	Short term, temporary impact of the construction / decommissioning of the Project on visual receptors / views with limited or no visibility. This is on the basis that visual receptors / views with limited or no visibility do not have the potential for significant visual effects.

Potential Impacts Scoped Out of the EIA for the Project	
Operation and Maintenance	Potential for long-term, reversible impacts of the operation and maintenance of the Project on landscape fabric outside of the site area. This is on the basis that landscape outside of the site area would not be physically affected by the Project.
	Potential for long-term, reversible impacts of the operation and maintenance of the Project on landscape character LCAs beyond 20 km. This is on the basis that LCAs beyond 20 km are shown on the scoping ZTVs to have distant, limited or no visibility and therefore do not have the potential for significant visual effects.
	Potential for long-term, reversible impacts of the operation and maintenance of the Project on designated landscapes described in Table 5-2 as having no potential for significant effects.
	Potential for long-term, reversible impacts (daytime) of the operation and maintenance of the Project on visual receptors / views with limited or no visibility. This is on the basis that visual receptors / views with limited or no visibility do not have the potential for significant visual effects.
	Potential for long-term, reversible impacts (night-time) of the operation and maintenance of the Project on visual receptors / views beyond 20km. This is on the basis that the potential for significant effects of visible aviation lighting are considered unlikely beyond 20 km, in line with NatureScot guidance.
Cumulative	Cumulative effects that may arise as a result of cumulative wind farm development below 50 m. Non wind local developments (Major Applications) beyond 10 km from the Project. This is on the basis that there is no potential for significant cumulative effects due to a predicted lack of cumulative interaction and / or influence.
Chapter 6: Archaeology and Cultural Heritage	
Construction	Settings effects on designated heritage assets because Impacts on the setting of designated heritage assets as a result of construction activity are minimal at most and temporary in nature.
Operation and Maintenance	Settings effects on designated heritage asset: • Impacts on setting on Grade II Listed Buildings and Grade II Registered Parks and Gardens outside of 5km of the proposed wind turbines, with the exception of those wherein specific views are considered to contribute to their significance and/or to the ability to appreciate and experience them; • Conservation Areas beyond 5 km of the Site; and • Assets that all outside of the Zone of Theoretical Visibility (ZTV) (and where important views associated those assets' approaches, and third points of appreciation also fall outside of the ZTV)



Potential Impacts Scoped Out of the EIA for the Project	
Decommissioning	On the basis that effects are likely to be similar to or less than construction effects, it is unlikely for there to be any direct impacts upon known heritage assets as a result of decommissioning.
Cumulative	In terms of setting effects on designated heritage assets, assets with a lower than minor significance of effect resulting from the Project in isolation will not be taken forward for assessment for cumulative effects within the Environmental Statement (ES) chapter, as these assets are unlikely to be susceptible to significant cumulative effects.
Chapter 6: Ecology	
Construction	Indirect impacts Brignall Banks Site of Special Scientific Interest (SSSI) because embedded mitigation measures are considered sufficient to reduce potential risks to notified features to negligible levels.
	Impacts to certain Local Wildlife Site (LWS) - those more than 200 m from the Site boundary and with no mobile notified features (e.g. bats) and/ or no hydrological connection because potential impacts are not anticipated.
	Impacts to otter, water vole, badger on the basis of lack of evidence to date, relative lack of suitable habitat within the Site, and lack of potential significant impacts through (for example) habitat loss, disturbance or accidental pollution.
	Impacts to white-clawed crayfish on the basis that baseline desk and field survey has determined that this species is likely absent from the Site and the area downstream
Operation and Maintenance	Killing and injury to low collision risk bat species recorded at the Site (brown long-eared bat, Daubenton's bat, Natter's bat, whiskered bat) as guidance states these species are at a low risk from collision and the populations are of low vulnerability.
Decommissioning	An ecological impact assessment of the decommissioning phase is scoped into the assessment. See Table 19-1 .
Cumulative	A cumulative ecological impact assessment is scoped into the assessment. See Table 19-1 .
Chapter 8: Ornithology	
All phases	Statutory designated sites located within 10 km of the Site on the basis of spatial separation and embedded mitigation and therefore absence of credible connectivity and pathway for effect: • Crotherstone Moor SSSI; • Bollihope, Pikestone, Eggleston and Woodland Fells SSSI;

Potential Impacts Scoped Out of the EIA for the Project	
	• Mallerstang-Swaledale Head SSSI; • Lune Forest SSSI; • Swale Lakes SSSI; • Upper Teesdale SSSI; and • Teesdale Allotments SSSI.
	Barn owl on the basis of embedded mitigation and the generally accepted low sensitivity of the species to displacement or collision mortality risks from onshore wind farm developments due to their low altitude foraging habits.
	Nightjar on the basis of the spatial separation of suitable breeding habitat from the Site and adoption of embedded mitigation measures and on the basis of current studies and evidence indicating that the species is not significantly displaced or likely to experience significant collision mortality risks from onshore wind farm developments.
	Passerine (together with wood pigeon and stock dove) given their low susceptibility to collision and availability of alternative comparable habitats to support any likely localised impacts with embedded mitigation measures applied.
	Additional gull species will only be taken forward for detailed assessment where baseline studies identify regular flight activity, with a clear functional link to local breeding, foraging or commuting behaviour.
	Migratory waterfowl in view of the typical high avoidance rates assigned to such species for use with the NatureScot collision risk model, and on the basis that the Project is not located within 20 km of any designated site for such interests and baseline surveys completed to date have not identified any regular use of the turbine area or notable flight activity through the Site by such species. As such no clear functional connectivity with surrounding habitats is established.
	Species for which only occasional transient records are identified during baseline studies will also not be subject to detailed assessment, given such activity would suggest a limited functional link
	Aviation lighting on the basis that baseline studies have not identified the Site as being important for species susceptible to elevated risks to collisions with lit turbines
Chapter 9: Hydrology and Hydrogeology	
Construction	Potential adverse impacts to water dependent designated sites because there are no hydrologically connected designated sites within the Study Area or within 1 km downstream of the Study Area.



Potential Impacts Scoped Out of the EIA for the Project	
Operation and Maintenance	An assessment of the potential effects on hydrology and hydrogeology from operation and maintenance activities is scoped into the assessment. See Table 19-2 .
Decommissioning	Potential decommissioning effects on the basis that decommissioning of the Project will be carried out in accordance with an approved Decommissioning Plan which will be expected to include the same safeguards as those provided during the construction stage of the Project, which will be outlined in the EIA.
Cumulative	A cumulative effects assessment is scoped into the hydrology and hydrogeological assessment. See Table 19-2 .
Chapter 10: Geology, Soils and Ground Conditions	
Construction	The potential effects on geology, soils and ground conditions from construction activities is scoped into the assessment. See Table 19-2 .
Operation and Maintenance	Activities associated with the operational and maintenance phase of the Project would not involve excavation or large-scale earthworks activities and any ground disturbing activities would be minimal and restricted to maintenance activities on access tracks and other infrastructure areas. Operation and maintenance activities will be undertaken in accordance with the Operational Phase Environmental Management Plan (OPEMP), an outline OPEMP will form part of the application for development consent and will set out the principles to be followed when the final OPEMP is finalised.
Decommissioning	Potential decommissioning effects on the basis that decommissioning of the Project will be carried out in accordance with an approved Decommissioning Plan which will be expected to include the same safeguards as those provided during the construction stage of the Project which will be outlined in the EIA.
Cumulative	With the exception of disturbance and loss of agricultural land on a regional basis and mineral safeguarding (which are scoped in (see Table 19-2), cumulative impacts on geology, soils and ground conditions are typically only anticipated where construction activities overlap spatially and temporally. Given that effects would be substantially minimised post-construction through the implementation of mitigation measures, and that other developments within the wider area are either sufficiently distant or already operational (as set out in Chapter 3: Approach to EIA, Table 3-2), no meaningful overlap of both spatial footprint and timeline is anticipated.
Chapter 11: Access, Traffic and Transport	
Construction and Decommissioning	Construction and decommissioning phase impacts are scoped into the assessment. See Table 19-2 .



Potential Impacts Scoped Out of the EIA for the Project	
Operation and Maintenance	Additional vehicle movements during this phase on the basis that there would only be occasional maintenance and inspection vehicle movements generated by the Project once operational.
Cumulative	An assessment of cumulative effects is scoped into the assessment. See Table 19-2 .
Chapter 12: Noise and Vibration	
Construction	An assessment of the potential effects due to noise and vibration from construction activities is scoped in. See Table 19-2 .
Operation and Maintenance	Operational road traffic noise on the basis that only occasional maintenance and inspection vehicle movements will be generated by the Project once it is operational.
	Vibration during operation on the basis that no significant sources of vibration will be present during the operational phase
	Operational infrasound, low-frequency noise, tonal noise and excess amplitude modulation on the basis that current national guidance and policy on wind turbine noise assessment indicate that these aspects are outside the scope of ETSU-R-97 and the Institute of Acoustics (IoA) Good Practice Guide (GPG).
Decommissioning	Decommissioning activities would broadly mirror construction but are expected to result in lesser effects as some aspects of the project (such as below ground infrastructure) may remain. Given the proposed 30-year consent, decommissioning would occur far into the future, meaning such that existing baseline data would have limited relevance and any future baseline projections would likely be too uncertain to be useful.
Cumulative	An assessment of cumulative effects is scoped into the assessment. See Table 19-2 .
Chapter 13: Aviation, Radar and Telecommunications	
All phases and Cumulative	Fixed telecommunication links – none within 1 km of Scoping Boundary.
	Meteorological Office radars – none within Study Area.
	Secondary surveillance radars – none within Study Area.
	Aeronautical radio navigation beacons – none within Study Area.
	Aeronautical radio communication facilities – none within Study Area.
	Unlicensed aerodromes – none within Study Area.



Potential Impacts Scoped Out of the EIA for the Project	
Chapter 14: Shadow Flicker	
Construction	A shadow flicker assessment would not be carried out for the construction phase of the Project because the effect can only occur when the wind turbine blades are rotating and casting moving shadows. Wind turbines are not operational during construction, meaning no shadow flicker can be generated.
Operation and Maintenance	Receptors beyond 10 times the rotor diameter because shadow flicker effects beyond ten times the rotor diameter are widely accepted to be negligible.
	Non-residential receptors because shadow flicker is only considered significant where it affects sensitive receptors such as residential properties.
	Shadow flicker effects on people with epilepsy because the frequency of the flickering caused by wind turbine rotation should not cause a significant risk to health.
Decommissioning	A shadow flicker assessment would not be carried out for the decommissioning phase of the Project because the effect can only occur when the wind turbine blades are rotating and casting moving shadows. Wind turbines are not operational during decommissioning, meaning no shadow flicker can be generated.
Cumulative	There are no existing, consented or in planning wind farm developments located in the local area such that potential cumulative shadow flicker effects would not be experienced.
Chapter 15: Air Quality	
Construction	Construction phase plant and machinery (NRMM) air quality effects – Institute of Air Quality Management (IAQM) guidance indicates that emissions from on-site plant (NRMM) are unlikely to significantly affect local air quality and typically do not require quantitative assessment. Given the limited number of units (<10 at any time), large site area, and few nearby sensitive receptors—along with layout measures to maximise separation distances—significant effects from on-site machinery emissions are not anticipated.
Operation and Maintenance	The wind turbines and associated infrastructure will not cause any emissions to air during the operation and maintenance phase.
	Effects on human health of vehicle trips increasing emissions of NO ₂ and Particulate matter on the basis that traffic generated during the operational phase will be limited to a small number of maintenance visits.



Potential Impacts Scoped Out of the EIA for the Project	
	Effects on local designated conservation sites due to changes in NO _x , NH ₃ and Nitrogen / Acid Deposition due to emissions from road vehicle movements on the local road network on the basis that traffic generated during the operational phase will be limited to a small number of maintenance visits.
Decommissioning	Effects of dust emissions from decommissioning activities on human health and on designated ecological sites local to the Development Site on the basis that the scale of work involved in decommissioning will be less than undertaken during construction and will be controlled by mitigation measures as set out in a Decommissioning Plan.
	Decommissioning phase delivery vehicles, plant and machinery (NRMM) air quality effects on the basis that by the time decommissioning is carried out vehicle, plant and machinery emissions are expected to be much lower than at present due to improvements in vehicle technology and progression towards net zero carbon emissions driving an increase in electrically powered plant, in preference to combustion engines.
Cumulative	With reference to Chapter 3: Approach to EIA, Table 3-2 , no other developments are expected to result in significant cumulative effects on air quality with the Project. Other developments within the wider area are either sufficiently distant or already operational, with no meaningful overlap of construction or operation emissions. Furthermore, such developments will be subject to their own air quality assessments and mitigation measures to control dust and pollutant emissions. However, at this stage the only possibly cumulative impact on air quality would arise should the construction of the A66 Northern Trans-Pennine Project were to coincide with the construction of the Project, in such circumstances consideration of cumulative effects with the Project would be included in the EIA.
Chapter 16: Carbon and Climate Change	
Greenhouse Gas (GHG) Assessment	
All phases	No GHG impacts are expected to be scoped out.
Climate Resilience Assessment	
Project Lifetime	Cloud cover or sunshine frequency are not significant factors for the operation of a wind farm.
	Minimum Air Temperature/ Frost Frequency - climate change from rising global temperatures will likely lessen the impacts of cold related climate conditions going forward into the future. The Project will be built with consideration of current cold related climate conditions in mind.
	Coastal Flooding and Erosion - the Site is not located near the coast and therefore will not be exposed to coastal related risks.



Potential Impacts Scoped Out of the EIA for the Project	
	Flooding (fluvial and pluvial) – detailed consideration of flood risk will be presented in the Hydrology and Hydrogeology chapter of the ES.
Chapter 17: Socio-Economics	
The socio-economic scoping assessment considers the Project as a whole rather than as separate phases. No likely significant socio-economic effects are anticipated for the purposes of the EIA. This is because the principal socio-economic effects of the Project are expected to relate to temporary construction activity and limited operational employment, with any beneficial effects likely to be dispersed across a wider labour market and supply chain rather than of a scale or concentration likely to materially alter local socio-economic conditions. No clear pathway has been identified by which the Project would be likely to give rise to significant adverse effects on local population, employment structure, businesses, tourism activity or community infrastructure. It is therefore proposed that the assessment of socio-economic impacts should be scoped out of the EIA. However, recognising that socio-economic and tourism matters will be of interest to stakeholders and relevant planning authorities, a proportionate standalone socio-economics and tourism report will be prepared and submitted alongside the EIA documentation. This will consider matters such as employment generation, local expenditure, tourism, and any indirect or induced effects arising from the Project.	
Chapter 19: Other Environmental Topics	
Material Assets and Waste	Based on the indicative construction waste volumes and the substantial capacity of existing regional waste infrastructure no likely significant effects on material assets and waste are anticipated during the construction, operation, maintenance, and decommissioning of the Project. As waste would be managed in accordance with the waste hierarchy, it is assumed that disposal to landfill would be minimal, and it is on this basis that (with a commitment to develop the outline management plans identified in Chapter 18: Other Environmental Topics) it is proposed that the material assets and waste topic is scoped out of the EIA and further assessment is not proposed.
Human Health	It is considered feasible to scope out Human Health from the EIA for the Project because all potential health-related pathways – such as air quality, noise, traffic, landscape, socio-economics and access – will be fully addressed within the technical assessments scoped into the ES. These topic-specific assessments will manage and mitigate any environmental changes that could influence human health, and the baseline evidence shows no characteristics within the Zol that would lead to likely significant effects on human health once mitigation is applied.
Major Accidents and Disasters	It is considered feasible to scope out Major Accidents and Disasters from the EIA for the Project because there are no nearby Control of Major Accident Hazards (COMAH) sites or other significant hazard sources within, or located near to, the Site. All identified risks presented in Chapter 18: Other Environmental Topics will be managed through established design standards, risk assessments and control measures managed via measures to be set



Potential Impacts Scoped Out of the EIA for the Project

	out in the CEMP, CTMP and Decommissioning Plan. With such measures in place significant effects are not expected, and further EIA assessment is not necessary.