



Redmere Wind Farm

EIA Scoping Report

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VATTENFALL 

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CONTENTS

1.	INTRODUCTION	14
1.1	OVERVIEW	14
1.2	THE APPLICANT	15
1.3	REQUIREMENT FOR EIA	15
1.4	OBJECTIVES OF THIS SCOPING REPORT	16
1.5	REPORT CONTENT AND STRUCTURE	17
1.6	THE EIA TEAM	18
1.7	ISEP QUALITY MARK	18
2.	PROJECT DESCRIPTION	20
2.1	INTRODUCTION	20
2.2	SITE INFRASTRUCTURE	22
2.3	GRID CONNECTION	32
2.4	DEVELOPMENT ACTIVITIES AND PROGRAMME	34
3.	POLICY CONTEXT	38
3.1	INTRODUCTION	38
3.2	INTERNATIONAL CONTEXT	39
3.3	UK LEGISLATIVE AND POLICY CONTEXT	40
3.4	NATIONAL PLANNING POLICY AND GUIDANCE	42
4.	SITE SELECTION AND ALTERNATIVES	49
4.1	INTRODUCTION	49
4.2	NATIONAL SCALE CONSIDERATIONS	49
4.3	LOCAL SCALE CONSIDERATIONS	50
4.4	DESIGN PRINCIPLES	51
4.5	ALTERNATIVES CONSIDERED	52
4.6	APPLYING THE ROCHDALE ENVELOPE	53
5.	APPROACH TO EIA AND CONSULTATION	56
5.1	INTRODUCTION	56
5.2	APPROACH TO SCOPING	56
5.3	APPROACH TO EIA	59
5.4	ENGAGEMENT AND CONSULTATION	65
6.	BIODIVERSITY AND NATURE CONSERVATION	66
6.1	INTRODUCTION	66
6.2	STUDY AREA	67
6.3	BASELINE CONDITIONS	67

6.4	SCOPING DETERMINATION OF POTENTIAL LIKELY SIGNIFICANT EFFECTS	75
6.5	ASSUMPTIONS AND LIMITATIONS	81
7.	ORNITHOLOGY	82
7.1	INTRODUCTION	82
7.2	STUDY AREA	83
7.3	BASELINE	83
7.4	SCOPING DETERMINATION OF POTENTIAL LIKELY SIGNIFICANT EFFECTS	88
7.5	ASSUMPTIONS AND LIMITATIONS	92
8.	CULTURAL HERITAGE AND ARCHAEOLOGY	93
8.1	INTRODUCTION	93
8.2	STUDY AREA	94
8.3	BASELINE	94
8.4	SCOPING DETERMINATION OF POTENTIAL LIKELY SIGNIFICANT EFFECTS	97
8.5	ASSUMPTIONS AND LIMITATIONS	102
9.	LANDSCAPE AND VISUAL	103
9.1	INTRODUCTION	103
9.2	STUDY AREA	104
9.3	BASELINE	104
9.4	SCOPING DETERMINATION OF POTENTIAL LIKELY SIGNIFICANT EFFECTS	131
9.5	ASSUMPTIONS AND LIMITATIONS	136
10.	SHADOW FLICKER	138
10.1	INTRODUCTION	138
10.2	STUDY AREA	139
10.3	BASELINE	139
10.4	SCOPING DETERMINATION OF POTENTIAL LIKELY SIGNIFICANT EFFECTS	140
10.5	ASSUMPTIONS AND LIMITATIONS	143
11.	HYDROLOGY, HYDROGEOLOGY, GEOLOGY AND PEAT	145
11.1	INTRODUCTION	145
11.2	STUDY AREA	146
11.3	BASELINE	146
11.4	SCOPING DETERMINATION OF POTENTIAL LIKELY SIGNIFICANT EFFECTS	157
11.5	ASSUMPTIONS AND LIMITATIONS	165

12.	CLIMATE CHANGE AND GREENHOUSE GASES	166
12.1	INTRODUCTION	166
12.2	STUDY AREA	167
12.3	BASELINE	168
12.4	SCOPING DETERMINATION OF POTENTIAL LIKELY SIGNIFICANT EFFECTS	171
12.5	ASSUMPTIONS AND LIMITATIONS	176
13.	TRAFFIC AND TRANSPORT	178
13.1	INTRODUCTION	178
13.2	STUDY AREA	179
13.3	BASELINE	180
13.4	SCOPING DETERMINATION OF POTENTIAL LIKELY SIGNIFICANT EFFECTS	184
13.5	ASSUMPTIONS AND LIMITATIONS	188
14.	NOISE AND VIBRATION	190
14.1	INTRODUCTION	190
14.2	STUDY AREA	191
14.3	BASELINE	192
14.4	SCOPING DETERMINATION OF POTENTIAL LIKELY SIGNIFICANT EFFECTS	199
14.5	ASSUMPTIONS AND LIMITATIONS	204
15.	SOCIO-ECONOMICS, TOURISM, RECREATION AND LAND USE	206
15.1	INTRODUCTION	206
15.2	STUDY AREA	207
15.3	BASELINE	208
15.4	SCOPING DETERMINATION OF POTENTIAL LIKELY SIGNIFICANT EFFECTS	210
15.5	ASSUMPTIONS AND LIMITATIONS	216
16.	AVIATION, RADAR AND TELECOMMUNICATIONS	217
16.1	INTRODUCTION	217
16.2	STUDY AREA	218
16.3	BASELINE	219
16.4	SCOPING DETERMINATION OF POTENTIAL LIKELY SIGNIFICANT EFFECTS	224
16.5	ASSUMPTIONS AND LIMITATIONS	229
17.	OTHER ENVIRONMENTAL TOPICS	230
17.1	HUMAN HEALTH	230

17.2	AIR QUALITY	233
17.3	MAJOR ACCIDENTS AND DISASTERS	237
17.4	FORESTRY	242
17.5	WASTE	244
17.6	TRANSBOUNDARY EFFECTS	252
18.	CUMULATIVE EFFECTS	253
18.1	INTRODUCTION	253
18.2	ASSESSMENT SCOPE	253
18.3	INTER-PROJECT CUMULATIVE EFFECTS	254
18.4	INTRA-PROJECT CUMULATIVE EFFECTS	260
19.	STRUCTURE OF THE ES	261

APPENDIX A FIGURES

APPENDIX B LEGISLATION, POLICY AND GUIDANCE

APPENDIX C EIA METHODOLOGIES

LIST OF TABLES

TABLE 2.1	INDICATIVE DESIGN PARAMETERS	22
TABLE 2.2	INDICATIVE TURBINE LOCATIONS	26
TABLE 5.1	SCOPING REPORT CONTENT REQUIRED UNDER REGULATION 10 AND SUGGESTED INCLUSIONS FROM PINS ADVICE NOTE 7 AND PRE-APPLICATION ADVICE ON ENVIRONMENTAL IMPACT ASSESSMENT	58
TABLE 6.1	NATIONAL AND INTERNATIONAL STATUTORY DESIGNATED SITES	69
TABLE 6.2	LOCAL STATUTORY AND NON-STATUTORY DESIGNATED SITES	71
TABLE 6.3	BIODIVERSITY AND NATURE CONSERVATION SCOPING DETERMINATION OF POTENTIAL LSE DURING CONSTRUCTION AND DECOMMISSIONING	76
TABLE 6.4	BIODIVERSITY AND NATURE CONSERVATION SCOPING DETERMINATION OF POTENTIAL LSE DURING OPERATION	79
TABLE 7.1	STATUTORY DESIGNATED SITES RELEVANT TO THE ORNITHOLOGICAL ASSESSMENT	84
TABLE 7.2	ORNITHOLOGY SCOPING DETERMINATION OF POTENTIAL LSE DURING CONSTRUCTION AND DECOMMISSIONING	89
TABLE 7.3	ORNITHOLOGY SCOPING DETERMINATION OF POTENTIAL LSE DURING OPERATION	90

TABLE 8.1	CULTURAL HERITAGE AND ARCHAEOLOGY SCOPING DETERMINATION OF POTENTIAL LSE DURING CONSTRUCTION AND DECOMMISSIONING	99
TABLE 8.2	CULTURAL HERITAGE AND ARCHAEOLOGY SCOPING DETERMINATION OF POTENTIAL LSE DURING OPERATION AND MAINTENANCE	100
TABLE 9.1	PROVISIONAL LVIA VIEWPOINT LOCATIONS	119
TABLE 9.2	RELATIONSHIP BETWEEN VISUAL RECEPTORS AND REPRESENTATIVE VIEWPOINTS	123
TABLE 9.3	LANDSCAPE AND VISUAL SCOPING DETERMINATION OF POTENTIAL LSE DURING CONSTRUCTION AND DECOMMISSIONING	132
TABLE 9.4	LANDSCAPE AND VISUAL SCOPING DETERMINATION OF POTENTIAL LSE DURING OPERATION	133
TABLE 10.1	SHADOW FLICKER SCOPING DETERMINATION OF POTENTIAL LSE DURING CONSTRUCTION AND DECOMMISSIONING	141
TABLE 10.2	SHADOW FLICKER SCOPING DETERMINATION OF POTENTIAL LSE DURING OPERATION	141
TABLE 11.1	HYDROLOGY, HYDROGEOLOGY, GEOLOGY AND PEAT SCOPING DETERMINATION OF POTENTIAL LSE DURING CONSTRUCTION AND DECOMMISSIONING	159
TABLE 11.2	HYDROLOGY, HYDROGEOLOGY, GEOLOGY AND PEAT SCOPING DETERMINATION OF POTENTIAL LSE DURING OPERATION	161
TABLE 12.1	EXISTING CLIMATE BASELINE CONDITIONS	169
TABLE 12.2	FUTURE CLIMATE BASELINE CONDITIONS (SSP5-8.5)	170
TABLE 12.3	CLIMATE CHANGE AND GHG SCOPING DETERMINATION OF POTENTIAL LSE DURING CONSTRUCTION AND DECOMMISSIONING	172
TABLE 12.4	CLIMATE CHANGE AND GHG SCOPING DETERMINATION OF POTENTIAL LSE DURING OPERATION	173
TABLE 13.1	TRAFFIC AND TRANSPORT SCOPING DETERMINATION OF POTENTIAL LSE DURING CONSTRUCTION AND DECOMMISSIONING	185
TABLE 13.2	TRAFFIC AND TRANSPORT SCOPING DETERMINATION OF POTENTIAL LSE DURING OPERATION	186
TABLE 14.1	NSR LOCATIONS	194
TABLE 14.2	NOISE AND VIBRATION SCOPING DETERMINATION OF POTENTIAL LSE DURING CONSTRUCTION AND DECOMMISSIONING	200
TABLE 14.3	NOISE AND VIBRATION SCOPING DETERMINATION OF POTENTIAL LSE DURING OPERATION	201
TABLE 15.1	SOCIO-ECONOMICS, TOURISM, RECREATION AND LAND USE SCOPING DETERMINATION OF POTENTIAL LSE DURING CONSTRUCTION AND DECOMMISSIONING	211

TABLE 15.2	SOCIO-ECONOMICS, TOURISM, RECREATION AND LAND USE SCOPING DETERMINATION OF POTENTIAL LSE DURING OPERATION	213
TABLE 16.1	AVIATION, RADAR AND TELECOMMUNICATIONS RECEPTORS	221
TABLE 16.2	AVIATION, RADAR AND TELECOMMUNICATIONS SCOPING DETERMINATION OF POTENTIAL LSE DURING CONSTRUCTION AND DECOMMISSIONING	225
TABLE 16.3	AVIATION, RADAR AND TELECOMMUNICATIONS SCOPING DETERMINATION OF POTENTIAL LSE DURING OPERATION	226
TABLE 17.1	PROPOSED SCOPE OF THE HUMAN HEALTH ASSESSMENT	231
TABLE 17.2	PROPOSED SCOPE OF THE AIR QUALITY ASSESSMENT	235
TABLE 17.3	PROPOSED SCOPE OF THE MAJOR ACCIDENTS AND DISASTERS ASSESSMENT	240
TABLE 17.4	PROPOSED SCOPE OF THE FORESTRY ASSESSMENT	244
TABLE 17.5	PROPOSED SCOPE OF THE WASTE ASSESSMENT	249
TABLE 18.1	PROPOSED SPATIAL SCOPE OF THE CEA	257

LIST OF FIGURES (APPENDIX A)

Figure Number	Name
2.1	Site Location
2.2	Site Layout
2.3	Land Required from Site to Port
2.4	Site Referencing
6.1	Local Statutory and Non-Statutory Sites
6.2	National and International Statutory Designated Sites
7.1a-b	Ornithology Survey Areas
7.2	Flight Activity Survey Vantage Points and Viewsheds
7.3	Statutory Designated Sites with Ornithology Features
8.1	Historic Environment Designated Sites
8.2	Historic Environment Designated Sites - Detail
8.3	Historic Environment Non-Designated Sites
9.1	Landscape and Visual Impact Assessment Study Area
9.2	National Landscape Character Areas
9.3	Landscape Designations

Figure Number	Name
9.4	Associated Landscape Designations
9.5	Night Blight
9.6	Tranquillity
9.7	Zone of Theoretical Visibility (ZTV) To Turbine Tip Height with Scoping Viewpoints to 30 km
9.8	ZTV To Turbine Tip Height with Scoping Viewpoints to 10 km
9.9	ZTV To Turbine Hub Height with Scoping Viewpoints to 30 km
9.10	ZTV To Turbine Hub Height with Scoping Viewpoints to 10 km
9.11	Residential Properties Within 2 km of the Indicative Order Limits with Turbine Tip ZTV
9.12	PRoW with Turbine Tip ZTV (30km)
9.13	PRoW with Turbine Tip ZTV (10km)
10.1	Shadow Flicker Study Area
11.1	Hydrological Context
11.2	National Soil Map
11.3	Natural England Peaty Soils Location
11.4	Superficial Geology
11.5	Bedrock Geology
11.6	Hydrological Features
11.7	Hydrological Regime
13.1a-b	Traffic and Transport Study Area
14.1	Noise Sensitive Receptors
15.1	Socio-Economics Study Area
15.2	Index of Multiple Deprivation
15.3	Agricultural Land Classification
18.1a-c	Cumulative Developments

GLOSSARY

Term	Definition
The Applicant	Vattenfall Wind Power Ltd.
The Application	The application for a Development Consent Order for the Proposed Development.
The EIA Regulations	The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017, as amended.
The Indicative Order Limits	The maximum extent of land currently identified as being required for the Proposed Development.
The Proposed Development	Redmere Wind Farm and its associated on-site infrastructure, comprising up to 32 wind turbines, a Battery Energy Storage System, an on-site substation and associated infrastructure.
The Scoping Opinion	The opinion provided by the Planning Inspectorate, on behalf of the Secretary of State, on the scope and level of detail of the Environmental Impact Assessment and Environmental Statement.
The Scoping Report	This report, which sets out the proposed scope and level of detail of the Environmental Impact Assessment for the Proposed Development.
The Site	The land within the Indicative Order Limits.

ACRONYMS AND ABBREVIATIONS

Acronym	Description
AA	Appropriate Assessment
AADT	Annual Average Daily Traffic
ADPSR	Air Defence Primary Surveillance Radar
AIL	Abnormal Indivisible Load
ALC	Agricultural Land Classification
ALRA	Abnormal Load Route Assessment
AM	Amplitude Modulation
APS	Annual Population Survey
AQMA	Air Quality Management Area
ARWTN	Assessment and Rating of Wind Turbine Noise
ASHE	Annual Survey of Hours and Earnings

Acronym	Description
ATC	Air Traffic Control
BESS	Battery Energy Storage System
BGS	British Geological Survey
BMV	Best and Most Versatile
BNG	Biodiversity Net Gain
BRES	Business Register and Employment Survey
BS	British Standard
BSMP	Battery Safety Management Plan
BTO	British Trust for Ornithology
CAA	Civil Aviation Authority
CAP	Civil Aviation Publication
CCC	Climate Change Committee
CEA	Cumulative Effects Assessment
CEMP	Construction Environmental Management Plan
CCTV	Closed-Circuit Television
CIEEM	Chartered Institute of Ecology and Environmental Management
CMATZ	Combined Military Aerodrome Traffic Zone
CNS	Communication, Navigation and Surveillance
CPERC	Cambridgeshire and Peterborough Environmental Records Centre
CCRA	Climate Change Risk Assessment
CRM	Collision Risk Modelling
CWS	County Wildlife Site
dB	Decibel
DCO	Development Consent Order
DECC	Department of Energy and Climate Change
Defra	Department for Environment, Food and Rural Affairs
DEMP	Decommissioning Environmental Management Plan
DESNZ	Department for Energy Security and Net Zero
DfT	Department for Transport

Acronym	Description
DSM	Digital Surface Model
DTM	Digital Terrain Model
EcIA	Ecological Impact Assessment
eDNA	Environmental DNA
EHSU	Emergency Helicopter Support Unit
EIA	Environmental Impact Assessment
EMF	Electromagnetic Field
ES	Environmental Statement
FL	Flight Level
GHG	Greenhouse Gas
GLVIA3	Guidelines for Landscape and Visual Impact Assessment, Third Edition
GW	Gigawatt
GWDTE	Groundwater-Dependent Terrestrial Ecosystem
GVA	Gross Value Added
HDD	Horizontal Directional Drilling
HER	Historic Environment Record
HGV	Heavy Goods Vehicle
HMMP	Habitat Management and Monitoring Plan
HPI	Habitat of Principal Importance
HRA	Habitats Regulations Assessment
IAQM	Institute of Air Quality Management
ICCI	In-Combination Climate Impacts
ICNIRP	International Commission on Non-Ionizing Radiation Protection
IEF	Important Ecological Feature
IEMA	Institute of Environmental Management and Assessment
IFP	Instrument Flight Procedure
IMD	Index of Multiple Deprivation
INNS	Invasive Non-Native Species
IoA	Institute of Acoustics

Acronym	Description
IPCC	Intergovernmental Panel on Climate Change
IRZ	Impact Risk Zone
ISEP	Institute of Sustainability and Environmental Professionals
LAQM.TG	Local Air Quality Management Technical Guidance
LCA	Landscape Character Area
LERC	Local Environmental Records Centre
LFA	Low Flying Area
LNK	Local Nature Reserve
LSE	Likely Significant Effect
LVIA	Landscape and Visual Impact Assessment
MoD	Ministry of Defence
MSA	Mineral Safeguarding Area
MW	Megawatt
NATS	National Air Traffic Services
NCA	National Character Area
NCN	National Cycle Network
NERL	NATS En-Route plc
NHLE	National Heritage List for England
NMU	Non-Motorised User
NNR	National Nature Reserve
NOTAM	Notice to Aviation
NPPF	National Planning Policy Framework
NPS	National Policy Statement
NSIP	Nationally Significant Infrastructure Project
NSR	Noise Sensitive Receptor
OEMP	Operational Environmental Management Plan
ONS	Office for National Statistics
OPMP	Outline Peat Management Plan
OS	Ordnance Survey

Acronym	Description
PEXA	Practice and Exercise Area
PIA	Personal Injury Accident
PIC	Personal Injury Collision
PINS	Planning Inspectorate
PPG	Planning Practice Guidance
PPP	Pollution Prevention Plan
PRoW	Public Right of Way
PSR	Primary Surveillance Radar
PWS	Private Water Supply
RAF	Royal Air Force
RLOS	Radar Line of Sight
RSPB	Royal Society for the Protection of Birds
RVAA	Residential Visual Amenity Assessment
SAC	Special Area of Conservation
SBIS	Suffolk Biodiversity Information Service
SI	Statutory Instrument
SPA	Special Protection Area
SPD	Supplementary Planning Document
SSP	Shared Socioeconomic Pathway
SSSI	Site of Special Scientific Interest
SSR	Secondary Surveillance Radar
SuDS	Sustainable Drainage Systems
TEMPro	Trip End Model Presentation Program
TNAC	Turbine Noise Assessment Criteria
UK	United Kingdom
UKHab	UK Habitat Classification
UN	United Nations
UNFCCC	United Nations Framework Convention on Climate Change
USAFE	United States Air Forces in Europe

Acronym	Description
UXO	Unexploded Ordnance
VP	Vantage Point / Viewpoint
WFD	Water Framework Directive
WRI	World Resources Institute
WSI	Written Scheme of Investigation
WWT	Wildfowl and Wetlands Trust
ZoI	Zone of Influence
ZTV	Zone of Theoretical Visibility

1. INTRODUCTION

1.1 OVERVIEW

- 1.1.1 This Environmental Impact Assessment (EIA) Scoping Report has been prepared by Environmental Resources Management Ltd (ERM) on behalf of Vattenfall Wind Power Ltd (the Applicant) in support of a request to the Planning Inspectorate (PINS) for a Scoping Opinion under the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (as amended)¹. The report relates to the proposed construction, operation, maintenance and decommissioning of Redmere Wind Farm and its associated development (the Proposed Development). The Proposed Development is located approximately 6.5 kilometres (km) northeast of Ely and in the vicinity of Redmere, Feltwell and Lakenheath, and falls within the administrative areas of East Cambridgeshire District Council, West Suffolk District Council, King's Lynn and West Norfolk Borough Council, Cambridgeshire County Council, Suffolk County Council and Norfolk County Council.
- 1.1.2 The Proposed Development will comprise up to 32 wind turbines (referred to in this Scoping Report as turbines), together with an on-site Battery Energy Storage System (BESS)), an on-site substation and associated infrastructure, including access tracks, landscaping, habitat management, biodiversity enhancement and amenity works. The maximum extent of land required for the Proposed Development is referred to in this Scoping Report as the Indicative Order Limits. The land within the Indicative Order Limits is referred to in this Scoping Report as the Site. The Proposed Development for which a Development Consent Order (DCO) is proposed to be sought does not include any off-site export cable route or other off-site grid connection infrastructure beyond the Site. Further details of the current position on the grid connection strategy and associated consenting approach are provided in Section 2.3.
- 1.1.3 At the time of writing, it is anticipated that access to the Site for abnormal indivisible loads (AIL) will be from the Port of East Anglia (Great Yarmouth). This will be confirmed, together with

any associated development required, within the Environmental Statement (ES).

1.2 THE APPLICANT

- 1.2.1 Vattenfall Wind Power Ltd (the Applicant) is 100% owned by the Swedish state and is one of Europe's largest producers and retailers of electricity and heat. Vattenfall's main markets are Sweden, Germany, the Netherlands, Denmark, and the UK. Vattenfall is actively reducing emissions to meet the Paris 1.5C target and aims to achieve climate neutrality by 2040.
- 1.2.2 Since entering the UK market in 2008, Vattenfall has invested over £3.5 billion and now operates 11 wind farms with more than 1 GW of installed capacity, alongside a development pipeline of approximately 4 GW. Its operational onshore portfolio includes flagship assets such as Pen y Cymoedd (228 MW), the largest onshore wind farm in England and Wales, as well as Ray, Clashindarroch, Edinbane and Swinford. Vattenfall's development pipeline includes projects such as Ray II (166 MW), Clashindarroch II (52 MW) and Ourack (100 MW), which will further strengthen Vattenfall's UK presence. By 2030, Vattenfall's projects could be supplying electricity to around 5 million UK homes, with onshore and offshore wind expected to form the backbone of the UK's future energy system.

1.3 REQUIREMENT FOR EIA

- 1.3.1 Section 14(1)(a) of the Planning Act 2008² defines a Nationally Significant Infrastructure Project (NSIP) as including the construction or extension of a generating station. Section 15(1) of the Planning Act 2008 provides that a generating station falls within section 14(1)(a) only where it is, or is expected to be, within one of the categories set out in section 15. Following the coming into force of the Infrastructure Planning (Onshore Wind and Solar Generation) Order 2025³ on 31 December 2025, an onshore wind generating station in England with a capacity exceeding 100 megawatts (MW) constitutes a NSIP for the purposes of section 15(2) of the Planning Act 2008. As the Proposed Development is expected to exceed that threshold, it

constitutes an NSIP and development consent is therefore required under the Planning Act 2008.

- 1.3.2 This Scoping Report is submitted as part of the pre-application process under the Planning Act 2008² and constitutes a formal request to the PINS for a Scoping Opinion under Regulation 10 of the Infrastructure Planning (EIA) Regulations 2017 (as amended)¹ (the EIA Regulations). The EIA Regulations identify development which is EIA development by reference to Schedule 1 and Schedule 2. Development listed in Schedule 1 must be subject to EIA. Development listed in Schedule 2 is subject to EIA where it is likely to have significant effects on the environment by virtue of factors such as its nature, size or location, having regard to the selection criteria in Schedule 3. The Proposed Development falls within paragraph 3(a) of Schedule 2 as an industrial installation for the production of electricity. Having regard to the nature, scale and location of the Proposed Development, the Applicant considers that it has the potential to give rise to likely significant effects on the environment and is therefore EIA development. Accordingly, the Applicant confirms under Regulation 8(1)(b) of the EIA Regulations that an ES will be submitted with the Application.

1.4 OBJECTIVES OF THIS SCOPING REPORT

- 1.4.1 The purpose of this Scoping Report is to seek the opinion of PINS, on behalf of the Secretary of State, as to the proposed scope and level of detail of the EIA and the ES for the Proposed Development. It identifies, on the basis of the information currently available, the environmental receptors that may be affected, the likely significant effects proposed to be assessed, the proposed assessment methodologies, study areas and baseline data requirements, and those matters which the Applicant considers may be scoped out of the EIA, together with the justification for doing so. The Scoping Report has been prepared in accordance with the EIA Regulations¹ and is intended to enable PINS and consultees to provide an informed Scoping Opinion on the content and level of detail of the ES to be submitted with the Application.

- 1.4.2 Where the Applicant proposes that particular matters should be scoped out of the EIA, this Scoping Report provides the relevant information and justification. The intention is to ensure that the ES remains proportionate and focused on those aspects of the Proposed Development that have the potential to give rise to likely significant effects on the environment. This approach is consistent with the Planning Inspectorate's Advice Note 7: Environmental Impact Assessment (June 2026)⁴, which states that "*ensuring that ESs are appropriately focused on aspects and matters where a likely significant effect may occur is essential*" and that "*the Planning Inspectorate is keen to ensure that the scoping process is used effectively, ensuring that the EIA process is proportionate*" (Planning Inspectorate, 2026, para. 5.10).
- 1.4.3 Regulation 10(3) of the EIA Regulations provides that a request for a Scoping Opinion must be accompanied by sufficient information to identify the land, describe the Proposed Development (including its location and technical capacity), explain its likely significant effects on the environment, and provide any other information or representations that the person making the request wishes to submit.
- 1.4.4 This Scoping Report seeks to establish the proposed framework for the EIA on the basis of the information currently available. The final scope of the EIA will be informed by the Scoping Opinion, the ongoing evolution of the design, the results of baseline data collection and environmental surveys, and continued engagement with consultees during the pre-application process.

1.5 REPORT CONTENT AND STRUCTURE

- 1.5.1 The content and structure of this Scoping Report is as follows:

- Chapter 1: Introduction;
- Chapter 2: Project Description;
- Chapter 3: Policy Context;
- Chapter 4: Site Selection and Alternatives;
- Chapter 5: Approach to EIA Scoping and Consultation

- Chapters 6-17: Biodiversity and Nature Conservation, Ornithology, Cultural Heritage and Archaeology, Landscape and Visual, Shadow Flicker, Hydrology and Hydrogeology, Climate Change and Greenhouse Gases, Traffic and Transport, Noise and Vibration, Socio-Economics, Tourism, Recreation and Land Use, Aviation, Radar and Telecommunications, Other Environmental Topics (including: Human Health, Air Quality, Major Accidents and Disasters, Forestry, Waste and Transboundary);
- Chapter 18: Cumulative effects;
- Chapter 19: Structure of the ES.

1.5.2 This Scoping Report is also supported by the following appendices:

- Appendix A: Figures;
- Appendix B: Legislation, Policy and Guidance; and
- Appendix C: EIA Methodologies.

1.6 THE EIA TEAM

1.6.1 The EIA for the Proposed Development is being coordinated by ERM and undertaken by a suitably qualified multi-disciplinary team with relevant experience of NSIPs and EIAs.

1.6.2 ERM is the largest dedicated sustainability company in the world and has over 50 years of experience in the preparation of Environmental Assessments in the UK and globally. The project team are competent experts with extensive experience of undertaking EIA work for renewable developments across the UK, and meet the terms and requirements of Regulation 14(4) of the EIA Regulations. The ES will outline the relevant expertise, experience and qualifications of the experts.

1.7 ISEP QUALITY MARK

1.7.1 ERM is a member of the Institute of Sustainability and Environmental Professionals' (ISEP's), formerly the Institute of Environmental Management and Assessment's (IEMA's), EIA Quality Mark⁵. This scheme allows organisations to make a commitment to excellence in EIA activities and have this commitment independently reviewed.



2. PROJECT DESCRIPTION

2.1 INTRODUCTION

- 2.1.1 This chapter describes the Proposed Development, including its location, physical characteristics, proposed components and design. The layout of the Proposed Development will be refined through an iterative design process as part of the EIA. A description of the Site and Proposed Development are provided below.

THE SITE

- 2.1.2 The Site comprises the land within the Indicative Order Limits required for the construction, operation, maintenance and decommissioning of the Proposed Development. The information below provides a high-level summary of the Site and its immediate context; the preliminary baseline conditions for each technical topic are provided in **Chapters 6-17** of this Scoping Report. The Site is located approximately 6.5 km northeast of Ely, in the vicinity of Redmere, Feltwell and Lakenheath, and extends across the administrative areas of East Cambridgeshire District Council, West Suffolk District Council and King's Lynn and West Norfolk Borough Council.
- 2.1.3 The Site occupies a predominantly open, low-lying and rural landscape, characterised primarily by intensively managed agricultural land, drainage ditches, watercourses, field boundary vegetation and scattered woodland blocks. Settlement is generally concentrated within the surrounding villages and towns, with scattered rural properties, farmsteads and agricultural holdings located throughout the wider area. For ease of reference in this Scoping Report, the Site is described as comprising Redmere North and Redmere South, connected by a central access corridor.
- 2.1.4 The surrounding highway network includes the A1101, together with the wider abnormal load route currently anticipated to connect the Site to the Port of East Anglia via the A47, A11, A14 and A10. Access to the Site during construction, operation and maintenance is expected to be provided via the A1101, together

with new or upgraded access points and on-site access tracks, where required. Public rights of way and other recreational routes within and around the Site will be considered further as part of the EIA.

- 2.1.5 The Site and surrounding area contain a range of environmental receptors relevant to the design and assessment of the Proposed Development. These include internationally and nationally designated ecological sites within the wider area, heritage assets and their settings, watercourses and drainage infrastructure, areas of agricultural land, residential receptors and aviation, radar and telecommunications receptors. The open character of the surrounding landscape creates the potential for long-distance views of the proposed turbines, including from settlements, transport corridors and recreational routes. These and other environmental constraints and receptors will inform the iterative design of the Proposed Development and are considered within Chapters 6-17 of this Scoping Report.

THE PROPOSED DEVELOPMENT

- 2.1.6 The Proposed Development is expected to comprise up to 32 turbines, each with a tip height of up to 220 m, a BESS, an on-site substation, and other associated infrastructure (described further in Section 2.2). The Proposed Development is anticipated to have an installed generating capacity of up to 303 MW. Sections 2.2 and 2.3 describe the key components of the Proposed Development.
- 2.1.7 The Proposed Development would require the full extent of the land within the Indicative Order Limits, including two discrete areas of land located along the turbine delivery route between the Port and the Site, which may be required to facilitate highway improvement works and abnormal load oversail. The locations of these areas are shown on **Figure 2.3**.
- 2.1.8 For ease of reference in this Scoping Report, the Site is referred to as comprising Redmere North and Redmere South, which are connected by a central access corridor. These areas are identified on **Figure 2.4**. This approach has been adopted to facilitate the assessment of environmental effects across the

Site and to allow for the application of area-specific assessment methodologies where required.

- 2.1.9 The rationale for selection of the Site is set out in **Chapter 4**.

2.2 SITE INFRASTRUCTURE

INDICATIVE DESIGN PARAMETERS

- 2.2.1 **Table 2.1** sets out the principal components of the Proposed Development and the current indicative design parameters that have informed this Scoping Report. These parameters represent the basis on which the preliminary description of the Proposed Development has been prepared and provide the framework for the EIA at this stage.
- 2.2.2 The design of the Proposed Development will continue to evolve through an iterative process, informed by environmental considerations, technical requirements, land availability and ongoing stakeholder engagement. Where appropriate, the ES will assess the likely significant effects of the Proposed Development on the basis of a reasonable worst-case scenario derived from the design parameters set out in this chapter.
- 2.2.3 The indicative layout of the Proposed Development is shown on **Figure 2.2**. The operational and construction components of the Proposed Development are described further in the following sections.

TABLE 2.1 INDICATIVE DESIGN PARAMETERS

Component	Detail
Construction	
Borrow pits	The Proposed Development may include borrow pits within the Site, subject to the availability of suitable stone.
Temporary construction compounds	Temporary construction compounds and storage areas would be established to support construction of the Proposed Development. These compounds may include site offices, welfare facilities, staff parking, secure storage and laydown areas, and, where required, facilities associated with concrete batching. The number, size and location of

Component	Detail
	compounds remain under development and would be confirmed through the iterative design process. For the purposes of this Scoping Report, the main construction compound is assumed to measure approximately 100 m by 100 m and satellite compounds are assumed to measure approximately 30 m by 30 m.
Off-site highway works	Off-site highway works will be undertaken, where required, to facilitate abnormal indivisible load access. Known off-site third-party land has been included within the Indicative Order Limits.
Operation	
Turbines	The Proposed Development will comprise up to 32 three-bladed, horizontal-axis turbines. Each turbine will have a maximum hub height of up to 134 m, maximum tip height of up to 220 m and a maximum rotor diameter of up to 172 m.
On-site substation compound	The Proposed Development would include an on-site substation compound. The substation compound would comprise electrical infrastructure and associated works, including foundations, a control building, welfare facilities, material laydown, vehicle parking, storage areas and a communications mast. As design development is ongoing, including the specification of electrical infrastructure, the size, layout and configuration of the substation compound are not yet fixed. The ES will therefore assess a reasonable worst-case scenario in terms of footprint, layout, height and associated equipment.
Transformers and switchgear	Each turbine will be served by associated transformers and switchgear. Given that technology options and installed capacities remain under consideration, the number, size and configuration of this equipment will be assessed on a reasonable worst-case basis within the ES, including consideration of rated noise emissions.
Battery Energy Storage System	The BESS will comprise a compound footprint of approximately 180 m by 100 m, with an installed capacity of up to 50 MW.
Foundations	Foundations will be required for the turbines and other associated infrastructure, as necessary.

Component	Detail
Hardstanding areas	Each turbine location would include a hardstanding area to facilitate erection cranes and laydown/storage activities.
Access tracks and site entrances	Works will be undertaken to facilitate vehicular access to the Site. These works will include new and upgraded on-site access tracks and the formation of site access points from the public highway network. Access tracks will be designed to accommodate the construction, operation and maintenance requirements of the Proposed Development, with localised widening where required, and constructed using permeable materials.
Watercourse crossings	Watercourse crossings may be required where access tracks or cable routes intersect watercourses. Crossing methods may include culverts, bridges or trenchless techniques (e.g. horizontal directional drilling (HDD)), with the final method selected based on site-specific constraints, environmental considerations and engineering feasibility.
Meteorological mast	A temporary meteorological mast may be installed to monitor wind speed, wind direction and turbulence intensity during construction and the early operational phase of the Proposed Development.
Cables, communications and water supply infrastructure	The Proposed Development will include a network of buried electrical and communication cables. Associated above-ground infrastructure will comprise closed-circuit television (CCTV) and lighting, mounted on poles up to 5 m in height.
Ancillary infrastructure and enabling works	Ancillary infrastructure and enabling works will be required to facilitate the Proposed Development. These works may include boundary treatments, fencing and security equipment, earthworks, surface water drainage and other associated works.
Landscaping and habitat management	The Proposed Development will include landscaping, habitat management, biodiversity enhancement, bird monitoring equipment and associated amenity works. Landscaping and planting would be designed so as not to impede site security.

2.2.4 The proposed layout of the Proposed Development is shown on **Figure 2.2**.

2.2.5 The principal operational components of the Proposed Development are described further in the following sections.

OPERATIONAL SITE INFRASTRUCTURE

Turbines

2.2.6 The Proposed Development would comprise up to 32 three-bladed, horizontal-axis wind turbines. For the purposes of this Scoping Report, the candidate turbine model is assumed to have a maximum hub height of up to 134 m, maximum tip height of up to 220 m and a maximum rotor diameter of up to 172 m. Each turbine would have a micro-siting allowance of up to 100 m.

2.2.7 The final turbine model and supplier have not yet been selected and will be confirmed following detailed design and procurement. For the purposes of the EIA, the assessment will be based on a reasonable worst-case scenario having regard to the maximum dimensions of the candidate turbine parameters. Where the maximum design scenario differs between technical topics, this will be explained within the relevant ES chapter.

2.2.8 Each turbine would be installed on a suitable foundation, the design of which would be informed by the selected turbine model and site-specific ground conditions.

2.2.9 Each turbine location would include a hardstanding area to facilitate erection cranes and laydown/storage activities. The dimensions of each hardstanding area would be confirmed through detailed design, taking account of turbine specification, crane requirements and ground conditions. The final turbine layout would be informed by the iterative design process, taking account of environmental, technical, commercial and land constraints.

2.2.10 As the proposed turbines would exceed 149.9 m in height, an aviation lighting scheme would be required in accordance with the Air Navigation Order 2016⁶. The form and extent of turbine

lighting would be developed through consultation with the relevant aviation stakeholders, including the Civil Aviation Authority and the Ministry of Defence.

- 2.2.11 The layout of the Proposed Development will be subject to environmental, commercial and technical constraints considered through the EIA process. The proposed indicative turbine locations are presented in **Table 2.2** below and **Figure 2.2**.

TABLE 2.2 INDICATIVE TURBINE LOCATIONS

Turbine Number	Turbine Location (British National Grid)	
	X	Y
1	565656	289886
2	565257	289485
3	565721	289190
4	566220	289212
5	564974	288998
6	565386	288713
7	567445	288615
8	564649	288523
9	564111	288372
10	566891	288296
11	565550	288065
12	564800	287883
13	567246	287682
14	568373	287898
15	567763	287478
16	566187	287050
17	567235	287175
18	567699	286903
19	566618	286733
20	567097	286446

Turbine Number	Turbine Location (British National Grid)	
	X	Y
21	562057	283313
22	562435	282908
23	561937	282801
24	563053	282607
25	562258	282346
26	564646	281822
27	563506	281621
28	564114	281640
29	563143	280947
30	563688	281091
31	564270	281083
32	564770	281176

Battery Energy Storage System

- 2.2.12 A BESS is proposed as part of the Proposed Development to provide operational flexibility through the storage and release of electricity. The BESS would support the efficient operation and maintenance of the Proposed Development and may also assist in the provision of ancillary services to the electricity network.
- 2.2.13 The BESS is anticipated to comprise modular, containerised battery units, together with inverters, transformers, control equipment, fire safety systems and associated infrastructure, located within a dedicated compound. For the purposes of this Scoping Report, the BESS is currently assumed to occupy an area of up to 180 m by 100 m with a capacity of up to 50 MW.
- 2.2.14 The final specification, layout and enclosure design of the BESS would be determined through the iterative design process and confirmed at a later stage of project development. The EIA will assess the likely significant effects associated with the maximum design parameters identified for the BESS.

Electrical Infrastructure

- 2.2.15 The locations of the electrical infrastructure elements described in the following sections have not yet been defined; however, they will be sited within the Indicative Order Limits. Their locations, layouts and design parameters will be refined through the iterative design process and defined for the purposes of the ES.

Cables and Communications Infrastructure

- 2.2.16 The Proposed Development would include a network of buried electrical and communication cables required to collect and transmit electricity generated by the turbines. Associated above-ground infrastructure may include closed-circuit television (CCTV), lighting and other communications equipment mounted on poles (up to 5 m in height), where required.
- 2.2.17 The Proposed Development would require a connection to the electricity network. The grid connection strategy and associated consenting approach are described further in Section 2.3.

On-site Substation Compound

- 2.2.18 The Proposed Development would include an on-site substation compound. The substation compound would comprise electrical infrastructure and associated works, including transformers, switchgear, control equipment and ancillary plant. The compound may also include a control building, welfare facilities, vehicle parking, storage areas and a communications mast, together with associated internal access arrangements, drainage, including Sustainable Drainage Systems (SuDS) where required and security features. As design development is ongoing, including the specification of electrical infrastructure, the size, layout and configuration of the substation compound are not yet fixed. The ES will therefore assess a reasonable worst-case scenario in terms of footprint, layout and associated equipment.

Transformers and Switchgear

- 2.2.19 Each turbine would be served by associated electrical infrastructure, including transformers and switchgear. Depending on the final turbine specification, transformers may either be housed internally within the turbine tower or externally located adjacent to the turbine within the hardstanding area. For the purposes of the EIA, it is assumed that transformers may be externally located adjacent to the turbine within the hardstanding area, representing a reasonable worst-case scenario. Given that technology options and installed capacities remain under consideration, the number, size and configuration of this equipment will be assessed on a reasonable worst-case basis within the ES, including consideration of rated noise emissions.

Site Access

- 2.2.20 Access to the Site during construction, operation and maintenance would be provided via the A1101, together with new or upgraded access points and on-site access tracks, where required. The final access strategy for the Proposed Development remains under consideration and will be refined through the iterative design process.
- 2.2.21 At this stage, it is anticipated that AIL associated with turbine delivery would arrive via the Port of East Anglia (Great Yarmouth), before travelling to the Site via the A47, A11, A14, A10 and A1101. The route for abnormal loads and general construction traffic is currently being reviewed and will be informed by transport assessments, engineering requirements and consultation with the relevant highway authorities. Further information regarding Site access is available in **Chapter 13**.
- 2.2.22 Indicative Site access is shown on **Figure 13.1**. Where practicable, existing field entrances and tracks within the Site would be utilised in order to reduce the need for new access infrastructure, although localised widening or improvement works may be required. New and upgraded access tracks and access points would be designed with appropriate drainage and

surface water management measures, including Sustainable Drainage Systems (SuDS), where required. Access tracks would be widened where required, and constructed using permeable materials. Watercourse crossings may be required where access tracks or cable routes intersect watercourses. Crossing methods may include culverts, bridges or trenchless techniques (e.g. HDD), with the final method selected based on site-specific constraints, environmental considerations and engineering feasibility.

Meteorological Mast

- 2.2.23 A temporary meteorological mast may be installed as part of the Proposed Development to monitor wind speed, wind direction and turbulence intensity. The mast would be installed during construction and would only be required during the early operational phase of the Proposed Development.
- 2.2.24 The meteorological mast is expected to be of a height broadly comparable to the turbine hub height. The final location and design of the mast would be confirmed through detailed design and would be taken into account in the EIA as part of the Proposed Development.

CONSTRUCTION SITE INFRASTRUCTURE

- 2.2.25 The principal construction components of the Proposed Development are described further in the following sections.

Temporary Construction Compounds

- 2.2.26 Temporary construction compounds and storage areas would be established to support construction of the Proposed Development. These compounds may include site offices, welfare facilities, staff parking, secure storage and laydown areas, and, where required, facilities associated with concrete batching. The number, size and location of compounds remain under development and would be confirmed through the iterative design process. For the purposes of this Scoping Report, the main construction compound is assumed to measure

approximately 100 m by 100 m and satellite compounds are assumed to measure approximately 30 m by 30 m.

- 2.2.27 Following completion of construction, temporary construction compounds that are not required for the operation and maintenance of the Proposed Development would be dismantled and the land reinstated, where practicable, to an appropriate condition.

Borrow Pits

- 2.2.28 The Proposed Development may include borrow pits within the Site, subject to the presence of suitable geological material, to provide stone for the construction of access tracks, hardstandings and other elements of the Proposed Development. The use of on-site borrow pits, where practicable, may reduce the need to import aggregate from off-site sources and thereby reduce construction traffic on the public highway network.
- 2.2.29 The location, extent and depth of any borrow pits would be determined through the iterative design process, informed by pre-condition geotechnical investigations, engineering requirements and environmental considerations. The likely significant effects associated with any proposed borrow pits will be assessed within the ES, where relevant.
- 2.2.30 Following completion of construction, any borrow pits would be restored in accordance with an appropriate restoration strategy. This may include the re-use of retained soils and other suitable materials to achieve stable landform profiles and facilitate natural regeneration or habitat reinstatement.

Temporary Access tracks

- 2.2.31 Temporary access tracks may be required during construction to provide short-term access to working areas where permanent access infrastructure is not necessary, or where temporary construction activities extend beyond the footprint of the operational infrastructure. Such tracks may be used to facilitate the movement of construction personnel, plant and materials to

temporary working areas, including laydown areas, construction compounds, crossing points and other ancillary work areas.

- 2.2.32 The location, extent and specification of any temporary access tracks would be determined through the iterative design process and informed by environmental and engineering considerations. Where required, temporary access tracks are expected to comprise compacted stone or suitable trackway or matting systems, together with appropriate drainage and surface water management measures incorporated as necessary
- 2.2.33 Following completion of the relevant construction activities, temporary access tracks that are not required for the operation or maintenance of the Proposed Development would be removed and the affected land reinstated, where practicable, to its previous condition or to an agreed restoration profile.

2.3 GRID CONNECTION

- 2.3.1 A grid connection will be required to facilitate the export of electricity from the Proposed Development. The Proposed Development's point of connection has been identified as the Burwell Main Electricity Substation. The Applicant is continuing to engage with the relevant network operator in relation to the connection strategy, including the potential form, routing and technical specification of any connection infrastructure that may be required between the Site and the electricity network.
- 2.3.2 The Proposed Development for which an Application is proposed to be submitted comprises the generating station and its associated on-site infrastructure, including the on-site substation. Any off-site grid connection infrastructure between the Site and the eventual point of connection would not form part of the Proposed Development for which consent is currently proposed to be sought through the Application.
- 2.3.3 The Applicant recognises that, for the purposes of the EIA, it is necessary to consider the relationship between the Proposed Development and its grid connection. Although the grid connection infrastructure would be progressed through a separate consenting process by a different promoter, the

Proposed Development would be dependent on that connection in order to export electricity and operate as intended.

- 2.3.4 The Applicant has therefore considered whether the generating station and the grid connection could reasonably be regarded as forming one overall project for EIA purposes. This consideration is based on the functional relationship between the two elements and the extent to which they are interdependent.
- 2.3.5 At the time of preparing this Scoping Report, the form and route of any off-site grid connection infrastructure, have not yet been defined. The level of information available is therefore limited.
- 2.3.6 In this context, this Scoping Report explains the current position in relation to the grid connection and the intended consenting approach, while recognising that a grid connection will be necessary in order for the Proposed Development to export electricity and operate as intended.
- 2.3.7 The ES will set out the approach taken to the grid connection, including how the relationship between the Proposed Development and any future connection to the electricity network has been considered for EIA purposes, and the extent to which any likely significant effects associated with that connection can be assessed on the basis of available information at the relevant time.
- 2.3.8 At this stage, a defined off-site connection route has not been identified. Accordingly, no specific off-site grid connection corridor is presented in this Scoping Report. For completeness, the following outline design principles could reasonably inform the siting and design of any off-site cable connection infrastructure, were such infrastructure to form part of a future consenting strategy. These may include:
- Seeking, where practicable, to avoid internationally, nationally and locally designated sites and other environmentally sensitive receptors;
 - Avoiding or reducing effects on heritage assets and their settings;

- Taking account of existing land use, including agricultural land quality, drainage infrastructure and property access requirements;
- Seeking to avoid or minimise effects on existing habitats, watercourses, trees, hedgerows and other landscape features;
- Taking account of residential receptors and other sensitive land uses; and
- Having regard to constructability, engineering feasibility and the suitability of the local highway network for construction access.

2.4 DEVELOPMENT ACTIVITIES AND PROGRAMME

2.4.1 The Proposed Development would comprise construction, operation and maintenance and decommissioning phases. Based on the current design assumptions, the indicative durations of these phases are anticipated to be as follows:

- Construction – up to 24 months;
- Operation – up to 40 years; and
- Decommissioning – up to 24 months.

2.4.2 Further information on each phase of the Proposed Development is provided in the following sections.

CONSTRUCTION

2.4.3 Construction of the Proposed Development is anticipated to take approximately 24 months, although the final construction programme and sequencing will depend on the confirmed design, construction methodology, procurement strategy, seasonal and environmental constraints, and other site-specific factors.

2.4.4 Construction activities are expected to be undertaken in a phased sequence and are likely to include the following:

- Site establishment, including temporary construction compounds, welfare facilities, parking, secure storage, laydown areas, temporary utilities and construction accesses;
- Site preparation and enabling works, including vegetation clearance, pre-construction surveys where required, establishment of construction working areas, and the stripping,

storage and management of topsoil and subsoil within defined working areas;

- Construction of new and upgraded on-site access tracks, site access points, watercourse crossings, crane hardstandings and temporary laydown areas, together with associated drainage and surface water management measures, where required;
- Earthworks, excavation and construction of turbine foundations, together with foundations for other associated infrastructure, and the handling, storage, re-use or disposal of excavated materials, where required;
- Construction of the on-site substation compound, BESS, temporary construction compounds, control and welfare facilities, and other associated infrastructure;
- Installation of buried electrical and communication cabling, including trench excavation, cable laying, jointing, backfilling and reinstatement, together with drainage and other supporting infrastructure;
- Delivery and movement of construction materials, plant, turbine components and AIL to and within the Site, including the use of internal haul routes and construction traffic management measures; and
- Assembly, erection, testing and commissioning of turbines and associated plant, including mechanical and electrical completion works and energisation of the on-site electrical infrastructure.

2.4.5 The detailed construction programme, methodology and sequencing will be refined as the design of the Proposed Development evolves and will be described further in the ES, including the principles of temporary works management, reinstatement and environmental control during construction.

OPERATION AND MAINTENANCE

2.4.6 The operational life of the Proposed Development is anticipated to be up to 40 years. During this period, the Proposed Development would generate electricity for export to the national electricity network and would be subject to routine operation, monitoring, inspection, maintenance and, where

required, repair or replacement of components. Operational activities are likely to include the following:

- Routine turbine inspection, servicing and preventative maintenance, together with corrective maintenance and repair where required;
- Maintenance of access tracks, drainage infrastructure, watercourse crossings and surface water management features;
- Inspection, testing, monitoring and maintenance of electrical infrastructure, including transformers, switchgear, buried cabling, the on-site substation, the BESS and associated control and protection systems;
- Remote monitoring of turbine performance and operation of supervisory control, communications, metering and alarm systems;
- Vegetation management and maintenance of landscaping, habitat management and biodiversity enhancement areas, where required, including management necessary to maintain access, drainage function and site security;
- Maintenance of ancillary infrastructure, including fencing, lighting, security systems, CCTV, fire safety equipment and communication equipment; and
- Site visits by operational staff, maintenance personnel and specialist contractors, including occasional visits by abnormal or large vehicles and cranes for the replacement of major components where required.

2.4.7 During normal operation, traffic associated with the Proposed Development is expected to be limited and would primarily comprise periodic staff and contractor visits, except during occasional maintenance campaigns or major component replacement activities.

2.4.8 The detailed operation and maintenance regime would be refined as the design of the Proposed Development evolves and would be described further in the ES, including the likely frequency and nature of routine and non-routine maintenance activities.

DECOMMISSIONING

- 2.4.9 At the end of its operational life, the Proposed Development would be decommissioned. Decommissioning activities are likely to be broadly the reverse of construction and are expected to include the disconnection and making-safe of electrical infrastructure; the dismantling and removal of turbines, meteorological masts and other above-ground infrastructure; the removal of electrical plant, buildings, fencing and ancillary equipment; and the use of cranes, construction plant and vehicles to facilitate these works.
- 2.4.10 Foundations may be removed to an appropriate depth below ground level, with the precise approach to be determined having regard to environmental effects, safety, engineering requirements and the proposed afteruse of the land. Buried cables and some below-ground infrastructure may be removed or left in situ, where appropriate, depending on the agreed decommissioning strategy in place at the time. Temporary construction compounds and access tracks may be retained for the duration of decommissioning works where required, following which land would be reinstated to an agreed condition.
- 2.4.11 Decommissioning would also include the management, re-use, recycling or disposal of materials arising from the removal of infrastructure, in accordance with relevant legislation and good practice at that time. The decommissioning programme is anticipated to take up to 24 months, although the final duration will depend on the confirmed decommissioning methodology, environmental conditions, traffic management requirements and other site-specific factors.
- 2.4.12 The detailed decommissioning methodology would be determined closer to the end of the operational life of the Proposed Development and would reflect the design and condition of the infrastructure at that time. The likely significant effects of decommissioning will be considered within the ES, informed by the principles of a reasonable worst-case scenario.

3. POLICY CONTEXT

3.1 INTRODUCTION

NEED FOR THE PROPOSED DEVELOPMENT

- 3.1.1 The Proposed Development is needed to make a meaningful contribution to the urgent delivery of new low-carbon electricity generation in the UK. The UK has a legally binding target under the Climate Change Act 2008⁷, as amended by the Climate Change Act 2008 (2050 Target Amendment) Order 2019, to achieve net zero greenhouse gas emissions by 2050⁸. In addition, the Sixth Carbon Budget⁹ requires a 78% reduction in UK greenhouse gas emissions by 2035 compared with 1990 levels, placing a clear and immediate requirement on the power sector to continue decarbonising at pace.
- 3.1.2 The decarbonisation of electricity generation is central to meeting these statutory climate targets, particularly as demand for electricity is expected to increase through the electrification of heat, transport and industry. The Clean Power 2030 Action Plan¹⁰ sets out the UK Government's commitment to delivering a clean power system by 2030, identifying the need to accelerate the deployment of low-carbon electricity infrastructure, maintain security of supply and reduce exposure to volatile international fossil fuel markets.
- 3.1.3 By providing up to 303 MW of renewable generating capacity, supported by co-located battery energy storage, the Proposed Development would contribute directly to national climate and energy policy objectives. It would increase the supply of domestically generated renewable electricity, support the transition to a decarbonised electricity system, and assist in maintaining a secure, flexible and affordable energy supply. The Proposed Development would therefore respond to an identified and urgent national need for new renewable energy infrastructure and would make a material contribution to the delivery of legally binding climate change targets and clean power objectives.

OVERVIEW

- 3.1.4 An overview of national, regional and local planning and energy policy and legislation relevant to informing the scope of the EIA for the Proposed Development, is provided within this chapter. Further information on planning policy, where it is specific to a particular technical aspect, is provided within **Appendix B**. A review of relevant legislation and policy will be included within the ES.
- 3.1.5 Planning and energy policy and legislation matters will also be considered in a standalone Planning Statement, which will accompany the Application. This will provide a detailed appraisal of the Proposed Development against the relevant planning and energy legislation and policies and other relevant considerations, drawing upon the conclusions of the ES. The Planning Statement is separate from the ES and will accompany the Application.
- 3.1.6 The following paragraphs set out the statutory framework for the Application and the key policy and guidance documents that will inform the design and assessment of the Proposed Development, including any relevant policy updates that may occur prior to submission.

3.2 INTERNATIONAL CONTEXT

- 3.2.1 The framework of international agreements, legally binding targets to reduce greenhouse gas emissions and climate change global advisory reports are the foundation upon which national energy policy and emissions reduction law is based. This underpins what can be termed the 'need case' for renewable energy from which the Proposed Development draws a high level of support.
- 3.2.2 The following documents are relevant to the international context and will be discussed within the ES and supporting Planning Statement:
- The Paris Agreement¹¹: this marks the first ever global climate deal. The purpose of domestic renewable energy and greenhouse gas ('GHG') reduction targets is to meet the UK's commitment in the Paris Agreement;

- United Nations (UN)¹² - Intergovernmental Panel on Climate Change Special Report on Warming (2018): the Panel's 2018 Report was a key piece of evidence for the UK Climate Change Committee's (CCC) recommendation to the UK Government for a 2050 net zero greenhouse gas emission target; and
- UN Emissions Gap Report (2025)¹³: this report presents an up-to-date position on how UN countries are performing in terms of emissions reduction targets against the Paris Agreement commitments. The recent report highlights that despite the increasing likelihood of higher and longer temperature overshoot, pursuing efforts to limit global warming to 1.5°C remains as critical and relevant as ever.

3.3 UK LEGISLATIVE AND POLICY CONTEXT

3.3.1 The Proposed Development is a NSIP under Section 14(1)(a) and Section 15(2) of the Planning Act 2008² ('2008 Act') as an onshore generating station in England with a capacity of more than 100 MW.

3.3.2 The Applicant is required to obtain a DCO before it can lawfully construct or operate the Proposed Development. The 2008 Act provides that the Secretary of State is responsible for determining the Application.

3.3.3 Section 103 (1) of the 2008 Act confirms that the Secretary of State has the function of deciding whether to grant a DCO:

"The Secretary of State has the function of deciding an application for an order granting development consent"

3.3.4 Section 104 of the 2008 Act provides the basis for deciding an Application if relevant National Policy Statements ('NPSs') apply. Section 104 (2) provides:

"In deciding the application the Secretary of State must have regard to—

(a) any national policy statement which has effect in relation to development of the description to which the application relates (a "relevant national policy statement");

(aa) the appropriate marine policy documents (if any), determined in accordance with section 59 of the Marine and Coastal Access Act 2009;

(b) any local impact report (within the meaning given by section 60(3)) submitted to the Secretary of State before the deadline specified in a notice under section 60(2);

(c) any matters prescribed in relation to development of the description to which the application relates, and

(d) any other matters which the Secretary of State thinks are both important and relevant to the Secretary of State's decision."

3.3.5 The Secretary of State must decide the Application in accordance with any relevant NPS, except to the extent that one or more of subsections (4) to (8) of Section 104 apply.

3.3.6 The relevant NPSs are discussed below in Section 3.4.

THE INFRASTRUCTURE PLANNING (EIA) REGULATIONS 2017

3.3.7 The EIA Regulations¹ provide the legal framework for the Proposed Development in terms of the undertaking of the necessary EIA.

3.3.8 The Proposed Development, as a generating station, falls under Schedule 2, Paragraph 3 (Energy Industry) part '(i) installations for the harnessing of wind power for energy production (wind farms)' of the EIA Regulations. A Schedule 2 development constitutes EIA development if it is likely to have significant effects on the environment by virtue of its nature, size or location. This request for a scoping opinion is submitted in accordance with Regulation 10(1) (Application for a scoping opinion).

THE CONSERVATION OF HABITATS AND SPECIES REGULATIONS 2017

3.3.9 The Conservation of Habitats and Species Regulations 2017¹⁴ (the 'Habitats Regulations') require that all competent authorities must consider whether any plan or project could

affect a European site before it can be authorised or carried out. This includes considering whether it will have a 'likely significant effect' on a European site, and if so, they must carry out an 'appropriate assessment' (AA). This process is known as Habitats Regulations Assessment (HRA).

PLANNING AND INFRASTRUCTURE ACT 2025

- 3.3.10 The Planning and Infrastructure Act 2025 ('2025 Act')¹⁵ amended the Planning Act 2008 (the '2008 Act'), including the removal of the statutory pre-application consultation requirements previously contained within sections 42 and 47. Although statutory pre-application consultation is no longer required, the Applicant is committed to undertaking consultation with local communities and relevant stakeholders to support the design and assessment of the Proposed Development and to inform the EIA process.

THE INFRASTRUCTURE PLANNING (ONSHORE WIND AND SOLAR GENERATION) ORDER 2025

- 3.3.11 The Infrastructure Planning (Onshore Wind and Solar Generation) Order 2025¹⁶ came into force on 31st December 2025. The Order reintroduces large scale onshore wind proposals over 100 MW to the NSIP regime.

3.4 NATIONAL PLANNING POLICY AND GUIDANCE

NATIONAL POLICY STATEMENTS

- 3.4.1 NPSs are the principal policy documents relating to the determination of NSIPs. Under Section 104 of the 2008 Act, the Secretary of State must decide the Application in accordance with any relevant NPS (meaning any NPS which has effect in relation to the development), having regard to any Local Impact Report, matters prescribed in relation to the Proposed Development, and any other matters regarded by the Secretary of State as 'important and relevant'.
- 3.4.2 There are three NPSs which are a 'relevant NPS' under Section 104 of the Act in relation to the Proposed Development:

- Overarching NPS for Energy (EN-1)¹⁷: an overarching policy document applicable as the overarching energy policy statement in England and Wales;
- NPS for Renewable Energy Infrastructure (EN-3)¹⁸: includes a specific section on wind energy generation; and
- NPS for Electricity Networks Infrastructure (EN-5)¹⁹: applies given the presence of electrical network infrastructure and underground cabling as associated development.

EN-1

- 3.4.3 NPS EN-1 establishes the overarching need for new energy infrastructure and identifies an urgent need for substantial new low-carbon electricity generation to support energy security, the Clean Power 2030 Mission and the UK's net zero commitments. It identifies that there is a critical national priority (CNP) for the provision of nationally significant low carbon infrastructure, with section 4.2 confirming that 'low carbon infrastructure' means, for electricity generation, all onshore and offshore generation that does not involve fossil fuel combustion. It also sets out the assessment principles and generic impacts that should be considered in an application, including biodiversity, landscape and visual effects, cultural heritage, flood risk, aviation, noise, traffic and transport, socio-economics, air quality and climate change. It states that where residual non-HRA or non-MCZ impacts remain after the mitigation hierarchy has been applied, those impacts are unlikely to outweigh the urgent need for this type of infrastructure. Therefore, in all but the most exceptional circumstances, it is unlikely that consent will be refused on the basis of those residual impacts.

EN-3

- 3.4.4 NPS EN-3 provides technology-specific policy for renewable energy infrastructure and recognises the important contribution of onshore wind generation towards meeting national energy and decarbonisation objectives. It sets out assessment and decision-making considerations relevant to the design, assessment and determination of onshore wind developments. It notes that onshore wind farms are a mature, efficient and low-

cost generating technology that play an important role in the UK's energy mix, and states that the deployment of onshore wind farms is critical in meeting the Clean Power 2030 mission, with the Clean Power Action Plan estimating the need for 27-29GW of operational onshore wind capacity by 2030.

EN-5

- 3.4.5 NPS EN-5 provides policy relating to electricity network infrastructure, including substations and grid connections associated with electricity generation projects. It contains additional assessment principles relevant to electricity transmission infrastructure and associated environmental effects.
- 3.4.6 Collectively, these NPSs establish a strong policy position in favour of nationally significant low-carbon energy infrastructure and form the primary policy basis against which the Proposed Development will be assessed.
- 3.4.7 The requirements of NPS EN-1, EN-3 and EN-5 have informed the preparation of this Scoping Report and will continue to inform the EIA, design development and preparation of the ES. Detailed consideration of policy compliance will be provided within the Planning Statement and Policy Compliance Document submitted as part of the Application.

NATIONAL PLANNING POLICY FRAMEWORK (NPPF)

- 3.4.8 The NPPF²⁰ sets out the Government's planning policies for England and is a material consideration in planning decision-making. The NPPF should be read as a whole and promotes the achievement of sustainable development through economic, social and environmental objectives.
- 3.4.9 Of particular relevance to the Proposed Development are the policies supporting the delivery of renewable and low-carbon energy infrastructure, the transition to a low-carbon economy, climate change mitigation and adaptation, and the presumption in favour of sustainable development. The NPPF also recognises the important role of planning in supporting the delivery of

energy infrastructure required to meet national decarbonisation and energy security objectives. It notes that development plan policies (or parts of those policies) which are materially inconsistent with national decision-making policies in the Framework should be given very limited weight.

- 3.4.10 The requirements of the NPPF will be considered throughout the preparation of the ES and will be addressed further within the Planning Statement accompanying the Application.

PLANNING PRACTICE GUIDANCE (PPG)

- 3.4.11 PPG²¹ provides supporting guidance on the interpretation and application of national planning policy. Relevant guidance includes, but is not limited to, climate change, renewable and low-carbon energy, biodiversity net gain, EIA, flood risk, historic environment, light pollution, the natural environment, noise and transport.
- 3.4.12 Relevant PPG will be taken into account throughout the EIA process and in the preparation of the ES.

NATIONAL INFRASTRUCTURE PLANNING GUIDANCE

- 3.4.13 The EIA and preparation of the ES will have regard to the National Infrastructure Planning Guidance (NIPG) published by the Ministry of Housing, Communities and Local Government²². The NIPG provides guidance on the application of the Planning Act 2008 and the preparation, submission, examination and determination of DCO applications. The guidance covers all stages of the NSIP process, from pre-application through to post-consent matters. Relevant topic-specific guidance issued through the NIPG Portal will be taken into account, where applicable, in the preparation of the ES.

3.5 LOCAL POLICY AND GUIDANCE

- 3.5.1 The NPSs are the primary consideration for NSIP applications. Nevertheless, Local Plans are still a material consideration and may be relevant in deciding an application for a DCO in that they may be determined to be important and relevant by the Secretary of State.

- 3.5.2 The below Local Plans are considered relevant to the Proposed Development. Their policies will be reviewed and taken into account during the preparation of the EIA and will inform the assessment of environmental effects and the development of the Application.

EAST CAMBRIDGESHIRE LOCAL PLAN 2015²³

- 3.5.3 The Local Plan contains Policy ENV6: Renewable Energy Development which states that:

"Proposals for renewable energy and associated infrastructure will be supported, unless their wider environmental, social and economic benefits would be outweighed by significant adverse effects that cannot be remediated and made acceptable in relation to:

- The local environment and visual landscape impact.
- Impact on the character and appearance of the streetscape/buildings.
- Key views, in particular those of Ely Cathedral.
- Protected species.
- Residential amenity.
- Safeguarding areas for nearby airfields; and
- Heritage assets.

Renewable energy proposals which affect sites of international, national and local nature importance or other irreplaceable habitats will be determined against the relevant sections of Policy ENV 7.

The visual and amenity impacts of proposed structures will be assessed on their merits, both individually and cumulatively.

Provision should be made for the removal of facilities and reinstatement of the site, should they cease to operate."

- 3.5.4 The latest publicly available information relating to preparation of a new Local Plan for East Cambridgeshire is that preparation was put on hold in February 2025.

- 3.5.5 East Cambridgeshire District Council have adopted a Climate Change Supplementary Planning Document (Feb 2021) which details criteria to be applied to wind turbines over 15 m in height.
- 3.5.6 East Cambridgeshire also has an adopted SPD dating from 2014 relating to Renewable Energy Development (Commercial Scale).
- 3.5.7 Parts of the Site fall within areas designated as Mineral Safeguarding Areas (MSAs), under Policy 5, and Consultation Areas (CAs), under Policy 16, of the Cambridgeshire and Peterborough Minerals and Waste Local Plan 2036 (Adopted July 2021).

WEST SUFFOLK LOCAL PLAN 2024-2041 (2025)²⁴

- 3.5.8 The Local Plan contains Policy LP6 Renewable and Low Carbon Energy which states that:

"All proposals for renewable energy technology or the integration of renewable technology on existing or proposed structures including any associated infrastructure, will be supported where the following criteria are met:

a. A proportionate landscape and visual impact assessment must be submitted. This should include a landscape character or townscape appraisal as appropriate, and full details of mitigation measures for any visual impacts identified.

b. Where the proposal involves significant development of agricultural land, preference has been given to areas of poorer quality agricultural land.

c. The proposal does not adversely impact the amenities of sensitive neighbouring uses (including residential amenities) in matters such as visual dominance, noise, fumes, odour, vibration, glint and glare, shadow flicker, traffic generation.

d. The proposals provides for biodiversity net gain and does not result in detrimental impacts in terms of geodiversity and water quality.

e. The potential impacts on heritage assets, highway safety and associated infrastructure, topography, broadcast interference, aviation, radar and telecommunications and associated infrastructure, and soil quality have been considered and minimised within the proposal.

Proposals should be considered in isolation and cumulatively to fully determine their impact.

Wind energy proposals

In addition to the criteria a, b, c, d and e above, all wind energy applications are required to be accompanied by a residential visual amenity assessment, a statement indicating how the development mitigates for air traffic operations where necessary, and an appraisal of the impact of the wind turbine(s) on bats and migrating birds, and bird strike, and any mitigation measures necessary to address this."

- 3.5.9 The emerging Local Plan for West Suffolk is at an early stage of development and is not expected to be adopted until mid-2029.
- 3.5.10 Kings Lynn and West Norfolk do not have any adopted supplementary planning documents of direct relevance to the proposed development.

KINGS LYNN AND WEST NORFOLK LOCAL PLAN 2021-2040 (ADOPTED MARCH 2025)²⁵

- 3.5.11 The Local Plan contains Policy LP24 – Renewable Energy. However the policy text specifically excludes wind energy projects, and the supporting text makes clear that the Plan defers to the relevant sections of the NPPF and the PPG in this regard.
- 3.5.12 The emerging Kings Lynn and West Norfolk Local Plan is at an early stage of development and is not expected to be adopted until mid-2029.
- 3.5.13 Kings Lynn and West Norfolk do not have any adopted supplementary planning documents of direct relevance to the proposed development.

4. SITE SELECTION AND ALTERNATIVES

4.1 INTRODUCTION

- 4.1.1 The selection of the location for the Proposed Development has been informed by a range of technical factors and environmental considerations. A detailed description of the Site selection process and the alternatives considered will be provided in the ES.

4.2 NATIONAL SCALE CONSIDERATIONS

- 4.2.1 The ES will include a proportionate Site Selection and Alternatives chapter which will describe the process undertaken to identify the location of the Proposed Development and refine the design of the Proposed Development. The assessment will have regard to the principles for onshore wind development set out in Section 2.12 of National Policy Statement EN-3 and will explain how technical, environmental, planning and deliverability considerations have informed site selection and the iterative design process.
- 4.2.2 The ES will provide a proportionate assessment of the principal factors considered during site selection, including:
- Technical and commercial considerations, such as wind resource, the ability to accommodate the proposed turbine layout, grid connection opportunities, site access arrangements, abnormal load delivery routes, construction feasibility, deliverability and commercial viability;
 - Environmental considerations, including landscape and visual effects, residential amenity, ecology and biodiversity, ornithology, cultural heritage and archaeology, hydrology, hydrogeology, flood risk, geology, soils and peat (where relevant), forestry and woodland, and potential effects relating to air quality, noise and shadow flicker;
 - Land use and planning considerations, including existing land use, agricultural land use, planning policy, the relationship with settlements and other sensitive receptors, existing infrastructure and utilities, and interactions with other developments;

- Aviation and communications considerations, including potential effects on civil and military aviation interests, radar systems and telecommunications infrastructure; and
- Deliverability considerations, including land availability, landowner engagement, the ability to secure the necessary land rights, and the potential to avoid, reduce or mitigate identified constraints through design development.

4.2.3 The ES will explain how these considerations have been balanced through the iterative design process and how environmental, technical and commercial constraints and opportunities have influenced the evolution of the Proposed Development. The assessment will be proportionate to the nature and scale of the Proposed Development and will focus on the key factors that informed the selection of the Site and the refinement of the design presented within the DCO application.

4.3 LOCAL SCALE CONSIDERATIONS

4.3.1 At the local level, the selection of the individual fields forming the Site has been guided by national and local planning and environmental policy, together with the mitigation hierarchy, with avoidance applied in the first instance. The following principles have informed the development process:

- Minimising landscape and land-use effects:
- Avoiding areas with unfavourable topography, where practicable, to minimise effects on landscape character;
- Avoiding or minimising development on best and most versatile (BMV) agricultural land, comprising agricultural land classification (ALC) grades 1, 2 and 3a. It is anticipated that some elements of the Proposed Development may need to be located on BMV agricultural land. An ALC survey will be undertaken to inform the design as it evolves; and
- Selecting a coherent group of individual fields to contain the proposed development and minimise unnecessary development sprawl.
- Heritage, biodiversity and amenity considerations:
- Avoiding direct effects on designated heritage assets;
- Siting development away from landscape designations;

- Avoiding encroachment on nationally and internationally designated biodiversity and geodiversity sites;
- Avoiding areas at high risk of flooding, where practicable;
- Minimising effects on residential amenity by avoiding larger villages and towns;
- Avoiding National Trails;
- Considering Public Rights of Way (PRoW) and opportunities for enhancement, where practicable; and
- Selecting areas with access to appropriate transport routes.
- Electrical infrastructure siting:
 - Locating larger electrical infrastructure in suitable and well-screened locations, away from residential receptors where practicable.
- Minimise as far as practicable aviation constraints.

4.4 DESIGN PRINCIPLES

- 4.4.1 The Applicant is seeking to maximise the generation of renewable energy whilst developing a proposal that is environmentally responsible, technically deliverable and responsive to stakeholder feedback. The design of the Proposed Development will be informed by the principles of good design set out within relevant national policy and guidance, including the PINS's guidance on good design for NSIPs²⁶.
- 4.4.2 The design of the Proposed Development will be guided by the following principles:
- Maximise the generation of renewable electricity from the available wind resource;
 - Develop a resilient scheme that responds appropriately to the potential effects of climate change;
 - Minimise lifecycle greenhouse gas emissions and embodied carbon where reasonably practicable;
 - Engage with local communities, statutory consultees and other stakeholders throughout the design process;
 - Avoid, reduce and where possible compensate for adverse effects on ecological receptors and deliver measurable biodiversity enhancements;

- Identify and respond to environmental constraints and opportunities through the iterative design process;
- Minimise effects on residential amenity, including visual, noise and shadow flicker effects where reasonably practicable;
- Minimise effects on landscape character, visual amenity and valued views through careful siting and layout design;
- Avoid or minimise effects on cultural heritage assets and their settings;
- Maintain and, where possible, enhance public access and recreational opportunities;
- Minimise effects on the local highway network and surrounding communities;
- Support local and regional economic benefits through investment, employment and supply chain opportunities; and
- Deliver a safe, efficient and operationally effective renewable energy development.

4.4.3 These design principles will continue to evolve throughout the EIA process and will be informed by environmental survey findings, technical assessments, stakeholder engagement and consultation feedback. The final design submitted as part of the Application will reflect the outcome of this iterative design process.

4.5 ALTERNATIVES CONSIDERED

4.5.1 Schedule 4 paragraph (2) of the EIA Regulations 2017¹ requires the ES to include a description of the reasonable alternatives studied by the Applicant that are relevant to the Proposed Development and its specific characteristics, together with an indication of the main reasons for selecting the chosen option, including a comparison of the likely significant environmental effects of the chosen option against the identified reasonable alternatives.

4.5.2 Accordingly, the ES will describe the alternatives considered during the development of the Proposed Development and explain the rationale for the selected design. The assessment of alternatives will focus on those aspects of the Proposed

Development that have the potential to influence environmental effects and project performance, including turbine layout, turbine dimensions, generating capacity, electrical infrastructure locations, access arrangements and construction methodologies.

- 4.5.3 Paragraph 4.3.27 of NPS EN-1¹⁷ notes that alternatives which would prevent the proposed development from proceeding, for example because they are not technically feasible, physically suitable or commercially viable, may be excluded on the grounds they are not important and relevant to the decision-making process. Consistent with this approach, the alternatives assessment will focus on realistic and deliverable options that could reasonably meet the objectives of the Proposed Development.
- 4.5.4 The design of the Proposed Development will continue to evolve through an iterative process informed by environmental constraints, technical requirements, stakeholder engagement and consultation feedback. Environmental considerations will be integrated into the design process from an early stage, with the aim of avoiding or reducing potential adverse effects where reasonably practicable.
- 4.5.5 The ES will present a summary of the key design decisions made during the evolution of the Proposed Development, including how environmental information, consultation responses and engineering considerations have influenced the preferred design. The assessment will explain the reasons for selecting the proposed layout and design parameters and will describe how the final scheme has sought to balance renewable energy generation, environmental protection and technical feasibility.

4.6 APPLYING THE ROCHDALE ENVELOPE

- 4.6.1 Large-scale developments often undergo design evolution during the pre-application and post-consent stages. It is therefore important that the design retains sufficient flexibility to respond to consultation, environmental assessment, technical requirements and technological developments. PINS recognises the need for an appropriate balance between flexibility for

technical innovation and sufficient detail and controls to secure good design outcomes following consent.

- 4.6.2 Notwithstanding the need for flexibility, Regulation 14(2)(a) of the EIA Regulations 2017 requires an ES to include a description of the development, comprising information on the Site, design, size and other relevant features. This information must be sufficiently detailed to enable decision-makers, statutory consultees and the public to understand the Proposed Development and its likely significant environmental effects.
- 4.6.3 The EIA will therefore define the Proposed Development in sufficient detail to enable its likely significant environmental effects to be assessed, while identifying appropriate design envelopes or parameter ranges within which the Proposed Development could be delivered. PINS Pre-Application Advice on EIA²⁷ provides guidance on the degree of flexibility that may appropriately be incorporated into an application under the Planning Act 2008².
- 4.6.4 The Rochdale Envelope approach recognises that some elements of a proposed development may not be fixed when the EIA is undertaken. Where this is the case, the assessment will consider the reasonable worst-case design scenario for each environmental topic to ensure that all foreseeable likely significant effects are identified and assessed.
- 4.6.5 This approach allows the EIA to assess the likely significant environmental effects of the Proposed Development robustly while retaining reasonable design flexibility. The approach reflects the principles established through relevant case law, including *R v Rochdale Metropolitan Borough Council, ex parte Milne (No. 1)* and *R v Rochdale Metropolitan Borough Council, ex parte Tew* [1999], and *R v Rochdale Metropolitan Borough Council, ex parte Milne (No. 2)* [2000]. When appropriately applied, the Rochdale Envelope can reduce the risk of environmental effects falling outside the scope of the assessment while avoiding unnecessary restrictions on subsequent detailed design.

- 4.6.6 The Proposed Development remains at an early stage of design evolution and a degree of uncertainty is therefore inherent at the scoping stage. This Scoping Report identifies the assumptions, design parameters and reasonable worst-case scenarios currently proposed for each environmental topic. These have been selected to provide a precautionary but proportionate basis for identifying potential impact pathways, receptors and likely significant effects.
- 4.6.7 As the design develops, the assumptions and reasonable worst-case scenarios will be reviewed and refined. The ES will clearly describe the design parameters assessed, identify the reasonable worst-case scenario applied to each potential effect and explain how any remaining flexibility has been taken into account. Where different project parameters give rise to different reasonable worst-case scenarios, the relevant scenario will be assessed separately for each environmental topic or effect.
- 4.6.8 Appropriate controls, including design parameters, embedded mitigation and commitments secured through the DCO and associated documents, will ensure that the Proposed Development as constructed, operated and decommissioned remains within the envelope assessed in the ES.

5. APPROACH TO EIA AND CONSULTATION

5.1 INTRODUCTION

- 5.1.1 The term EIA describes a statutory process which assesses the environmental effects arising from a proposed development. The EIA process is a means of drawing together, in a systematic way, an assessment of a project's likely significant environmental effects. This helps to ensure that predicted effects and the scope for avoiding, preventing, reducing or, if possible, offsetting them are properly understood by the applicant, public, stakeholders, and the authority granting consent (the 'determining authority') before it makes its decision.

5.2 APPROACH TO SCOPING

- 5.2.1 The purpose of EIA scoping is to consider and agree with consultees the scope and level of detail of the information that is to be provided within the ES, and to focus the EIA process on the likely significant environmental effects of a proposal.
- 5.2.2 Regulation 10 of the EIA Regulations¹ provides for potential applicants to request the Secretary of State to state in writing their opinion on the scope and level of detail of the information that should be provided in the ES. This Scoping Report has been prepared in accordance with Regulation 10(3) of the EIA Regulations. The scoping opinion is to be issued by PINS following consultation with the consultation bodies (as defined in Regulation 3).
- 5.2.3 The Applicant recognises the value of the scoping approach, and the purpose of this Scoping Report is to ensure that relevant issues are identified, and to confirm that the assessment process described will meet legislative requirements, guidance and best practice. Therefore, this Scoping Report aims to identify potential environmental issues at an early stage by determining which elements of the Proposed Development are likely to result in significant effects on the environment, and establishing the extent of baseline conditions and assessment required for the ES. Scoping has an important role to play in achieving proportionate and effective EIA, in accordance with

Planning Inspectorate Advice Note 7: Environmental Impact Assessment (June 2026)²⁸.

- 5.2.4 This Report provides PINS and consultees with information that will allow them to understand those impacts and receptors that are likely to experience a significant effect as a result of the Proposed Development, as well as those that are not and therefore can be 'scoped out' of the EIA.
- 5.2.5 As such, this Scoping Report provides details of the technical areas which will be considered through the EIA process and are to be included within the ES to meet the information requirements in Regulation 14 and Schedule 4 of the EIA Regulations, and that:
- Describes the existing site and its context;
 - Establishes the format of the ES;
 - Provides baseline information; and
 - Describes key issues and the proposed assessment methodologies for various technical assessments to be covered in the ES.
- 5.2.6 The EIA Regulations set out the requirements for an applicant who proposes to request a scoping opinion from the Secretary of State. Regulation 10 sets out the minimum requirements a request for a scoping opinion must include. PINS Advice Note 7²⁹ provides advice on the information that should be provided in the Scoping Report, as does the Pre-Application Advice on Environmental Impact Assessment. These requirements and how they are met in this Scoping Report are summarised in **Table 5.1** below.

TABLE 5.1 SCOPING REPORT CONTENT REQUIRED UNDER REGULATION 10 AND SUGGESTED INCLUSIONS FROM PINS ADVICE NOTE 7 AND PRE-APPLICATION ADVICE ON ENVIRONMENTAL IMPACT ASSESSMENT

Information Requirement	Location within this Scoping Report
A plan sufficient to identify the land	Figure 2.1
A description of the Proposed Development, including its location and technical capacity	Chapter 2
An explanation of the likely significant effects of the development on the environment	Chapters 6–18
Such other information or representations as the person making the request may wish to provide or make	Chapters 1–19 and Appendices A–C
An explanation of the approach to addressing uncertainty where it remains in relation to elements of the Proposed Development e.g. design parameters	Chapter 2 and Chapters 4–18
Referenced plans presented at an appropriate scale to convey clearly the information and all known features associated with the Proposed Development	Appendix A: Figures
An outline of the reasonable alternatives considered and the reasons for selecting the preferred option	Chapter 4
A summary table depicting each of the aspects and matters that are requested to be scoped out allowing for quick identification of issues	Chapters 6–17
A detailed description of the aspects and matters proposed to be scoped out of further assessment with justification provided	Chapters 6–17
Results of desktop and baseline studies where available and where relevant to the decision to scope in or out aspects or matters	Chapters 6–17
Aspects and matters to be scoped in, the report should include details of the methods to be used to assess impacts and to determine significance of effect e.g. criteria for determining sensitivity and magnitude	Chapters 6–17 and Appendix C

Information Requirement	Location within this Scoping Report
Any avoidance or mitigation measures proposed, how they may be secured and the anticipated residual effects	Chapters 6-17
References to any guidance and best practice to be relied upon	Chapters 6-17 and Appendix B
Evidence of agreements reached with consultation bodies (for example the statutory nature conservation bodies or local authorities)	Chapter 5
An outline of the structure of the proposed ES	Chapter 19

5.3 APPROACH TO EIA

- 5.3.1 As described above, EIA is an iterative process aimed at identifying and assessing likely significant environmental effects arising as a result of a proposed development. It provides an opportunity to eliminate or avoid significant adverse environmental impacts by refining the design of the Proposed Development as it evolves and provide mitigation measures where appropriate. An iterative design approach is already being applied and will continue throughout the EIA process.
- 5.3.2 The EIA will address the construction phase of the Proposed Development, the operation and maintenance phase, and the decommissioning phase. It will assess the likely significant effects of the Proposed Development by comparing existing baseline conditions with those anticipated if the Proposed Development is built, operated, and later decommissioned. The predicted impacts and likely significant effects will be considered in relation to environmental receptors or resources, such as biological, physical, population and human health factors. Any likely significant effects identified will be used to inform and refine the design of the Proposed Development.
- 5.3.3 Where likely significant adverse effects are identified, that cannot be avoided through embedded mitigation, suitable additional mitigation measures to reduce, offset or compensate likely significant effects will be proposed. In addition, the EIA

will be used to identify potential enhancement measures that could be applied to maximise beneficial environmental effects where appropriate.

ASSESSMENT METHODOLOGY

5.3.4 Each ES technical chapter will comprise the following key elements:

- Introduction, including the scope of the assessment and the approach adopted;
- Legislation, Policy and Guidance relevant to the assessment;
- Assessment Methodology, detailing the methods, guidance, assumptions and limitations applied;
- Baseline Conditions, describing the existing environmental baseline and, where relevant, the future baseline;
- Embedded Mitigation, setting out mitigation measures incorporated into the design of the Proposed Development;
- Assessment of Likely Significant Effects, including effects during construction, operation and maintenance and, where relevant, decommissioning;
- Additional Mitigation and Residual Effects, where relevant, identifying any further mitigation measures and the significance of effects following mitigation;
- Cumulative Effects Assessment, considering the potential for inter and intra-cumulative effects with other relevant developments;
- Summary, presenting the key findings of the assessment and the significance of residual effects; and
- Supporting Figures, Plans and Technical Appendices, providing the evidence base and detailed information underpinning the assessment.

5.3.5 Information relating to the existing baseline conditions will be collected. This may include one or all of the following:

- Desk based assessment;
- Information from consultees;
- Public records and other archive sources; and
- Site surveys.

- 5.3.6 Where Site surveys are undertaken, the methods of data collection discussed and agreed with the relevant consultees will be provided. Individual data sources will be described in each chapter of the ES.
- 5.3.7 In order to assess the likely significant effects arising from the Proposed Development, the significance of such effects will be determined based on a maximum design scenario or "Rochdale Envelope" approach, as outlined in Section 4.6 of this Scoping Report.
- 5.3.8 Significance is determined by assessing the impact resulting from the magnitude of change for a particular receptor, based on the sensitivity of that receptor. The assessment of likely significant effects examines the change to the baseline environment that could result from the construction, operation and maintenance and decommissioning of the Proposed Development. To guide the assessment and determination of the significance of effects, they will be classified. The assessment of effects will combine professional judgement together with consideration of the following:
- The sensitivity of the resource or receptor under consideration;
 - The magnitude of the potential impact in relation to the degree of change which occurs as a result of the Proposed Development;
 - The type of effect (i.e., adverse, beneficial or neutral);
 - The probability of the impact occurring (i.e., certain, likely or unlikely);
 - Whether the impact is temporary, permanent and/or reversible; and
 - Whether the impact is direct, indirect, secondary, cumulative, or synergistic.
- 5.3.9 Effects predicted to be of major or moderate significance are generally considered to be 'significant' in EIA practice. The ES will generally follow these principles in relation to the identification of significant effects; however, some technical assessments may adopt a variation to this process. The assessment criteria used to determine the significance of effects

will be explicit in each technical assessment chapter within the ES.

- 5.3.10 Each individual technical area will have a specific assessment methodology and will be described in the ES. The assessment methodologies used within the ES will be in line with the relevant standards and guidance provided within each technical assessment chapter.
- 5.3.11 The proposed approach to the ES cumulative effects assessment is presented in **Chapter 18** of this Scoping Report.

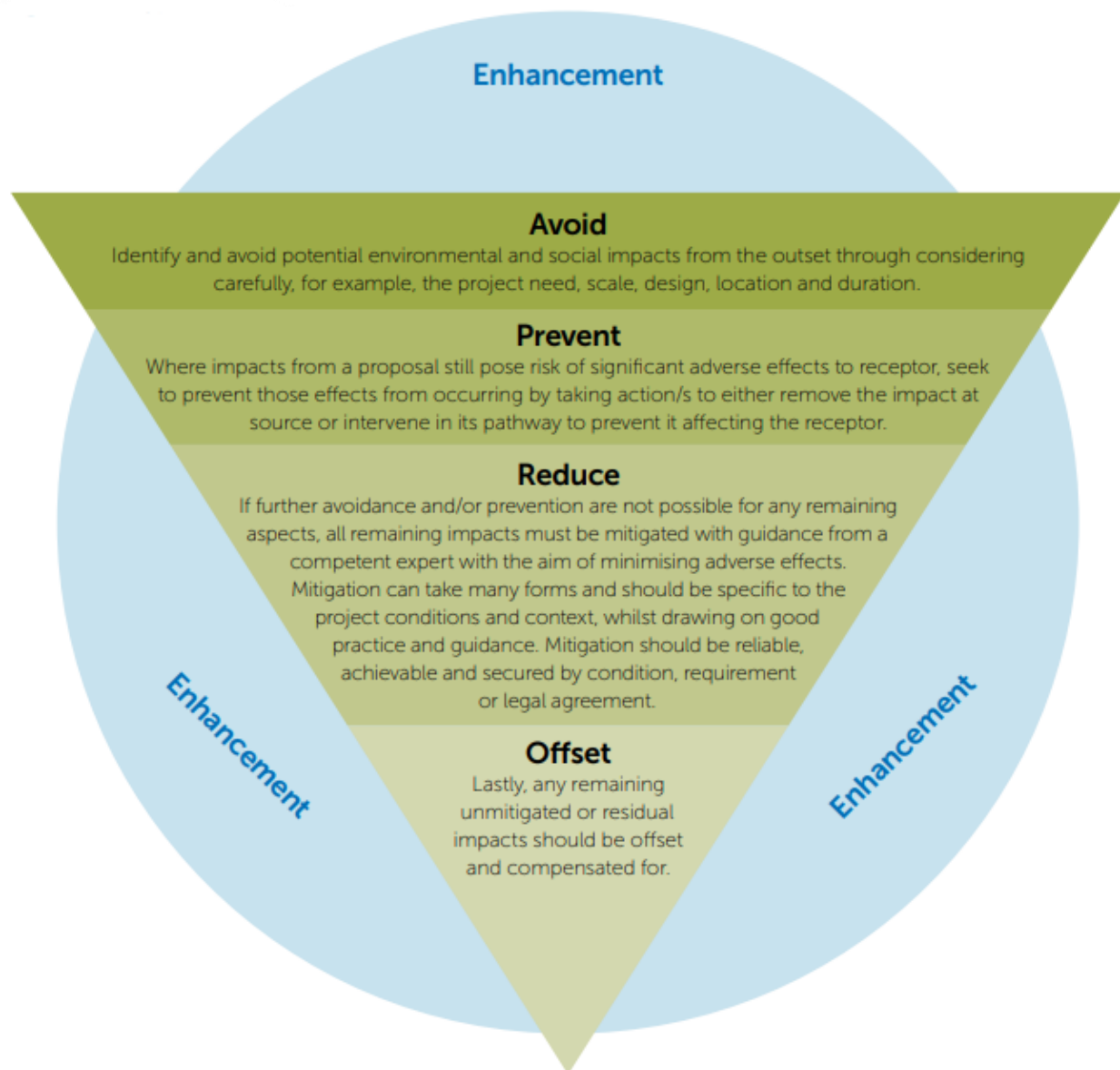
APPROACH TO MITIGATION

- 5.3.12 Paragraph 7 of Schedule 4 of the EIA Regulations notes that the ES should include:

'A description of the measures envisaged to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects on the environment and, where appropriate, of any proposed monitoring arrangements (for example the preparation of a post-project analysis). That description should explain the extent to which significant adverse effects on the environment are avoided, prevented, reduced or offset, and should cover both the construction and operational phases.'
- 5.3.13 These measures are termed mitigation. A hierarchical approach is taken to the mitigation of environmental effects during the EIA process. This approach will be adopted as part of the EIA process for the Proposed Development. Where the EIA identifies likely significant environmental effects, mitigation measures will be proposed to avoid, prevent, reduce, or offset those effects where feasible. Where further mitigation is not possible, significant residual effects may remain and this will be reported in the ES.
- 5.3.14 In the context of the mitigation hierarchy (as shown below in **Plate 5.1**), primary or embedded mitigation refers to measures that are inherently built into the project design from the outset or design evolution and/or mitigation which is imposed through current regulations and/or standard best practice and typically

align with the early stages of the hierarchy like avoidance and minimisation.

PLATE 5.1 MITIGATION HIERARCHY³⁰



- 5.3.15 Additional mitigation refers to measures that require further activity to typically reduce or offset the impacts of a development. Additional mitigation measures are typically secured through the Requirements of the DCO, for example by specifying limits on external lighting or requiring the approval of a Lighting Management Plan, which then form part of the statutory control framework for the Proposed Development.

- 5.3.16 In addition, enhancement measures may be incorporated into the design of the Proposed Development to deliver positive effects such as environmental and social benefits rather than as a direct result of mitigation for adverse likely significant effects. Other significant positive effects could also be a result of directly mitigating impacts from the Proposed Development.
- 5.3.17 The ES will include a description of the mitigation measures envisaged to prevent, reduce and, where possible, avoid any likely significant adverse effects. Any beneficial significant effects arising from enhancement measures will also be identified. Where practical, mitigation measures will be set out as commitments in the ES and secured through Requirements of the DCO, which will ensure they are implemented. Where the likely effects of the impact are significant and adverse, and there is potential uncertainty in the mitigation proposed, monitoring may be proposed to ensure that the mitigation is both required and effective. It will allow for adaptation of the mitigation measures to ensure that they are fit for purpose and will be proportionate to the level of significance experienced.

RESIDUAL EFFECTS

- 5.3.18 Embedded mitigation measures, including mitigation incorporated through the design of the Proposed Development and standard good practice measures, will be taken into account in the initial assessment of likely significant effects. Where this initial assessment identifies the potential for significant effects to remain, additional mitigation will be identified as necessary and a residual effects assessment will then be undertaken to determine the significance of effects following implementation of that additional mitigation.

ADDITIONAL CONSIDERATIONS

- 5.3.19 Two areas of land would be required on a temporary basis to facilitate the delivery of oversized turbine components from the Port of East Anglia to the Site during construction of the Proposed Development. These areas are shown on **Figure 2.3**.

- 5.3.20 As the construction delivery areas would be required only temporarily and would not form part of the operational development, a proportionate assessment approach will be adopted within the ES to assess the likely significant environmental effects associated with their use.
- 5.3.21 This assessment will reflect the temporary and reversible nature of the activities proposed within these areas and will consider the reinstatement of land following completion of construction. The detailed scope and methodology will be agreed, where appropriate, through consultation and will be reported within the ES.

5.4 ENGAGEMENT AND CONSULTATION

- 5.4.1 Engagement with stakeholders is a key part of the EIA process and will be ongoing throughout all stages of the EIA. Consultation responses will be requested from consultees as part of this Scoping Report and engagement will continue with key consultees throughout the EIA process.
- 5.4.2 Early non-statutory engagement has been initiated with key stakeholders to introduce the Proposed Development and inform the preparation of this Scoping Report. This has included engagement with the relevant local planning authorities, Natural England and the Environment Agency. The purpose of this engagement has been to provide an overview of the Proposed Development, discuss the proposed EIA approach, and identify any environmental constraints, opportunities or assessment requirements that should be considered as the project evolves.
- 5.4.3 Engagement will continue throughout the EIA process and will play an important role in refining the design of the Proposed Development and the scope of the assessments reported within the ES. The Applicant welcomes consultee feedback on these matters to ensure that the ES is proportionate, robust and focused on the environmental topics most relevant to the Proposed Development.

6. BIODIVERSITY AND NATURE CONSERVATION

6.1 INTRODUCTION

- 6.1.1 The EIA will include an Ecological Impact Assessment (EcIA) to identify and evaluate the likely significant effects (LSE) of the Proposed Development on biodiversity and nature conservation receptors during construction, operation and maintenance and decommissioning. The assessment will be undertaken in accordance with relevant guidance, including the Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Ecological Impact Assessment and other applicable best practice guidance, and will consider effects on habitats and protected and notable species within the defined Study Areas. A HRA will also be undertaken to consider the potential effects of the Proposed Development on the National Site Network (formerly known as European sites). The HRA will be prepared as a separate assessment from the EcIA, although the assessments will be informed by a common evidence base where relevant. Further details of the proposed HRA approach are provided in **Appendix C**.
- 6.1.2 The EcIA will establish the baseline ecological conditions, identify sensitive ecological receptors and assess the nature and significance of effects arising from the Proposed Development. The assessment will consider effects on designated sites, habitats and protected and notable species, including bats, badger (*Meles meles*), otter (*Lutra lutra*), water vole (*Arvicola amphibius*), great crested newt (*Triturus cristatus*), fish and invasive non-native species. Desk-based studies and ecological field surveys, including Extended UK Habitat Classification (UKHab) surveys, habitat condition assessments for BNG assessment, river condition assessments, fish habitat assessments and species-specific surveys, will be undertaken where appropriate to inform the assessment.
- 6.1.3 The findings of the baseline review and ongoing design process have informed the preliminary scoping conclusions presented in this chapter and will continue to inform the evolution of the Proposed Development and preparation of the ES. Further

ecological surveys, including reptile, invertebrate, bat and fish surveys, will be undertaken where required based on the findings of baseline surveys and the evolving design. Inter-project and intra-project cumulative effects will be considered where relevant in accordance with the methodology set out in **Chapter 18**.

- 6.1.4 The proposed ecological assessment methodology is provided in **Appendix C**, with the relevant legislation, policy and guidance set out in **Appendix B**.

6.2 STUDY AREA

- 6.2.1 The Study Areas have been established following CIEEM guidelines, taking into consideration various factors including the likely Important Ecological Features (IEFs) within the Site and the surrounding area, the activities associated with the construction, operation and maintenance and decommissioning of the Proposed Development, and the location and ecological features of surrounding designated sites. Study Areas vary according to the species and habitat which will potentially be impacted and will be subject to the desk-based assessment and field surveys.
- 6.2.2 The desk-study search areas comprise the Site and land within 2 km for local statutory and non-statutory designated sites and protected species, within 5 km for nationally designated sites and 10 km for internationally designated sites, and within 30 km for designated sites for which bats are a qualifying feature. The biodiversity Study Areas and designated sites are shown on **Figures 6.1** and **6.2**.

6.3 BASELINE CONDITIONS

DATA SOURCES

- 6.3.1 The preliminary ecological baseline has been informed by a review of the following data sources:
- Publicly available information on statutory designated sites, including Special Areas of Conservation (SACs), Special

Protection Areas (SPAs), Ramsar sites, NNRs and Site of Special Scientific Interest (SSSIs);

- Publicly available information and information from conservation organisations on non-statutory designated sites, including Local Nature Reserve (LNRs) and County Wildlife Sites (CWSs);
- Citation documents and qualifying interest information for designated sites within the Study Area;
- Priority habitat mapping, ancient woodland inventories and other publicly available habitat datasets;
- Species distribution and population information from national datasets, published reports and conservation organisations;
- Existing information on protected and notable species within and surrounding the Site; and
- INNS and ecological records relevant to the Site and surrounding area.

6.3.2 Additional ecological data will be obtained through engagement with relevant organisations and data providers, including:

- Natural England;
- Cambridgeshire and Peterborough Environmental Records Centre (CPERC);
- Suffolk Biodiversity Information Service (SBIS);
- Norfolk Biodiversity Information Service (NBIS);
- Environment Agency;
- Local Wildlife Trusts; and
- Other relevant local species recording groups and conservation organisations, where appropriate.

6.3.3 The findings of the desk study will be used alongside the ongoing ecological survey programme to establish the baseline conditions and inform the EIA. The survey programme includes habitat surveys, protected species surveys and aquatic ecology surveys, as appropriate to the ecological features present within and surrounding the Site.

DESK BASED

Designated Sites

- 6.3.4 Two international / National Site Network / European Sites are within 10 km of the Indicative Order Limits, namely the Breckland SPA and Breckland SAC. Five national statutory designated sites are within 5 km of the Indicative Order Limits, with Stallode Wash, Lakenheath SSSI being 168 m from the Site. These are shown in **Table 6.1** and **Figure 6.2**. Shippea Hill SSSI has been excluded from the search as it is designated for its geological interests, which will not be affected by the Proposed Development.
- 6.3.5 The Site lies within multiple SSSI Impact Risk Zones (IRZ) of terrestrial statutory designated sites.
- 6.3.6 There are nine locally designated sites within 2 km of the Indicative Order Limits, eight of which are County Wildlife Sites (CWS) and one Local Nature Reserve (LNR) as shown in **Table 6.1** and
- 6.3.7 **Table 6.2**.
- 6.3.8 There are no SACs within 30 km of the Indicative Order Limits for which bats are a qualifying feature.

TABLE 6.1 NATIONAL AND INTERNATIONAL STATUTORY DESIGNATED SITES

Designated Site	Designation	Approximate Distance from Site	Qualifying Features
Breckland	SPA	529 m	Qualifying bird species include stone-curlew, nightjar (<i>Caprimulgus Europaeus</i>) and woodlark (<i>Lullula Arborea</i>).
	SAC	6.2 km	- Inland dunes with open <i>Corynephorus</i> and <i>Agrostis</i> grasslands. - Natural eutrophic lakes with <i>Magnopotamion</i> or

Designated Site	Designation	Approximate Distance from Site	Qualifying Features
			<i>Hydrocharition</i> - type vegetation. • European dry heaths. • Semi-natural dry grasslands and scrubland facies on calcareous substrates. • Alluvial forests. • Great crested newt.
Breckland Farmland	SSSI	530 m	• Stone-curlew (<i>Burhinus oedicnemus</i>).
Ely Pits and Meadows	SSSI	4.1 km	• Breeding bird assemblage of lowland open waters. • Breeding and wintering bitterns (<i>Botaurus stellaris</i>).
Lakenheath Poors Fen	SSSI	4 km	• Species-rich fen meadow. • Calcareous and neutral grassland.
Pashford Poor's Fen, Lakenheath	SSSI	4.6 km	• Fenland habitat. • Unimproved, species rich mesotrophic meadow. • Neutral grassland. • Acid marshy grassland. • Rich invertebrate fauna.
Stallode Wash, Lakenheath	SSSI	168 m	• Washland habitat including flooded grassland, tall fen and reedswamp. • Two nationally rare plant species occur on this site • Wetland bird interest.

TABLE 6.2 LOCAL STATUTORY AND NON-STATUTORY DESIGNATED SITES

Designated Site	Designation	Approximate Distance from Site	Qualifying Features
Aspal Close	LNR	5 km	This site qualifies as LNR due to its grassland, ancient woodland and scrub.
Black Wing Drains	CWS	93 m	The drain supports at least five submerged, floating and emergent species per 20 m stretch, a nationally scarce vascular plant species (<i>Nymphoides peltata</i>) and three or more species of pondweed.
Little Ouse River	CWS	0 m (adjacent to the Site)	The site qualifies as CWS because it is a major river not grossly modified through canalisation or poor water quality.
River Lark and Associated Habitat	CWS	0 m (adjacent to the Site)	The site qualifies as CWS because it is a major river not grossly modified through canalisation or poor water quality.
Poors Ground	CWS	416 m	The site qualifies as CWS due to its woodland habitat. The Woodland canopy layer is dominated by pendunculate oak (<i>Quercus robur</i>) with frequent silver birch (<i>Betula pendula</i>).
Cut-off Channel (Feltwell)	CWS	1.28 km	The site qualifies as CWS due to its large open stretches of species-rich, neutral to calcareous grassland.
Cut-off Channel (Hockwold)	CWS	814 m	The site qualifies as CWS due to its dense mature scrub providing suitable habitat for nightingale (<i>Luscinia megarhynchos</i>) and turtle dove (<i>Streptopelia turtur</i>).

Designated Site	Designation	Approximate Distance from Site	Qualifying Features
Lakenheath Fen	CWS	370 m	The site qualifies as CWS due its large mosaic of wetland priority habitats and the important assemblage of nationally rare birds including Bittern and golden oriole (<i>Oriolus oriolus</i>).
Little Ouse Washes	CWS	361 m	The site qualifies as CWS due its flat land acting as a reservoir for flood water from the Little Ouse and its wintering and breeding bird assemblages.

Priority Habitats

- 6.3.9 The desk study revealed there are no areas of Ancient Woodland within 2 km of the Indicative Order Limits.
- 6.3.10 Habitats of Principal Importance (HPI) within 2 km of the Indicative Order Limits includes as shown in **Figure 6.1**:
- Coastal and floodplain grazing marsh – the closest area of this habitat is 292 m from the Site;
 - Deciduous woodland within the Site;
 - Good quality semi-improved grassland the closest area of this habitat is 1.9 km from the Site;
 - Lowland fens within the Site;
 - Reedbeds – the closest area of this habitat is 413 m from the Site; and
 - Traditional orchard within the Site.

Protected and Notable Species

- 6.3.11 Desk study records received from Cambridgeshire and Peterborough Environmental Records Centre (CPERC), Suffolk Biodiversity Information Service (SBIS) and Norfolk Biodiversity Information Service (NBIS) identified the following protected

and notable species from within the desk-study search zone within the last 10 years:

- Amphibians: Three records of smooth newt (*Lissotriton vulgaris*)
- Bats: 38 records of common pipistrelle (*Pipistrellus pipistrellus*), 30 records of soprano pipistrelle (*Pipistrellus pygmaeus*), one record of Nathusius's Pipistrelle (*Pipistrellus nathusii*) 16 records of brown long-eared bat (*Plecotus auritus*), 16 records of Daubenton's bat (*Myotis daubentonii*), eight records of Natterer's bat (*Myotis nattereri*), 11 records of Serotine's bat (*Cnephaeus serotinus*), 19 records of noctule (*Nyctalus noctula*), 10 records of barbastelle (*Barbastella barbastellus*), two records of Leisler's bat (*Nyctalus leisleri*) and one record of Whiskered Bat (*Myotis mystacinus*)
- Reptiles: Two records of grass snake (*Natrix helvetica*) and 10 records of common lizard (*Zootoca vivipara*);
- Invertebrates: 10 records of beetle (*Coleoptera*), 15 records of butterfly, 79 records of dragonfly (*Odonata*), 6 records of *Hymenopteran*, 85 records of moth, two records of *Hemiptera* and nine records of *Diptera* and one record of variable damselfly (*Coenagrion pulchellum*);
- Fish: One record of bullhead (*Cottus perifretum*)
- Invasive non-native species: Four records of American mink (*Neovison vison*), one record of Canadian waterweed (*Elodea canadensis*), one record of false-acacia (*Robinia pseudoacacia*), one record of floating pennywort (*Hydrocotyle ranunculoides*), one record of Japanese knotweed (*Reynoutria japonica*), five records of muntjac (*Muntiacus reevesi*), one record of New Zealand pigmyweed (*Crassula helmsii*) and one record of Nuttall's waterweed (*Elodea nuttallii*)
- Notable Mammals: 15 records of water vole, 13 records of otter, three record of badger and one record of harvest mouse (*Micromys minutus*); and
- Other notable species included one record of hedgehog (*Erinaceus europaeus*) and one record of brown hare (*Lepus europaeus*).

FIELD SURVEYS

- 6.3.12 The ongoing and completed ecological field survey programme comprises:
- Extended UK Habitat Classification (UK Hab), including condition assessment for BNG and invasive non-native species survey;
 - River condition assessments;
 - Fish habitat assessments.
 - Badger (*Meles meles*) surveys;
 - Bat surveys (daytime bat walkover, ground level tree assessments and static detector surveys);
 - Otter (*Lutra lutra*) surveys;
 - Water vole (*Arvicola amphibius*) surveys; and
 - Great crested newt (*Triturus cristatus*) eDNA surveys.
- 6.3.13 Further ecological surveys may be required to inform the assessment. These will be determined by the findings of the Extended UKHab surveys and the design (and therefore potential effects) of the Proposed Development:
- Reptile and invertebrate surveys will be undertaken as required, depending on the likely impact of the Proposed Development;
 - Additional bat surveys such as tree climbing and emergence surveys will be undertaken as required depending on the suitability of the feature/s and likely impact of the Proposed Development;
 - Targeted fish surveys (such as eDNA surveys) will be undertaken as required depending on the suitability of the feature/s and likely impact of the Proposed Development;
 - Invertebrate surveys. However, the Proposed Development will aim to avoid the majority of suitable areas of habitat and as such will likely be scoped out following baseline habitat surveys and design.

Survey Results as of August 2026

- 6.3.14 The Site predominantly comprises intensively managed arable farmland intersected by an extensive network of drainage ditches, many of which retain water throughout the year. These

ditch systems provide ecological connectivity across the Site and support habitats suitable for a range of protected and notable species. Semi-natural habitats are generally limited to ditch margins, field margins, hedgerows, scattered trees and other linear features associated with the agricultural landscape.

- 6.3.15 The desk study and initial field survey identified evidence indicative of badger, otter and water vole activity within the relevant Study Areas. The Site also contains habitats that may be suitable for bats and other protected species. These findings do not confirm the presence of protected species throughout the Site or predetermine the requirement for further surveys. The need for, and scope of, any additional species-specific surveys will be reviewed as the design of the Proposed Development develops, having regard to the location and nature of the proposed works, the habitats affected, existing survey information and relevant guidance.
- 6.3.16 Environmental DNA (eDNA) surveys undertaken within ponds located in Redmere South have returned negative results. Additional surveys are proposed to complete baseline coverage and further refine the assessment of ecological constraints.

6.4 SCOPING DETERMINATION OF POTENTIAL LIKELY SIGNIFICANT EFFECTS

- 6.4.1 **Table 6.3** and **Table 6.4** present the scoping determination of potential LSE for the Biodiversity and Nature Conservation assessment during the construction, decommissioning and operational phases, and identify those matters proposed to be scoped into or out of the EIA.

TABLE 6.3 BIODIVERSITY AND NATURE CONSERVATION SCOPING DETERMINATION OF POTENTIAL LSE DURING CONSTRUCTION AND DECOMMISSIONING

Receptor	Potential Impact Pathway	Mitigation	Additional Information	Scoping of Impact Pathways
International statutory designated sites (Breckland SPA SAC)	Disturbance, habitat degradation, pollution and other indirect effects arising from construction activities.	• Sensitive design • Habitat Management and Monitoring Plan (HMMP). • Preparation and implementation of a Construction Environmental Management Plan (CEMP).	Potential impact pathways require further assessment through the EIA and HRA. As the Breckland SPA is designated for its qualifying bird species, the assessment of potential effects on the SPA is addressed separately in Chapter 7.	Potential for significant impact, scoped in
National statutory designated sites	Disturbance, habitat degradation, pollution and other indirect effects arising from construction activities.	• Sensitive design • HMMP. • CEMP.	Potential ecological connectivity exists between the Site and notified features. Limited evidence of connectivity so far, impact pathways cannot currently be excluded at this stage and will be subject to review of the complete dataset.	Potential for significant impact, scoped in
Local statutory designated sites	Disturbance, habitat degradation, pollution and other indirect effects arising from construction activities.	• Sensitive design • HMMP. • CEMP.	Potential ecological connectivity exists between the Site and notified features. Limited evidence of connectivity so far, impact pathways cannot currently be excluded at this stage and will be subject to review of the complete dataset.	Potential for significant impact, scoped in
Local non-statutory designated sites	Disturbance, habitat degradation, pollution and other indirect effects arising from construction activities.	• Sensitive design • CEMP.	Potential ecological connectivity exists between the Site and notified features. Limited evidence of connectivity so far, impact pathways cannot currently be excluded at this stage and will be subject to review of the complete dataset.	Potential for significant impact, scoped in
Habitats	Temporary and permanent habitat loss disturbance and indirect impacts such as pollution.	• Establishment of appropriate construction buffer zones around important habitats (for protected species). • CEMP • The Biodiversity Net Gain (BNG) strategy would focus on the retention, enhancement and, where required, the re-creation of semi-natural habitats on Site, in that order of preference. This will be supported by a habitat management and monitoring plan (HMMP) and a landscape environmental management plan.	Construction activities may affect habitats present within the Site. Significant effects cannot be ruled out.	Potential for significant impact, scoped in
Amphibians (including great crested newt),	Potential effects include loss of habitat, displacement, disturbance, and killing and injuring.	• Avoidance through sensitive design. • Species licensing where required. • Pre-construction surveys. • CEMP.	Construction activities may affect amphibians present within the Site and Study Area. Significant effects cannot be ruled out.	Potential for significant impact, scoped in

Receptor	Potential Impact Pathway	Mitigation	Additional Information	Scoping of Impact Pathways
Badger	Loss of habitat, displacement and disturbance.	- Avoidance through sensitive design. - Species licensing where required. - Pre-construction surveys. - CEMP.	Construction activities may affect badgers present within the Site and the Study Area. Significant effects cannot be ruled out.	Potential for significant impact, scoped in
Bats (foraging and commuting),	Loss of habitat, habitat fragmentation, displacement and disturbance.	- Avoidance through sensitive design. - Species licensing where required. - Pre-construction surveys. - CEMP. - Lighting plan.	Construction activities may affect bats which are foraging and commuting within the Site and the Study Area. Significant effects cannot be ruled out.	Potential for significant impact, scoped in
Bats (roosting)	Disturbance, damage or destruction of bat roosts.	- Avoidance through sensitive design. - Species licensing where required. - Pre-construction surveys. - CEMP. - Lighting plan.	Construction activities may affect bats which are roosting within the Site and the Study Area. Significant effects cannot be ruled out. However, it is anticipated that the design of the Proposed Development will retain trees and buildings which have potential for roosting bats and this element will be scoped out.	Potential for significant impact, scoped in
Hazel dormouse (<i>Muscardinus avellanarius</i>), and freshwater pearl mussel (<i>Margaritifera margaritifera</i>)	No credible impact pathway identified.	No mitigation proposed.	These species are absent from this geographic region.	No potential for significant impact, scoped out
Fish	Loss of habitat, habitat fragmentation, displacement and habitat disturbance through indirect impacts.	- Avoidance through sensitive design. - CEMP. - Lighting plan.	Construction activities may affect fish which are present within the Site and the Study Area. Significant effects cannot be ruled out.	Potential for significant impact, scoped in
Otter	Loss of habitat, habitat fragmentation, displacement and disturbance.	- Avoidance through sensitive design. - Species licensing where required. - Pre-construction surveys. - CEMP. - Lighting plan.	Construction activities may affect otters which are present within the Site and the Study Area. Significant effects cannot be ruled out.	Potential for significant impact, scoped in
Water vole	Loss of habitat, habitat fragmentation, displacement and disturbance.	- Avoidance through sensitive design. - Species licensing where required. - Pre-construction surveys. - CEMP.	Construction activities may affect water vole which are present within the Site and the Study Area. Significant effects cannot be ruled out.	Potential for significant impact, scoped in
Invertebrates	Loss of habitat, displacement and disturbance.	- Avoidance through sensitive design. - CEMP.	Construction activities may affect invertebrates which are present within the Site and the Study Area. Significant effects cannot be ruled out.	Potential for significant impact, scoped in

Receptor	Potential Impact Pathway	Mitigation	Additional Information	Scoping of Impact Pathways
				However, the Proposed Development will aim to avoid the majority of suitable areas of habitat and as such will likely be scoped out following baseline habitat surveys and design.
Reptiles	Loss of habitat, displacement and disturbance.	- Avoidance through sensitive design. - CEMP.	Construction activities may affect reptiles which are present within the Site and the Study Area. Significant effects cannot be ruled out.	Potential for significant impact, scoped in However, the Proposed Development will aim to avoid the majority of suitable areas of habitat and as such will likely be scoped out following baseline habitat surveys and design.
Other mammals (including hedgehog and brown hare), invertebrates and	Loss of habitat, habitat fragmentation, displacement and disturbance.	- Avoidance through sensitive design. - Species licensing where required. - Pre-construction surveys. - CEMP.	Construction activities may affect other mammals which are present within the Site and the Study Area. Significant effects cannot be ruled out.	Potential for significant impact, scoped in
Biodiversity receptors and designated sites (cumulative)	Combined effects arising from the Proposed Development together with other developments and from multiple impact pathways.	To be informed by the EcIA, HRA and cumulative assessment findings.	Cumulative effects on habitats, protected species and designated sites cannot be ruled out at the scoping stage. Inter-project and intra-project cumulative effects will be assessed in accordance with Chapter 18 .	Potential for significant impact, scoped in

TABLE 6.4 BIODIVERSITY AND NATURE CONSERVATION SCOPING DETERMINATION OF POTENTIAL LSE DURING OPERATION

Receptor	Potential Impact Pathway	Mitigation	Additional Information	Preliminary Effect Significance
International, National and Local Designated Sites	Indirect impacts arising from pollution.	To be confirmed through the EIA and informed by survey results and assessment findings.	A number of designated sites occur within the biodiversity Study Area and may have ecological connectivity or other impact pathways linking them to the Site. The significance of operational effects will be determined through the EcIA and HRA.	Potential for significant impact, scoped in
Habitats	Habitat enhancement associated with biodiversity enhancement and habitat management measures.	To be confirmed through design and HMMP proposals which would ensure that BNG commitments are implemented, monitored and maintained for a minimum of 30 years, securing the long-term delivery of habitat enhancements and biodiversity gains.	The Proposed Development would include habitat management and biodiversity enhancement measures that may improve habitat extent, quality and connectivity. The nature and extent of any beneficial effects will be determined through the EcIA and detailed design process, as well as the BNG strategy.	Potential for significant impact, scoped in
Bats	Collision with operational turbines, resulting in mortality or injury. Potential barotrauma associated with turbine operation.	To be confirmed through the EIA and informed by survey results and assessment findings.	Static bat detector surveys are ongoing to establish levels of bat activity across the Site. The Site contains habitats that may be used by foraging and commuting bats, including drainage corridors, hedgerows and other linear features. Significant collision or barotrauma effects cannot currently be ruled out.	Potential for significant impact, scoped in
All ecological receptors	Habitat enhancement associated with biodiversity enhancement and habitat management measures.	To be confirmed through design and HMMP proposals which would ensure that BNG commitments are implemented, monitored and maintained for a minimum of 30 years, securing the long-term delivery of habitat enhancements and biodiversity gains.	Habitat enhancement measures may provide beneficial effects for some species through improved habitat availability and quality. The extent of any benefits will be determined through the EIA.	Potential for significant impact, scoped in
All other protected and notable species which have been scoped in, in Table 6.3	Disturbance from new lighting, maintenance and habitat management.	- Lighting plan. - Incorporation of measures within an Operational Environmental Management Plan (OEMP).	Protected species known or likely to occur within the Site may be sensitive to operational disturbance. The significance of effects will depend on final design, survey findings and operational mitigation measures.	Potential for significant impact, scoped in
Electromagnetic field (EMF) sensitive aquatic species	Operational EMF generated by buried electrical cables could extend into watercourses at cable-crossing locations, potentially affecting the behaviour, navigation or movement of sensitive aquatic species.	Where underground cables cross watercourses, site-specific survey information will inform the installation method and burial depth to avoid or minimise potential EMF effects on aquatic species. The BESS and associated electrical infrastructure will be designed and installed in accordance with relevant statutory	Underground cabling and industry-standard design measures will limit EMF exposure. At watercourse crossings, appropriate installation methods and burial depths will be selected using site-specific information to avoid or minimise exposure of aquatic ecological receptors.	No Potential for significant impact, scoped out

Receptor	Potential Impact Pathway	Mitigation	Additional Information	Preliminary Effect Significance
		requirements and applicable industry standards.		
Biodiversity receptors and designated sites (cumulative)	Combined effects arising from the Proposed Development together with other developments and from multiple impact pathways.	To be informed by the EcIA, HRA and cumulative assessment findings.	Cumulative effects on habitats, protected species and designated sites cannot be ruled out at the scoping stage. Inter-project and intra-project cumulative effects will be assessed in accordance with Chapter 18 .	Potential for significant impact, scoped in

6.5 ASSUMPTIONS AND LIMITATIONS

- 6.5.1 The scoping of Biodiversity and Nature Conservation impacts has been informed by ecological surveys undertaken in accordance with relevant CIEEM and Natural England guidance. Where surveys could not be completed during the 2026 survey season, these will be undertaken in 2027 to ensure that the EcIA is based on a robust baseline dataset covering the Site and relevant ecological receptors.
- 6.5.2 As baseline surveys are still underway, and certain areas still require an Extended UKHAB survey, there may be new findings which result in the increase/decrease of the survey scope which has been described in this chapter.
- 6.5.3 The scoping assumes that embedded mitigation and the mitigation hierarchy will continue to inform the design evolution of the Proposed Development. This includes the avoidance of designated sites and appropriate buffer zones, avoidance of Habitats of Principal Importance (HPI) and tree loss wherever reasonably practicable, protection of ancient and veteran trees through suitable stand-off distances, and the use of sensitive watercourse crossing techniques, including HDD beneath watercourses where appropriate.

7. ORNITHOLOGY

7.1 INTRODUCTION

- 7.1.1 The EIA will include an ornithological assessment to identify and evaluate the LSE of the Proposed Development on bird populations during construction, operation and maintenance and decommissioning. The assessment will be undertaken in accordance with relevant guidance, including current NatureScot, CIEEM and Scottish Renewables guidance (further detailed in **Appendix B**), and will consider effects on breeding, wintering and migratory bird populations within the defined Study Areas.
- 7.1.2 The ornithological assessment will establish the baseline ornithological conditions, identify sensitive receptors and assess the nature and significance of effects arising from the Proposed Development. The assessment will consider effects on key ornithological receptors, including qualifying species associated with designated sites, protected and notable bird species, and regularly occurring breeding, wintering and migratory bird populations. An ornithological desk-based study has been undertaken to inform the proposed scope presented in this Chapter. Desk-based activities have included a review of relevant designated sites, available ornithological records and existing information on breeding, wintering and migratory bird populations within the Study Areas. Ornithological field surveys commenced at Redmere North in April 2025 and at Redmere South in October 2025 and are ongoing. The locations of the ornithological survey areas, VPs and associated viewsheds are shown on **Figures 7.1a, 7.1b** and **7.2**. Further details of the survey programme are presented in Section 7.3.
- 7.1.3 The findings of the baseline review, ongoing survey programme and design process have informed the preliminary scoping conclusions presented in this chapter and will continue to inform the evolution of the Proposed Development and preparation of the ES. A collision risk assessment and any other species-specific assessments required will be undertaken where appropriate to consider potential effects on sensitive bird

species. Inter-project and intra-project cumulative effects will be considered where relevant in accordance with the methodology set out in **Chapter 18**.

- 7.1.4 The proposed ornithological assessment methodology is provided in **Appendix C**, with the relevant legislation, policy and guidance set out in **Appendix B**.

7.2 STUDY AREA

- 7.2.1 The ornithological Study Areas reflect the mobile nature of birds and have been defined with reference to prevailing (2025) NatureScot guidance for onshore wind farms³¹, adapted to local conditions and species on the basis of professional judgement. The desk study considers European designated sites within 20 km of the Site and other statutory designated sites within 10 km. Field survey Study Areas comprise the Site and surrounding land, extending to distances appropriate to the species groups and assessment requirements under consideration. The ornithological Study Areas, survey areas and designated sites considered relevant to the assessment are shown on **Figures 7.1a, 7.1b, 7.2 and 7.3**. Survey areas used in Redmere North changed between years due to updates to the Indicative Order Limits. The survey scope is detailed further in Section 7.3 and **Appendix C**.

7.3 BASELINE

DATA SOURCES

- 7.3.1 The preliminary ornithological baseline has been informed by a review of the following data sources:
- Publicly available information on statutory designated sites, including SPAs, Ramsar sites and SSSIs.
 - Citation documents and qualifying interest information for designated sites within the Study Area.
 - Published bird reports and county ornithological records, where available.
 - Species distribution and population information from national monitoring schemes and conservation organisations.

- Existing information on breeding, wintering and migratory bird populations within the wider area surrounding the Site.

7.3.2 Additional ornithological data will be obtained through consultation with relevant organisations and data providers, including:

- Natural England;
- British Trust for Ornithology (BTO);
- Royal Society for the Protection of Birds (RSPB); and
- Local Environmental Records Centres (LERCs).

7.3.3 The findings of the desk study will be used alongside the ongoing ornithological survey programme to establish the baseline conditions and inform the EIA.

DESK BASED

7.3.4 A review of statutory designated sites with ornithological interest has been undertaken to inform the baseline and scope of the assessment. The designated sites considered potentially relevant to the assessment are summarised in **Table 7.1**. The locations of these sites relative to the Site are shown on **Figure 7.3**.

TABLE 7.1 STATUTORY DESIGNATED SITES RELEVANT TO THE ORNITHOLOGICAL ASSESSMENT

Designated Site	Designation	Approximate Distance from Site	Relevant Ornithological Interest
Ouse Washes	SPA, Ramsar, SSSI	11.5 km	Internationally important breeding and non-breeding wetland bird assemblages.
Breckland	SPA	529 m	Qualifying species include stone-curlew, nightjar and woodlark.
Boughton Fen	SSSI	12 km	Ornithological interest associated with wetland and breeding bird assemblages.

Designated Site	Designation	Approximate Distance from Site	Relevant Ornithological Interest
Breckland Rough	SSSI	9.85 km	Breeding and non-breeding bird interest.
Breckland Farmland	SSSI	530 m	Stone-curlew and associated farmland bird interest.
Breckland Forest	SSSI	7.65 km	Woodland and heathland bird assemblages.
Ely Pits and Meadows	SSSI	4.1 km	Wetland and breeding bird interest.
Foxhole Heath, Eriswell	SSSI	8.2 km	Heathland bird assemblages.
Hilgay Heronry	SSSI	9.45 km	Breeding heron colony.
Lakenheath Warren	SSSI	8.4 km	Breckland bird assemblages.
Stallode Wash, Lakenheath	SSSI	168 m	Wetland bird interest.
Weeting Heath	SSSI	7.5 km	Stone-curlew and Breckland bird interest.

FIELD SURVEYS

7.3.5 A programme of ornithological desk-based work and field surveys is being undertaken to inform the ornithological baseline and the scope of the ES. Ornithological field surveys commenced at Redmere North in April 2025 and at Redmere South in October 2025 and are ongoing.

7.3.6 The ongoing ornithological field survey programme comprises:

- Flight activity surveys from six vantage points (VPs);
- Targeted breeding raptor surveys;
- Targeted breeding wader and wildfowl surveys;

- Passage and winter bird surveys;
- Nocturnal bird surveys; and
- Targeted stone-curlew surveys.

7.3.7 The locations of the ornithological survey areas, VPs and associated viewsheds are shown on **Figure 7.3**. Six VPs have been established across the Site, comprising four at Redmere North and two at Redmere South, selected to provide coverage of the proposed turbine areas and surrounding habitats and to capture bird activity associated with key ornithological receptors, including nearby designated sites.

7.3.8 In the absence of detailed recent guidance in England, the surveys have been designed in accordance with prevailing (2025) NatureScot guidance for onshore wind farms³¹ and are being used to identify and characterise bird populations and activity within the Site and surrounding area, including species of conservation importance and species associated with nearby designated sites. In response to design development leading to updates to the Indicative Order Limits, survey areas were adjusted where necessary to ensure that all parts of the Site were covered across seasons and/or years.

Flight Activity Surveys

7.3.9 The flight activity survey programme comprises observations from six VPs, with survey effort at Redmere North consisting of nine hours of observation per VP per month. At Redmere South, survey effort comprises six hours of observation per VP per month between October 2025 and March 2026, increasing to nine hours per VP per month from April 2026.

7.3.10 The primary purpose of the flight activity surveys is to identify patterns of bird use across the Site and to provide data to inform collision risk modelling (CRM).

Preliminary Survey Findings

7.3.11 More than 2,500 flights were recorded at Redmere North between April 2025 and February 2026, including flights by species associated with the Ouse Washes SPA. Many flights were

recorded below 50 m, and frequently recorded species included whooper swan, kestrel, marsh harrier and lapwing. At Redmere South, between October 2025 and April 2026, 329 flights were recorded, with the most frequently observed species being Whooper Swan, Marsh Harrier and gull species.

Breeding Bird Surveys

- 7.3.12 Targeted breeding bird surveys are undertaken during the breeding season (March/April to July/August), with two breeding seasons being surveyed in accordance with NatureScot guidance³¹: 2025 and 2026 at Redmere North, and 2026 and 2027 at Redmere South. The surveys included the Site plus 2 km buffer, where accessible, for Schedule 1-listed raptors, and the Site plus 500 m for waders and wildfowl.
- 7.3.13 Due to the proximity of the Breckland SPA, stone curlew surveys were completed at Redmere North between April to August. These constituted monthly nocturnal surveys and deployment of three statics recording devices for five nights per month.
- 7.3.14 General breeding bird surveys (e.g. for passerines) have not been carried out. NatureScot guidance³² states "*Passerine species are not generally considered to be significantly impacted by wind farms.*" and, based on the nature of the Proposed Development and the intensive arable habitats within the site, there is not considered a pathway for long-term, population-level effects on passerines.

Preliminary Survey Findings

- 7.3.15 In 2025, surveys at Redmere North recorded breeding marsh harrier and hobby, together with lapwing, oystercatcher and kestrel; the 2026 results have not yet been analysed. Targeted stone-curlew surveys recorded one bird at Redmere North in August, considered likely to have been a dispersing individual. Habitat is suboptimal for breeding and there was no evidence of regular occurrence of foraging birds.

Non-Breeding Season Surveys

- 7.3.16 Non-breeding season surveys are being completed between August and March and focus on species, such as wildfowl, waders, raptors, with two seasons being surveyed in accordance with NatureScot guidance: 2025-26 and 2026-27 at both Redmere North and Redmere South. The surveys included the Site plus up to 1 km buffer, where accessible.
- 7.3.17 The survey programme is ongoing and has informed the preliminary baseline and scoping decisions presented in this chapter. The complete survey results, together with any further desk-based review and consultation, will be reported and considered as part of the ES.

Preliminary Survey Findings

- 7.3.18 Passage and winter bird surveys have recorded foraging flocks of whooper swan, with greater numbers within the northern buffer, together with smaller numbers of other wildfowl and waders. Monthly nocturnal surveys are also undertaken between August and February or March. These have recorded peak counts of approximately 1,600 whooper swans, 663 lapwings and 410 mallards, together with smaller numbers of other species. The survey programme is ongoing.

7.4 SCOPING DETERMINATION OF POTENTIAL LIKELY SIGNIFICANT EFFECTS

- 7.4.1 **Table 7.2** and **Table 7.3** present the scoping determination of potential LSE for the Ornithology assessment during the construction, decommissioning and operational phases, and identify those matters proposed to be scoped into or out of the EIA.

TABLE 7.2 ORNITHOLOGY SCOPING DETERMINATION OF POTENTIAL LSE DURING CONSTRUCTION AND DECOMMISSIONING

Receptor	Potential Impact Pathway	Mitigation	Additional Information	Scoping of Impact Pathways
Schedule 1-listed Breeding Species	Disturbance of breeding territories and nesting activity from construction traffic, personnel, noise and vegetation clearance.	• Sensitive design • Bird Protection Plan.	Schedule 1 species receive enhanced legal protection under the Wildlife and Countryside Act 1981, and disturbance could affect breeding success. Significant effects cannot currently be ruled out.	Potential for significant impact, scoped in
Other Breeding Wildfowl and waders	Damage to active nests, disturbance during breeding season and temporary habitat loss.	• Sensitive design • Bird Protection Plan. • CEMP.	Construction activities may affect breeding birds present within and adjacent to the Site. Significant effects cannot currently be ruled out.	Potential for significant impact, scoped in
Passerines and Near-Passerines	Damage to active nests, disturbance during breeding season and temporary habitat loss.	• Bird Protection Plan. • CEMP.	Construction activities may affect breeding birds present within and adjacent to the Site; however, effects are expected to be temporary, reversible, and not significant at a population level wider than the site.	No potential for significant impact, scoped out
Passage/ Wintering Birds	Disturbance, habitat change or degradation affecting wintering populations of regional importance.	• Sensitive design • Bird Protection Plan. • HMMP. • CEMP.	Aggregations of foraging or roosting birds during passage or winter periods may be of county or regional importance and could be subject to significant effects. The scope of species to be assessed will be subject to a review of the complete dataset.	Potential for significant impact, scoped in
Ouse Washes SPA, Ramsar and SSSI	Disturbance, habitat change or degradation of functionally linked land affecting component bird species .	• Sensitive design • Bird Protection Plan. • HMMP. • CEMP.	Internationally designated site supporting qualifying bird populations that may utilise land associated with the Site. Potential impact pathways require further assessment through the EIA and HRA.	Potential for significant impact, scoped in
Breckland SPA	Disturbance and loss of supporting habitat affecting qualifying SPA bird species.	• HMMP. • CEMP.	Internationally designated site with potential ecological connectivity to the Site. Limited evidence of connectivity so far, impact pathways cannot currently be excluded at this stage, and will be subject to review of the complete dataset.	Potential for significant impact, scoped in
Breckland Farmland SSSI	Disturbance and loss of habitat function for notified bird features.	• HMMP. • CEMP.	Potential ecological connectivity exists between the Site and notified features. Limited evidence of connectivity so far, impact pathways cannot currently be excluded at this stage and will be subject to review of the complete dataset.	Potential for significant impact, scoped in
Stallode Wash, Lakenheath SSSI	Disturbance, habitat change and pollution affecting notified ornithological features.	• HMMP. • CEMP.	Located approximately 170 m from the Site with mobile features, and therefore has a credible pathway for effects during construction and/or operational phases.	Potential for significant impact, scoped in
Boughton Fen SSSI; Breckland Rough SSSI; Breckland Forest	None due to distance from Site.	• No mitigation proposed.	Due to separation distance and absence of credible impact pathways or functional connectivity, significant effects are not anticipated.	No potential for significant impact, scoped out

Receptor	Potential Impact Pathway	Mitigation	Additional Information	Scoping of Impact Pathways
SSSI; Ely Pits and Meadows SSSI; Foxhole Heath, Eriswell SSSI; Hilgay Heronry SSSI; Lakenheath Warren SSSI; and Weeting Heath SSSI				
Ornithological receptors and designated sites (cumulative)	Combined effects arising from the Proposed Development together with other developments and from multiple impact pathways.	To be informed by the EIA and cumulative assessment findings.	The cumulative effects assessment will consider both inter-project and intra-project cumulative effects in accordance with the methodology set out in Chapter 18 . This will include relevant designated sites and associated bird populations identified in Table 7.1 , where relevant.	Potential for significant impact, scoped in

TABLE 7.3 ORNITHOLOGY SCOPING DETERMINATION OF POTENTIAL LSE DURING OPERATION

Receptor	Sensitivity	Potential Impact Pathway	Mitigation	Additional Information	Scoping of Impact Pathways
All non-passerine Ornithology receptors	Low-High	Collision with operational turbine blades.	To be determined based on ecological characteristics of the species', such as behaviour, timing, location, etc.	Collision Risk Modelling (CRM), following NatureScot (2025) Guidance ³³ , will be completed to quantify effects and inform the requirement for and nature of any mitigation. Baseline surveys have recorded flight activity at Rotor Risk Height (RRH) by a range of bird species and effects from collision cannot currently be ruled out.	Potential for significant impact, scoped in
Passerines and near-passerines.	Low	Collision, barrier, displacement, habitat and cumulative effects.	No specific mitigation proposed; however, the Bird Protection Plan may still be relevant to any habitat or turbine maintenance works.	In accordance with NatureScot guidance ³¹ , wind farms are generally not considered to significantly affect passerines.	No potential for significant impact, scoped out
All Ornithology Receptors	Medium	Barrier effects arising from avoidance of turbines and associated infrastructure.	To be confirmed through the EIA and informed by survey results and assessment findings.	Operational turbines may alter established flight routes, resulting in increased flight distances, energy expenditure or changes in habitat use. Significant effects cannot currently be ruled out.	Potential for significant impact, scoped in
All Ornithology Receptors	Medium	Displacement from foraging, roosting or breeding habitat.	To be confirmed through the EIA and informed by survey results and assessment findings.	Operational turbines may result in avoidance behaviour and loss of habitat	Potential for significant

Receptor	Sensitivity	Potential Impact Pathway	Mitigation	Additional Information	Scoping of Impact Pathways
				function for sensitive species. Significant effects require further assessment.	impact, scoped in
All Ornithology Receptors	Medium	Habitat enhancement associated with biodiversity enhancement and habitat management measures.	To be confirmed through iterative design and habitat management proposals.	Habitat enhancement measures may provide beneficial effects for some bird species through improved habitat availability and quality. The extent of any benefits will be determined through the EIA.	Potential for significant impact, scoped in
Ornithological receptors and designated sites (cumulative)	High	Combined effects arising from the Proposed Development together with other developments and from multiple impact pathways.	To be informed by the EIA and cumulative assessment findings.	A cumulative effects assessment will be undertaken in accordance with the methodology set out in Chapter 18 . This will consider cumulative effects on relevant ornithological receptors, including designated sites and associated bird populations identified in Table 7.1 , where relevant.	Potential for significant impact, scoped in

7.5 ASSUMPTIONS AND LIMITATIONS

ASSUMPTIONS

- 7.5.1 The scoping of ornithological impacts has been informed by the current design information available at the time of preparing this Scoping Report.
- 7.5.2 In the absence of project-specific ornithological survey guidance from Natural England for onshore wind developments, it is assumed that the survey programme and assessment methodology based on prevailing NatureScot guidance will be acceptable. The scope of surveys and assessment will continue to be discussed with Natural England and may be refined through engagement where necessary.

LIMITATIONS

- 7.5.3 At the time of preparing this Scoping Report, ornithological surveys remain ongoing and the full survey dataset is not yet available. The baseline and scoping conclusions presented in this chapter are therefore based on the survey information collected to date. The complete survey programme, including the second year of surveys where applicable, will be reported within the ES and used to refine the assessment of LSE.
- 7.5.4 This limitation is not considered to materially affect the conclusions of the scoping assessment, as sufficient information is currently available to identify key ornithological receptors, potential impact pathways and the proposed scope of the ornithological assessment.

8. CULTURAL HERITAGE AND ARCHAEOLOGY

8.1 INTRODUCTION

- 8.1.1 The EIA will include a Cultural Heritage and Archaeology assessment to identify and evaluate the likely significant effects of the Proposed Development on cultural heritage and archaeological receptors during construction, operation, maintenance and decommissioning. The assessment will be undertaken in accordance with relevant legislation, policy and guidance, including national planning policy and relevant professional guidance, and will consider effects on archaeological remains, designated heritage assets and non-designated heritage assets within the defined Study Areas.
- 8.1.2 The Cultural Heritage and Archaeology assessment will establish the baseline cultural heritage and archaeological conditions, identify sensitive receptors and assess the nature and significance of effects arising from the Proposed Development. The assessment will consider the potential for direct effects on archaeological remains within the Site, and indirect effects on the significance of heritage assets through changes to their setting. The assessment will be informed by the desk-based assessment undertaken to date, together with an archaeological walkover survey and consultation of the data sources set out in Section 8.3.1 below.
- 8.1.3 The findings of the desk-based assessment and ongoing design process have informed the preliminary scoping decisions presented in this chapter and will continue to inform the evolution of the Proposed Development and preparation of the ES. Inter-project and intra-project cumulative effects will be considered where relevant in accordance with the methodology set out in **Chapter 18**.
- 8.1.4 The proposed Cultural Heritage and Archaeology assessment methodology is provided in **Appendix C**, with the relevant legislation, policy and guidance set out in **Appendix B**.

8.2 STUDY AREA

- 8.2.1 The cultural heritage and archaeology baseline considers archaeological remains within the Site, non-designated heritage assets within 1 km of the Site, and designated heritage assets within 10 km of the Site. These Study Areas have been defined with regard to the scale and nature of the Proposed Development and relevant best practice, to provide an appropriate and proportionate basis for the identification and assessment of heritage assets, while recognising that the inclusion of an asset within a Study Area does not, in itself, indicate the potential for an effect. **Figures 8.1-8.3** show the designated and non-designated baseline assets alongside the relevant Study Areas.

8.3 BASELINE

DATA SOURCES

- 8.3.1 The following key data sources will be used to inform the Cultural Heritage and Archaeology assessment:
- The National Heritage List for England (NHLE), for information on designated heritage assets including World Heritage Sites, Scheduled Monuments, Listed Buildings, Registered Parks and Gardens, Protected Wreck Sites and Registered Battlefields;
 - Relevant Historic Environment Record (HER) data from Cambridgeshire, Suffolk and Norfolk, including records of non-designated heritage assets, previous archaeological investigations and historic landscape characterisation information, where available;
 - The British Geological Survey (BGS) Geology Viewer and associated geological mapping, to inform understanding of underlying solid and superficial geology and its potential relevance to archaeological preservation and palaeoenvironmental potential;
 - Historic Ordnance Survey mapping and other cartographic sources, including maps available through the National Library of Scotland and local archive collections;
 - Aerial photography, satellite imagery and other remote sensing sources, where available;

- Environment Agency open access lidar data, including Digital Terrain Model (DTM) and Digital Surface Model (DSM) datasets, where coverage is available;
- Published and unpublished archaeological reports, grey literature and the results of previous archaeological investigations relevant to the Site and surrounding Study Area;
- Relevant academic papers, theses and regional research agendas or archaeological research frameworks;
- Local authority planning records, where relevant to previous archaeological works or heritage-related planning considerations;
- Information held by local heritage groups, museums, archives or archaeological societies, where relevant and available;
- Relevant national and local planning legislation, policy and guidance relating to the historic environment; and
- The results of any site visit, walkover survey or further archaeological assessment undertaken to inform the ES.

DESK BASED

Archaeological Resource

- 8.3.2 No known designated archaeological assets are located within the Site. However, the absence of designated archaeological assets does not preclude the presence of buried archaeological remains. An initial review of Heritage Gateway records indicates that the Site and surrounding area have archaeological potential, with records particularly indicating prehistoric occupation and use of the landscape from at least the Neolithic period onwards.

Designated Heritage Assets

- 8.3.3 No designated heritage assets are located within the Site. The nearest designated assets include the Grade II listed Prickwillow Engine House, Prickwillow War Memorial and Former Church of St Peter, each located approximately 1 km from the Indicative Order Limits.
- 8.3.4 The 10 km Study Area contains:
- 553 Listed Buildings

- 36 Scheduled Monuments; and
- 14 Conservation Areas.

8.3.5 Within the 10 km Study Area, the designated assets are predominantly Grade II listed buildings within the surrounding rural settlements. No designated built heritage assets are located within the Site that have the potential to experience direct effects arising from the Proposed Development. The nearest Conservation Areas are Hockwold cum Wilton Conservation Area, located approximately 4.2 km east of the Site, Lakenheath Conservation Area, located approximately 5.8 km east of the Site and Ely Conservation Area, located approximately 5.5 km west of the Site.

8.3.6 In addition to the designated heritage assets identified within the respective Study Areas, a small number of designated heritage assets of the highest significance (Grade I listed and Scheduled Monuments), located beyond the 10 km Study Area, have been identified for consideration on an exceptional basis, where the initial Zone of Theoretical Visibility (ZTV) indicates potential for intervisibility with the Proposed Development. This includes Ely Cathedral (NHLE 1331690). These assets will be considered, where relevant, in relation to the contribution that setting makes to their significance, informed by the Zone of Theoretical Visibility, Site visits and the Landscape and Visual assessment.

Non-Designated Heritage Assets

- 8.3.7 An initial review of Heritage Gateway records indicates the presence of 447 heritage records within the Site and 1 km of the Site, predominantly relating to prehistoric activity. These records will be subject to further assessment at the ES, informed by the full HER dataset, research and an archaeological walkover survey, to establish their nature, extent and significance.
- 8.3.8 The designated and non-designated heritage assets identified within the Cultural Heritage and Archaeology Study Area are shown on **Figures 8.1 to 8.3**. The baseline information

presented within this Scoping Report is preliminary and has been prepared to inform the proposed scope of the assessment. A detailed cultural heritage baseline, including a comprehensive gazetteer of designated and non-designated heritage assets, will be provided within the ES.

FIELD SURVEY

- 8.3.9 A heritage walkover survey will be undertaken to inform the ES. The survey will focus on designated and non-designated heritage assets within the Study Area and will be used to verify baseline conditions, identify potential archaeological and historic environment constraints, and inform the assessment of likely effects.
- 8.3.10 The need for, and scope of, any further archaeological field investigations will be considered following completion of the desk-based assessment and walkover survey, in consultation with the relevant archaeological advisors where appropriate.

8.4 SCOPING DETERMINATION OF POTENTIAL LIKELY SIGNIFICANT EFFECTS

- 8.4.1 **Table 8.1** and **Table 8.2** present the scoping determination of potential LSE for the Cultural Heritage and Archaeology assessment during the construction, decommissioning and operational phases, and identify those matters proposed to be scoped into or out of the EIA.
- 8.4.2 For the purposes of the scoping decisions, potential impacts on Cultural Heritage and Archaeology have been grouped into three categories: direct physical impacts during construction and decommissioning, indirect physical impacts during construction and decommissioning, and indirect setting impacts during operation and maintenance.
- 8.4.3 Direct physical impacts may arise where construction activities result in the disturbance, removal or truncation of archaeological remains or other heritage assets within the Site. Indirect physical impacts may arise where construction activities alter ground conditions, drainage, hydrology or other environmental

conditions in a manner that could affect the preservation of heritage assets.

- 8.4.4 Construction and decommissioning phase effects are therefore considered in relation to direct and indirect physical impacts only. These effects are most likely to occur within the Site, or in close proximity to it, and have therefore been assessed with reference to heritage assets within the Site and the 1 km Study Area.
- 8.4.5 Operational effects are considered in relation to indirect setting impacts, where the presence of the Proposed Development could affect the setting, and therefore the significance, of heritage assets. This aspect of the assessment has been considered using the 10 km Study Area, with a focus on designated heritage assets and any non-designated assets of comparable heritage significance where relevant.

TABLE 8.1 CULTURAL HERITAGE AND ARCHAEOLOGY SCOPING DETERMINATION OF POTENTIAL LSE DURING CONSTRUCTION AND DECOMMISSIONING

Receptor	Potential Impact Pathway	Mitigation	Additional Information	Scoping of Impact Pathways
Buried archaeological remains, including non-designated archaeological assets	Groundworks and other intrusive construction activities have the potential to result in direct physical impacts on buried archaeological remains, including non-designated archaeological assets, where present within areas of construction works within the Site.	• Micro-siting of infrastructure; • Further survey work (e.g. geophysical survey). • Preparation of a Written Scheme of Investigation (WSI), if required. • Archaeological monitoring, excavation, recording or preservation in situ, as appropriate.	The presence, extent, condition and significance of archaeological remains will be established through further desk-based review and proportionate field evaluation. As construction could result in the permanent loss of archaeological evidence, significant effects cannot currently be ruled out.	Potential for significant impact, scoped in
Buried archaeological remains, including non-designated archaeological assets	Groundworks and other intrusive construction activities have the potential to result in direct physical impacts on buried archaeological remains, including non-designated archaeological assets, where present within areas of construction works within the Site.	• Micro-siting of infrastructure to avoid or minimise effects on heritage assets, where appropriate; • Further archaeological investigation, where recommended through the EIA and agreed with the relevant • Preparation of a Written Scheme of Investigation (WSI) for any archaeological mitigation subsequently identified as necessary; and • Depending on the findings of the EIA and any subsequent survey work, and subject to agreement with the relevant regulators, additional archaeological mitigation may be required. This could include: archaeological monitoring, trial trenching or open area excavation, recording or preservation in situ, as appropriate.	The presence, extent, condition and significance of archaeological remains will be established through further desk-based review and proportionate field evaluation. As construction could result in the permanent loss of archaeological evidence, significant effects cannot currently be ruled out.	Potential for significant impact, scoped in
Buried Archaeological remains and designated and non-designated heritage assets during decommissioning	Ground disturbance associated with the removal of foundations, cables and other below-ground infrastructure could affect previously undisturbed archaeological remains.	• Preparation and implementation of a Decommissioning Environmental Management Plan (DEMP).	Decommissioning effects are anticipated to be similar to, or of a lesser scale and duration than, those associated with construction. Accordingly, the assessment of construction effects is considered to represent a reasonable worst-case	No potential for significant impact, beyond the construction-phase assessment. Scoped out.

Receptor	Potential Impact Pathway	Mitigation	Additional Information	Scoping of Impact Pathways
		- Archaeological requirements to be agreed with the relevant archaeological advisers before decommissioning. - Re-use of existing access tracks and working areas, where reasonably practicable.	scenario for decommissioning, unless topic-specific considerations indicate otherwise. Therefore, a separate decommissioning assessment is not proposed to be included in the ES.	Construction is considered to represent a reasonable worst-case scenario for decommissioning, and a separate decommissioning assessment is therefore not proposed.
Archaeological remains and designated and non-designated heritage assets (cumulative)	Combined effects could arise where the Proposed Development and other developments affect the same archaeological resource, historic landscape or the setting of the same heritage asset. Multiple impact pathways associated with the Proposed Development could also act on the same receptor.	To be informed by the Cultural Heritage and Archaeology assessment, iterative design and cumulative assessment findings.	Inter-project cumulative effects will be considered where another development could affect the same heritage receptor or materially alter a shared aspect of its setting. Intra-project cumulative effects will be considered where physical effects, setting change, lighting or other environmental changes could combine at the same receptor. Cumulative effects will be assessed in accordance with Chapter 18 .	Potential for significant impact, scoped in

TABLE 8.2 CULTURAL HERITAGE AND ARCHAEOLOGY SCOPING DETERMINATION OF POTENTIAL LSE DURING OPERATION AND MAINTENANCE

Receptor	Potential Impact Pathway	Mitigation	Additional Information	Scoping of Impact Pathways
Designated heritage assets of the highest significance, including Scheduled Monuments and Grade I and Grade II* listed buildings within the 10 km Study Area	Change to the setting of heritage assets of the highest significance arising from the introduction of wind turbines and associated infrastructure into the wider landscape.	- Assessment and justification within the ES, informed by detailed setting assessment and visualisation work. - Iterative design development.	Introduction of modern elements within the wider landscape and setting of heritage assets. The importance of effects will vary according to asset, its significance and degree of setting change.	Potential for significant impact, scoped in
Designated heritage assets of less than the highest significance, including Grade II listed buildings, Grade II Registered Parks and Gardens and Conservation Areas within the 10 km Study Area	Change to the setting of designated heritage assets arising from the introduction of wind turbines and associated infrastructure into the wider landscape.	- Assessment and justification within the ES, informed by detailed setting assessment and visualisation work. - Iterative design development. - Detailed setting assessment and visualisation work.	Introduction of modern elements within the wider landscape and setting of heritage assets. The importance of effects will vary according to asset, its significance and degree of setting change.	Potential for significant impact, scoped in

Receptor	Potential Impact Pathway	Mitigation	Additional Information	Scoping of Impact Pathways
Non-designated heritage assets and locally listed buildings within the 1 km Study Area	Change to the setting of non-designated heritage assets arising from the introduction of wind turbines and associated infrastructure into the wider landscape.	- Assessment and justification within the ES. - Iterative design development.	Introduction of modern elements within the wider landscape and setting of heritage assets. The importance of effects will vary according to asset, its significance and degree of setting change.	Potential for significant impact, scoped in
Heritage assets in the wider area identified as potentially relevant through the Zone of Theoretical Visibility and baseline review	Long-distance visibility of the operational turbines could influence the setting, visitor appreciation or heritage experience of relevant locations, where these factors contribute to their heritage significance.	- Proportionate consideration informed by the Zone of Theoretical Visibility, site visits and the Landscape and Visual assessment. - Iterative design development, where relevant.	Relevant locations will be considered where there is potential for the Proposed Development to affect an aspect of setting that contributes to their heritage significance. Potentially relevant locations may include Ely Cathedral, subject to further baseline review, Zone of Theoretical Visibility analysis and site verification. The assessment will distinguish effects on heritage significance from general visual or visitor-experience effects that do not engage heritage significance.	Potential for significant impact, scoped in where a credible heritage impact pathway is identified.
Heritage assets (cumulative)	Combined effects arising from the Proposed Development together with other developments resulting in changes to the setting of heritage assets.	- To be informed by the cultural heritage assessment findings. - Consideration of cumulative effects through the iterative design process.	Cumulative effects on the settings of heritage assets cannot be ruled out at the scoping stage and will be assessed in accordance with Chapter 18 .	Potential for significant impact, scoped in

8.5 ASSUMPTIONS AND LIMITATIONS

ASSUMPTIONS

- 8.5.1 The Cultural Heritage and Archaeology assessment in the ES will be undertaken using the most up-to-date information available at the time of reporting, including information obtained from the NHLE, relevant HERs and any additional baseline information available during preparation of the ES.

LIMITATIONS

- 8.5.2 At the time of preparing this Scoping Report, further archaeological investigation and consultation may be required to refine the understanding of archaeological potential within the Site. Further desk-based review, consultation and archaeological walkover surveys will continue to inform the iterative design process and preparation of the ES.

9. LANDSCAPE AND VISUAL

9.1 INTRODUCTION

- 9.1.1 This Chapter has been prepared by Land Use Consultants (LUC) on behalf of the Applicant. The EIA will include a Landscape and Visual Impact Assessment (LVIA) to identify and evaluate the likely significant effects of the Proposed Development on landscape character, landscape features and visual amenity during construction, operation and maintenance and decommissioning. The assessment will be undertaken in accordance with relevant guidance, including the Guidelines for Landscape and Visual Impact Assessment, Third Edition (GLVIA3)³⁴, and will consider effects on landscape and visual receptors within the defined Study Areas indicated on **Figure 9.1**. The layout of the Proposed Development is indicated on an aerial base on **Figure 2.2**.
- 9.1.2 The LVIA will establish the baseline Landscape and Visual conditions, identify sensitive receptors and assess the nature and significance of effects arising from the Proposed Development. The assessment will consider effects on landscape character, designated landscapes where relevant, and views experienced by representative visual receptors, including residents, recreational users, visitors to attractions, road users and rail passengers. A suite of visualisations will be prepared from an agreed set of viewpoints to inform the assessment, and a Residential Visual Amenity Assessment (RVAA) will be undertaken for nearby residential properties where appropriate.
- 9.1.3 The findings of the baseline review and ongoing design process have informed the preliminary scoping conclusions presented in this chapter and will continue to inform the evolution of the Proposed Development and preparation of the ES. An Aviation Lighting Assessment will be undertaken to consider potential night-time visual effects associated with turbine lighting. Inter-project and intra-project cumulative effects will be considered where relevant in accordance with the methodology set out in **Chapter 18**.

- 9.1.4 The proposed LVIA methodology is provided in **Appendix C**, with the relevant legislation, policy and guidance set out in **Appendix B**.

9.2 STUDY AREA

- 9.2.1 The LVIA Study Areas have been defined having regard to the nature, scale and visibility of the Proposed Development, relevant good practice guidance³⁵, professional judgement and the height of the Proposed Turbines. The Study Areas have been selected to ensure that all receptors with the potential to experience significant Landscape and Visual effects are identified and assessed.
- 9.2.2 For the assessment of effects on landscape character, a Study Area extending up to 10 km from the outermost proposed turbines has been adopted. This Study Area is considered sufficient to capture the geographical extent over which the Proposed Development may give rise to significant effects on landscape character, including effects on Landscape Character Areas and key landscape features, noting that the nearest nationally designated landscape is approximately 32 km from the outermost turbine.
- 9.2.3 For the assessment of visual effects, a Study Area extending up to 30 km from the outermost proposed turbines has been adopted. This reflects the scale of the proposed turbines and the potential for visibility across the predominantly open and low-lying Fenland landscape. The Study Area is considered appropriate to identify sensitive visual receptors that may experience significant visual effects arising from the Proposed Development.

9.3 BASELINE

DATA SOURCES

- 9.3.1 The preliminary Landscape and Visual baseline has been informed by a review of the following data sources:

- Natural England National Character Area (NCA) profiles, including NCA 46: The Fens, NCA 85: The Brecks and NCA 87: East Anglian Chalk;
- The Landscape Character Typology for the East of England;
- Published local landscape character assessments for the Borough of King's Lynn and West Norfolk, Breckland District West Suffolk District, and Greater Cambridge;
- National and local landscape designation information and Historic Landscape Characterisation data, where available;
- OS mapping, aerial photography and digital terrain data;
- Zone of Theoretical Visibility mapping prepared for the Proposed Development;
- Publicly available dark-skies and tranquillity datasets;
- Local authority mapping and information relating to settlements, residential properties, roads, railways, Public Rights of Way and other recreational routes;
- Information on open-access land, long-distance walking routes, National Cycle Network routes, visitor attractions, recreational destinations and promoted viewpoints; and
- Planning information relating to operational, consented and reasonably foreseeable developments that may be relevant to the cumulative LVIA.

9.3.2 The desk-based information will be verified and supplemented through field surveys, including review of landscape character and condition, visibility, representative viewpoints and the experience of relevant visual receptors. The baseline and proposed viewpoint locations will be refined, where necessary, through fieldwork, consultation and the continuing design development of the Proposed Development.

DESK BASED

Landscape Character

Landscape Character Overview

9.3.3 Landscape character is defined as the “*distinct, recognisable and consistent pattern of elements in the landscape that makes one*

landscape different from another”³⁶. A number of published landscape character assessments classify and describe the Site and the surrounding landscape Study Area at national, regional and local scales. The relevant national landscape character classifications are shown on **Figure 9.2**.

- 9.3.4 The Site is located within the Fenland landscape and is characterised predominantly by medium- to large-scale arable fields enclosed by drainage ditches, scattered trees and fragmented hedgerows. The landscape is generally flat, open and low-lying, with extensive views towards level horizons and a strong sense of openness and rural remoteness. Its character is strongly influenced by the rectilinear pattern of drainage channels, roads, railway lines and field boundaries that define the wider Fenland landscape³⁷. Tree cover is sparse and mostly limited to roadside planting, shelterbelts around farmsteads, isolated field trees and occasional small woodland blocks. Large-scale agricultural buildings, infrastructure and other vertical elements can therefore form prominent features within the otherwise predominantly horizontal landscape.

National Landscape Character

- 9.3.5 At the national scale, Natural England’s National Character Area profiles provide a broad assessment of landscape character across England. The Site lies within **National Character Area (NCA) 46: The Fens**, while the wider landscape Study Area also extends into **NCA 85: The Brecks**³⁸ to the east and **NCA 87: East Anglian Chalk**³⁹ to the south. Each NCA profile includes Statements of Environmental Opportunity, which set out a long-term vision for the management, restoration, protection and enhancement of the landscape and its environmental, social and economic benefits.
- 9.3.6 **NCA 46: The Fens** is described as an expansive, flat, open and low-lying wetland landscape that drains towards the Wash. Its defining characteristics include level terrain, large open panoramas, extensive skies and a strong sense of remoteness and isolation. The landscape has been heavily influenced by historic land drainage and reclamation, resulting in a distinctive

geometric pattern of embanked rivers, drains, roads and large arable fields. Woodland cover is generally sparse, although occasional roadside avenues, shelterbelts, isolated field trees and small woodland blocks provide localised enclosure.

9.3.7 The Site displays many of the key characteristics of **NCA 46**, including:

- An expansive, flat and low-lying agricultural landscape;
- Extensive vistas towards level horizons and large open skies;
- Predominantly arable land use within large, regular fields;
- A strong geometric pattern formed by drainage channels, roads and field boundaries;
- Sparse woodland cover, with trees generally associated with roads, farmsteads and shelterbelts; and
- The visual prominence of large built structures and vertical elements within the open, predominantly horizontal landscape.

9.3.8 **NCA 85: The Brecks** lies to the east of the Site and forms part of its wider landscape setting. It is characterised by a low, gently undulating plateau underlain by chalk and covered by sandy soils of glacial origin. The interaction between geology, low-fertility soils, a dry climate, historic grazing and land management has created a distinctive landscape of heathland, grassland, arable farmland and extensive commercial forestry. Its key characteristics include gently undulating landform, large regular fields, planned farmsteads, Scots pine and beech shelterbelts, geometric conifer plantations and wooded horizons. Narrow, meandering river valleys provide a more enclosed and vegetated contrast to the predominantly dry and open plateau.

9.3.9 **NCA 87: East Anglian Chalk** lies to the south of the Site and comprises a continuation of the chalk ridge extending across southern England. It is characterised by smooth, rolling chalkland hills, large regular arable fields, low hedgerows, sparse tree cover, straight roads and expansive views. Locally distinctive features include beech belts, small hilltop copses, gentle river valleys and chalk streams supported by the underlying aquifer. The transition from the flat Fenland

landscape into the more gently rolling chalkland contributes to the wider southern setting of the Site.

- 9.3.10 Together, these NCAs illustrate the transition from the expansive, low-lying and highly geometric Fenland landscape surrounding the Site to the more undulating, wooded and enclosed landscapes of the Brecks and East Anglian Chalk.

Regional Landscape Character

- 9.3.11 At the regional scale, the Landscape Character Typology for the East of England⁴⁰ identifies a series of Landscape Character Types across the landscape Study Area. The relevant types comprise:

- Planned Peat Fen;
- Wooded Peat Fen;
- Lowland Village Chalklands;
- Lowland Village Farmlands; and
- Forested Estate Sandlands.

- 9.3.12 These Landscape Character Types reflect the variation across the Study Area, from the open, drained and predominantly arable Fenland landscape surrounding the Site to the more settled, wooded and undulating chalkland and Breckland landscapes beyond. Their key characteristics, condition, sensitivity and relationship with the Site will be considered further in the LVIA presented in the ES.

Local Landscape Character

- 9.3.13 Local landscape character assessment coverage varies across the Study Area. East Cambridgeshire District does not have a standalone district-wide landscape character assessment. Published assessments are, however, available for the Borough of King's Lynn and West Norfolk⁴¹, Breckland District⁴² and West Suffolk District⁴³.
- 9.3.14 The King's Lynn and West Norfolk Landscape Character Assessment identifies a number of Landscape Character Areas within the Study Area, including:

- E6: The Fens, Hilgay Fen;
- E7: The Fens, Welney River;
- E8: The Fens, Denver Sluice;
- E9: The Fens, Methwold;
- E10: The Fens, Feltwell;
- H1: Settled Farmland and Plantations, Stow Bardolph;
- H3: Settled Farmland and Plantations, Denver;
- H4: Settled Farmland and Plantations, Wereham;
- H5: Settled Farmland and Plantations, Northwold;
- H6: Settled Farmland and Plantations, Hilgay and Southery; and
- K1: The Brecks Plantation, Cranwich.

9.3.15 The Breckland District Landscape Character Assessment identifies C1: The Breck Plantation, The Brecks of Thetford Forest within the landscape Study Area.

9.3.16 The West Suffolk Landscape Character Assessment identifies four relevant Landscape Character Areas:

- A7: River Valley, Lower Little Ouse Valley;
- H2: The Brecks Sandlands, Elveden Estate Sandlands;
- I1: Fen and Fen Edge, Sedge Fen; and
- J1: Fen and Fen Edge, Lakenheath and Mildenhall Fen Edge.

9.3.17 These local classifications encompass Fenland, fen-edge, river valley, settled farmland, plantation and Breckland landscapes. Their key characteristics and their relationship with the Proposed Development will be reviewed and verified through desk study and fieldwork. The LVIA will assess potential effects on relevant landscape character receptors within 10 km of the Proposed Development, subject to refinement through the assessment process.

Landscape Classification for the LVIA

9.3.18 Given the variable coverage and differing scales of the available local landscape character assessments, particularly the absence of a district-wide assessment for East Cambridgeshire, the Landscape Character Typology for the East of England (2010)

will provide the principal and most consistent framework for the assessment of landscape character effects across the Study Area. This typology provides continuous coverage at a comparable scale and avoids inconsistencies that could arise from relying solely on separate local authority assessments prepared using different methodologies and levels of detail.

- 9.3.19 The regional typology will be supplemented by the relevant national and local landscape character assessments where these provide additional detail or identify locally distinctive characteristics. The key characteristics, value, susceptibility and sensitivity of the relevant Landscape Character Types and Areas will be established through review of the published assessments and fieldwork and assessed within the LVIA presented in the ES.

Dark Skies and Night-time Character

- 9.3.20 The Proposed Development is predominantly located within an area of relatively dark skies and very low levels of night-time brightness, as shown in **Figure 9.5**.

Tranquillity

- 9.3.21 Tranquillity associated with the Site and Study Area is indicated in **Figure 9.6**. This is a predominantly open, expansive landscape with extensive vistas to level horizons and large scale skies, providing a sense of rural remoteness and tranquillity³⁷.

Landscape Designations

National and Local Landscape Designations

- 9.3.22 There are no nationally designated landscapes within the 10 km landscape character Study Area. The nearest is the Norfolk Coast National Landscape, located approximately 32.6 km from the nearest proposed turbine. Nationally designated landscapes are shown on **Figure 9.3**.
- 9.3.23 There are no current Special Landscape Area designations within the parts of East Cambridgeshire District or the Borough of King's Lynn and West Norfolk that fall within the 10 km Study

Area. However, several local landscape-related designations are present. These include:

- The Breckland Environmentally Sensitive Area⁴⁴;
- The Breckland Special Protection Area⁴⁵;
- The Breckland Special Area of Conservation⁴⁶;
- Breckland Forest Site of Special Scientific Interest⁴⁷;
- Lakenheath Fen Locally Valued Landscape⁴⁸; and
- South Brecks Locally Valued Landscape⁴⁸.

9.3.24 Other landscape-related ecological and heritage designations within the Study Area include Registered Parks and Gardens, Local Wildlife Sites, listed buildings, scheduled monuments and conservation areas. These are indicated on **Figure 9.4**. Effects on these designations will be assessed in the relevant ES chapters. However, they will also be considered in the LVIA where they contribute to landscape character, landscape value, sense of place or recreational and visitor interest.

Historic Landscape

9.3.25 Historic Landscape Characterisation data will be used, where available, to inform the understanding of the historic and cultural development of the present-day landscape and its value. Registered historic landscapes within the Study Area are shown on **Figure 9.4**, with effects on these landscapes and other heritage assets addressed principally through the Cultural Heritage assessment (see Chapter 8).

Visual Receptors

People within Settlements and Residential Properties

9.3.26 The visual assessment will also cover the effects on the residential visual amenity of nearby private properties through a Residential Visual Amenity Assessment (RVAA), which will form an Appendix to the LVIA. The RVAA will be carried out in accordance with the methodology presented in **Appendix C** and the Landscape Institute's Technical Guidance Note⁴⁹. An assessment will be undertaken for all properties within a 2 km

radius from the proposed turbine locations, grouping properties where views are similar.

- 9.3.27 Visual receptors include residents of settlements, smaller communities and dispersed rural properties within the Study Area. Settlements are typically located within the low-lying Fenland landscape or form larger urban centres within the surrounding clayland, chalkland and Breckland landscapes. There will be a number of residential receptors forming each community receptor.
- 9.3.28 There are 508 residential properties within 2 km of the proposed turbines, comprising dispersed rural dwellings, farmsteads and small settlement clusters, including Prickwillow, Little Ouse and Sedge Fen as indicated in **Figure 9.11**. The LVIA will also consider potential visual effects on settlements falling wholly or partly within the turbine Zone of Theoretical Visibility (ZTV), including:
- Ely;
 - Chatteris;
 - Ramsey;
 - Wisbech;
 - King's Lynn;
 - Downham Market;
 - Brandon;
 - Weeting;
 - Feltwell;
 - Methwold;
 - Thetford;
 - Mildenhall;
 - March;
 - Beck Row;
 - Bury St Edmunds;
 - Soham;
 - Southery;
 - Newmarket;

- Red Lodge;
- Cambridge;
- Huntingdon;
- Littleport; and
- Lakenheath.

9.3.29 The extent and nature of visibility will vary between and within these settlements due to distance, orientation, landform and screening provided by buildings, vegetation and other intervening features. Smaller settlements, settlement-edge locations and dispersed residential properties within the ZTV will also be considered where theoretical visibility and fieldwork indicate the potential for notable visual effects.

People Travelling on Roads and Railways

9.3.30 Visual receptors also include road users and rail passengers travelling through the Study Area. The LVIA will consider the nature, duration and sequential pattern of views experienced from the principal roads falling within the ZTV, including:

- A1101;
- A1075;
- A1065;
- A134;
- A141;
- A142;
- A11;
- A14;
- A1122;
- A1123;
- A10;
- B1093;
- B1102;
- B1104;
- B1112;
- B1160; and

- B1382.

- 9.3.31 Visibility from these routes is likely to vary due to roadside vegetation, buildings and other intervening features. The assessment will therefore consider the pattern, duration and prominence of views along each route, including the potential for intermittent or successive views of the Proposed Development. Views from local roads within the ZTV will also be assessed where theoretical visibility and fieldwork indicate the potential for notable visual effects.
- 9.3.32 The LVIA will also consider views experienced by rail passengers travelling on the principal railway lines within the ZTV, including:
- The Breckland Line, which passes through the Redmere area and includes Shippea Hill railway station immediately adjacent to the Site; and
 - The Fen Line, particularly the section between Ely and Littleport.

People Using Recreational Routes and Open-Access Land

- 9.3.33 Recreational receptors include users of PRow, long-distance walking routes, cycle routes and open-access land within the visual assessment Study Area where significant effects are likely. The assessment will consider views experienced from relevant routes and locations within the ZTV, particularly where theoretical visibility indicates the potential for notable visual effects or where views contribute to the recreational experience. Please refer to **Figures 9.12 and 9.13** and **Table 9.1** for further information on potential visual receptors and proposed representative viewpoints.
- 9.3.34 Open-access land to be considered will include Wicken Fen National Nature Reserve, RSPB Lakenheath Fen, Ouse Fen Nature Reserve and the Hundred Foot Washes, including WWT Welney and the River Great Ouse corridor.
- 9.3.35 Relevant PRow and promoted walking routes will include the Icen Way, which passes through the Site, together with the Fen Rivers Way, Peddars Way and Norfolk Coast Path National Trail, Icknield Way, Stour Valley Path, Nene Way, Greenwich Meridian

Trail, Nar Valley Way, Hereward Way and Pathfinder Long Distance Walk. The assessment will also consider views experienced by users of National Cycle Network Routes 11, 13, 30 and 51. The locations of relevant recreational routes and open-access land are shown on **Figures 9.12** and **9.13**.

Visitors to Attractions, Recreational Destinations and Promoted Viewpoints

- 9.3.36 Visual receptors also include visitors to heritage attractions, nature reserves, recreational destinations, National Trust land and promoted viewpoints. These receptors will be considered where views towards the Proposed Development may form part of the visitor experience or contribute to the landscape setting of the destination.
- 9.3.37 Relevant heritage attractions include:
- Ely Cathedral;
 - Oliver Cromwell's House;
 - Stretham Old Engine;
 - Oxburgh Hall; and
 - Weeting Castle.
- 9.3.38 Nature reserves and other nature conservation destinations to be considered include:
- RSPB Lakenheath Fen;
 - WWT Welney Wetland Centre;
 - Roswell Pits Nature Reserve;
 - Weeting Heath National Nature Reserve;
 - Kingfishers Bridge Nature Reserve;
 - the Ouse Washes;
 - Ouse Fen Reserve; and
 - Thetford Forest.
- 9.3.39 Relevant recreational destinations include:
- The River Great Ouse and River Little Ouse, including locations used for water-based recreation;
 - Thetford Forest, including High Lodge and recreational facilities;

- Mildenhall Stadium;
- Ely Country Park;
- Ely Sailing Club at Roswell Pits;
- Cambridge University Ely Boathouse;
- Prickwillow Engine Museum; and
- The Paddock Caravan Site.

9.3.40 The assessment will also consider visitors to National Trust land and properties at Wicken Fen, the Ouse Washes, Oxburgh Hall and Anglesey Abbey.

9.3.41 Promoted or recognised viewpoints within the Zone of Theoretical Visibility will be reviewed, including viewpoints identified on Ordnance Survey mapping and locally recognised elevated or visitor locations. These include:

- RAF Lakenheath Viewing Area;
- Ely Cathedral;
- St Edmundsbury Cathedral Millennium Tower; and
- Castle Hill or Castle Mound in Cambridge.

FUTURE BASELINE

9.3.42 The future baseline relates to known or reasonably foreseeable changes to the Landscape and Visual environment that may occur in the absence of the Proposed Development.

9.3.43 In the absence of the Proposed Development, the Site is expected to remain predominantly in agricultural use and the overall character of the Site and surrounding Fenland landscape is therefore anticipated to remain broadly unchanged. Localised changes may occur as a result of ongoing agricultural management practices, including changes to crop patterns, field management and vegetation cover. Existing trees, hedgerows and shelterbelts would continue to mature, although some vegetation may be lost through disease, natural decline or routine land management activities.

9.3.44 The future baseline may also be influenced by other developments within the surrounding landscape, including

consented developments, allocated sites within adopted or emerging development plans, and other reasonably foreseeable proposals progressing through the planning system. Existing and future wind energy developments and other large-scale infrastructure projects may alter the character of parts of the Study Area and influence views experienced by visual receptors. These changes will be considered, where relevant, within the cumulative Landscape and Visual assessment.

FIELD SURVEY

- 9.3.45 Preliminary viewpoint photography and observations obtained through ongoing fieldwork, with the proposed viewpoint locations set out in **Table 9.1**.

PROPOSED ASSESSMENT VIEWPOINTS

- 9.3.46 Assessment viewpoints provide a representation of the range of receptors who will experience changes to views, including views from settlements, points of interest and sequential views. The viewpoints are all publicly accessible and have been chosen to cover the following:
- Locations selected to represent the experience of different types of receptors;
 - Locations at different distances to provide a representative range of viewing angles and distances (i.e. Short, medium and long-distance views);
 - Locations which represent a range of viewing experiences (i.e. Static views and points along routes);
 - Specific viewpoints selected because they represent promoted views or viewpoints within the landscape; and
 - Illustrative viewpoints chosen specifically to demonstrate a particular visual effect or specific issue (which could include restricted visibility in particular locations).
- 9.3.47 The proposed assessment viewpoint locations are set out below in **Table 9.1** and are mapped on **Figures 9.7 - 9.10**. Potential visual receptors of the Proposed Development, and which viewpoints these are represented by, are shown in **Table 9.2**.

Where no specific viewpoint exists, wirelines will be used to indicate the extent of potential visibility.

- 9.3.48 The proposed viewpoints have been selected as part of a desk-based exercise. The viewpoints will be reviewed in the field, with locations micro-sited to achieve the most representative view available to the identified visual receptor(s).

TABLE 9.1 PROVISIONAL LVIA VIEWPOINT LOCATIONS

VP no.	Viewpoint Location	X	Y	Approximate Distance from nearest wind turbine (km)	Receptor / Reason for Selection
1	Ely Cathedral West Tower, Ely	554178	280252	7.5	Represents views experienced by visitors to the Ely Cathedral. Represents views experienced by the local community at Ely.
2	Settlement of Ely and Roswell Pits Nature Reserve	555383	281104	6.1	Represents views experienced by the local community at Ely, recreational users of the Roswell Pits Nature Reserve and PRowS.
3	Chatteris	540175	285289	21.5	Represents views from Road Users on the A142 and the local community of Chatteris.
4	Fen Rivers Way Long Distance Trail and Little port Settlement	557619	287053	5.5	Represents views experienced by recreational users of Fen Rivers Way Long Distance Trail, Ouse Washes, PRow and Little port Settlement.
5	WWT Welney Visitor Centre and Footbridge	554696	294426	11.2	Represents views experienced by recreational users of the WWT Welney Wetland and PRow.
6	Settlement of March	542963	296193	22	Represents views experienced by the local community of March.
7	Shippea Hill Station and A1101	564141	284066	1.8	Represents views experienced by train users of the Breckland and Shippea Hill Train Station.

VP no.	Viewpoint Location	X	Y	Approximate Distance from nearest wind turbine (km)	Receptor / Reason for Selection
					Represents views of recreational users of the Hereward Way long distance trail and road users of A1101.
8	Iceni Way - Long distance Trail	563378	287911	0.85	Represents views experienced by recreational users of Iceni Way Long distance Trail. Represents users of the little Ouse River, nearby residents of Little Ouse and surrounding villages.
9	A10 Road Users and Brandon Creek Village	561135	292244	4.9	Represents views experienced by the road users travelling along A10 and the local community at Brandon Creek Village.
10	Southery Village	561603	294324	7.9	Represents views experienced the local community at Southery Village and by road users travelling along A10.
11	Downham Market Settlement	562698	303127	14	Represents views experienced by Downham Market Settlement and surrounding villages.
12	Oxburgh Hall (National Trust)	574154	301122	14	Represents views experienced by visitors to National Trust land at Oxburgh Hall.
13	Corkway Drove	570199	290168	0.875	Represents views experienced by nearby rural residents along Corkway Drove and travelling along the PRoW.

VP no.	Viewpoint Location	X	Y	Approximate Distance from nearest wind turbine (km)	Receptor / Reason for Selection
14	Feltwell Settlement	570173	290110	2.9	Represents views experienced by the local community at Feltwell and travelling along the PRow.
15	Methwold and surrounding villages	573776	294508	8.5	Represents views experienced by the local community at Methwold and surrounding villages.
16	Weeting Settlement	577368	288686	9.5	Represents views experienced by the community of Weeting and Weeting Castle.
17	Brandon Settlement	578213	286589	13	Represents views experienced by the community of Brandon and surrounding villages. This viewpoint also represents views from the Thetford Forest.
18	RSPB Lakenheath Fen	571816	286497	3.5	Represents views experienced by recreational users of the RSPB Lakenheath Fen and long-distance trail.
19	Lakenheath Settlement	570970	283370	5.7	Represents views experienced by the local community at Lakenheath and surrounding RAF Airfield, PRow and B1112.
20	Settlement Beck Row and A1101	567878	278169	4.5	Represents views experienced by the local community at Beck Row, and road users of A1101.
21	Settlement Isleham and surrounding	564151	274840	6.3	Road Users B1104 and nearby Settlement Isleham and surrounding villages

VP no.	Viewpoint Location	X	Y	Approximate Distance from nearest wind turbine (km)	Receptor / Reason for Selection
	villages and Minor Road B1104				
22	Road Users A142 and nearby Settlement Soham	559363	274793	6.3	Road Users A142 and nearby Settlement Soham
23	Wicken Fen Nature Reserve - Visitor Centre	556307	270473	12	Represents views experienced by recreational users of Wicken Fen Nature Reserve.
24	Red Lodge Bypass	569260	270569	11.5	Represents views from Road Users on the A11 and the local community of Red Lodge Settlement. The view also represents surrounding villages.
25	Fen Rivers Way	553879	276956	9.3	Represents views experienced by recreational users of Fen Rivers Way Trail. Represents users of Great River Ouse and nearby villages.
26	Wisbech	547695	308094	25	Represents views from Road Users on the A47 and the local community of Wisbech Settlement. The view also represents surrounding villages in the north-west of the Study Area.
27	Hundred Foot Bank / Hereward Way	550682	289116	13.4	Represents views experienced by recreational users of the Hereward Way Long Distance Footpath.

TABLE 9.2 RELATIONSHIP BETWEEN VISUAL RECEPTORS AND REPRESENTATIVE VIEWPOINTS

Visual Receptor Group	Visual Receptor	Representative Viewpoint(s)
Local Communities		
Local Communities	Ely	Represented by VP1.Ely Cathedral Spire, Ely Represented by VP2 Settlement of Ely and Roswell Pits Nature Reserve
	Chatteris	Represented by VP3 A142 and the local community of Chatteris
	Wisbech	Represented by VP26 Wisbech
	Kings Lynn	No specific viewpoint proposed (due to distance from site area and lack of opportunities for clear views from the settlement). Viewing angle will be represented by VP11 Downham Market. Wirelines/ models can be used to assess effect on receptor.
	Downham Market	Represented by VP11 Downham Market.
	Brandon	Represented by VP17 Brandon
	Weeting	Represented by VP16 Weeting
	Feltwell	Represented by VP14 Feltwell
	Methwold	Represented by VP15 Methwold
	Thetford	Represented by VP17 Brandon located within the same viewing distance and viewing angle.
	Mildenhall	Represented by VP21 Beck Row located to the north-west, closer to the proposed site area.
	March	Represented by VP6 March

Visual Receptor Group	Visual Receptor	Representative Viewpoint(s)
	Beck Row	Represented by VP20 Beck Row
	Bury St Edmunds	No specific viewpoint proposed (due to distance from site area and lack of opportunities for clear views from the settlement). Wirelines/ models can be used to assess effect on receptor.
	Soham	Represented by VP22 Road Users A142 and nearby Settlement Soham
	Southery	Represented by VP10 Southery Village
	Newmarket	No specific viewpoint proposed (due to lack of opportunities for clear views from the settlement). Distance and viewing angle will be represented by VP24 Red Lodge Bypass
	Red Lodge	Represented by VP24 Red Lodge Bypass
	Littleport	Represented by VP4 Fen Rivers Way Long Distance Trail and Littleport
Road Users		
Road Users on Main Roads	A1101	Represented by VP7 Shippea Hill Station and A1101 and VP21 Settlement Beck Row and A1101
	A1075	No specific viewpoint proposed (due to distance from site area - wirelines / models can be used as a proxy).
	A1065	No specific viewpoint proposed (due to distance from site area - wirelines / models can be used as a proxy). Representative viewing distance and viewing angle from VP16 Weeting Castle

Visual Receptor Group	Visual Receptor	Representative Viewpoint(s)
	A134	No specific viewpoint proposed (due to distance from site area - wirelines / models can be used as a proxy). Representative viewing distance and viewing angle from VP 15 Methwold and surrounding villages.
	A141	No specific viewpoint proposed (due to distance from site area and lack of opportunities for clear views).
	A142	Represented by VP22 Road Users A142 and nearby Settlement Soham
	A10	Represented by VP9 Road users A10 and Brandon Creek Village Represented by VP 10 Southery Village (representative of road Users along A10)
	A14	No specific viewpoint proposed (due to distance from site area and lack of opportunities for clear views). The viewing distance and viewing angle is represented as a worse case from VP24 Red Lodge Bypass (located closer to the site area).
	A1122	No specific viewpoint proposed (due to distance from site area and lack of opportunities for clear views).
	A1123	No specific viewpoint proposed (due to distance from site area and lack of opportunities for clear views).
	A11	Represented by VP24 Red Lodge Bypass and Road users A11
Road Users of Minor Roads	B1382	Represented by VP2 Settlement of Ely viewing distance and viewing angle.
	B1104	Represented by VP 21 Settlement Isleham

Visual Receptor Group	Visual Receptor	Representative Viewpoint(s)
	B1112	Represented by VP19 Lakenheath
	B1160	Represented by VP10 Southery Village
Recreational Users		
Users of Open Access Land	Open access land including Wicken Fen Nature Reserve, Lakenheath Fen Nature Reserve, Ouse Fen Nature Reserve and Hundred-Foot Washes	Represented by VP4 Fen Rivers Way Long Distance Trail Represented by VP18 RSPB Lakenheath Fen
Local PRoWs	Local PRoWs that fall within the ZTV will be considered in the assessment and those that will experience visual effects will be identified.	Represented by VP2 Settlement of Ely and Roswell Pits Nature Reserve (including PRoW) Represented by VP3 Hereward Way long distance trail and PRoW Represented by VP4 Fen Rivers Way Long Distance Trail and Littleport Settlement (including PRoW) Represented by VP5 WWT Welney Visitor Centre and Footbridge (including PRoW) Represented by VP14 Feltwell Settlement (including PRoW)
Promoted Walking Routes and Cycle Routes	Iceni Way (passes through the site area)	Represented by Viewpoint 8 Iceni Way long distance Trail
	Fen Rivers Way (long distance trail)	Represented by VP4 Fen Rivers Way Long Distance Trail and Littleport Settlement

Visual Receptor Group	Visual Receptor	Representative Viewpoint(s)
	Peddars Way and Norfolk Coast Path (National Trail)	No specific viewpoint proposed (due to distance from site area and lack of opportunities for clear views).
	Icknield Way (long distance trail)	No specific viewpoint proposed (due to distance from site area and lack of opportunities for clear views). VP24 provides a similar viewing distance and angle for part of the route to the south.
	Stour Valley Path (long distance trail)	No specific viewpoint proposed (due to distance from site area and lack of opportunities for clear views).
	Nene Way (long distance trail)	No specific viewpoint proposed (due to distance from site area and lack of opportunities for clear views). VP26 provides a similar viewing distance and angle to part of the route to the north.
	The Greenwich Meridian Trail	No specific viewpoint proposed (due to distance from site area and lack of opportunities for clear views). VP6 provides a similar viewing distance and angle to part of the route to the north.
	Nar Valley Way (Long distance trail)	No specific viewpoint proposed (due to distance from site area and lack of opportunities for clear views).
	The Hereward Way	VP3 Hereward Way long distance trail and PRow VP7 Shippea Hill Station and A1101 (Includes representative view from Hereward Way long distance trail)
	The Pathfinder Long Distance Walk	No specific viewpoint proposed (due to distance from site area and lack of opportunities for clear views).
	Ouse Washes	Represented by VP5 WWT Welney Visitor Centre

Visual Receptor Group	Visual Receptor	Representative Viewpoint(s)
	Wicken Fen National Nature Reserve	VP23 Wicken Fen Nature Reserve
	RSPB Lakenheath Fen	VP18 RSPB Lakenheath Fen
	National Cycle Network Routes 11, 13, 30 and 51.	Represented by VP25 Fen Rivers Way / Little Thetford, VP23 Wicken Fen Nature Reserve – Visitor Centre, VP12 Oxburgh Hall (National Trust),
Visitor Attractions		
Visitors to Heritage Attractions	Ely Cathedral;	Represented by VP1 Ely Cathedral Spire, Ely
	Oliver Cromwell's House;	Represented by VP2 Settlement of Ely
	Stretham Old Engine;	Represented by the viewing distance and viewing angle of VP23 Wicken Fen Nature Reserve.
	Weeting Castle,	Represented by VP16 Weeting
Visitors to Nature Reserves	RSPB Lakenheath Fen	Represented by VP18 RSPB Lakenheath Fen
	WWT Welney Wetland Centre	Represented by VP5 WWT Welney Visitor Centre and Footbridge
	Roswell Pits Nature Reserve	Represented by VP2 Settlement of Ely and Roswell Pits Nature Reserve
	Weeting Heath National Nature Reserve	Represented by VP16 Weeting

Visual Receptor Group	Visual Receptor	Representative Viewpoint(s)
	Kingfishers Bridge Nature Reserve	Represented by the viewing distance and viewing angle of VP23 Wicken Fen Nature Reserve.
	The Ouse Washes;	Represented by VP4 Fen Rivers Way Long Distance
	The Ouse Fen Reserve; and	Represented by the viewing distance and viewing angle of VP23 Wicken Fen Nature Reserve.
	Thetford Forest.	Represented by VP 17 Brandon
Visitors to Recreational Destinations	Great River Ouse (water-based recreation);	Represented by VP25 Fen Rivers Way
	Little River Ouse (water-based recreation);	Represented by VP8 Icení Way long distance Trail (represents views from Little River Ouse)
	Thetford Forest (including High Lodge, Golf Course);	Represented by VP17 Brandon
	Mildenhall Stadium;	Represented by VP20 Beck Row
	Ely Country Park;	Represented by VP2 Ely Settlement
	Ely Sailing Club (Roswell Pits);	Represented by VP2 Ely Settlement
	Cambridge University Ely Boat House (located on	Represented by VP2 Ely Settlement

Visual Receptor Group	Visual Receptor	Representative Viewpoint(s)
	the River Great Ouse);	
	Prickwillow Engine Museum;	Represented by VP 2 Ely Settlement
	The Paddock Caravan Site, Suffolk;	Represented by VP19 Lakenheath
Visitors to National Trust Land	Wicken Fen;	VP23 Wicken Fen Nature Reserve
	Ouse Washes;	Represented by VP5 WWT Welney Visitor Centre
	Oxburgh Hall	VP 12 Oxburgh Hall (National Trust)
Visitors to Promoted Viewpoints	RAF Lakenheath Viewing Area	Represented by VP19 Lakenheath
	Ely Cathedral	Represented by VP1 Ely Cathedral

9.4 SCOPING DETERMINATION OF POTENTIAL LIKELY SIGNIFICANT EFFECTS

9.4.1 **Table 9.3** and **Table 9.4** present the scoping determination of potential LSE for the LVIA assessment during the construction, decommissioning and operational phases, and identify those matters proposed to be scoped into or out of the EIA.

9.4.2 The operational assessment is generally considered to represent a reasonable worst-case scenario for Landscape and Visual effects because construction cranes would not exceed the maximum tip height of the operational turbines. However, localised effects associated with temporary construction infrastructure cannot be excluded until the need for and location of such infrastructure are confirmed.

TABLE 9.3 LANDSCAPE AND VISUAL SCOPING DETERMINATION OF POTENTIAL LSE DURING CONSTRUCTION AND DECOMMISSIONING

Receptor	Potential Impact Pathway	Mitigation	Additional Information	Scoping of Impact Pathways
Landscape Effects				
Landscape character during construction	Temporary direct effects on landscape character arising from construction activities.	- Design Considerations. - Preparation and implementation of a CEMP.	The impact of construction activities on the host landscape character area(s) will be assessed (i.e. the areas where construction effects are occurring). The impact of construction activities on other character areas beyond the host character areas is unlikely to be any worse than the operational phase and can therefore be scoped out.	Host landscape character area(s) is scoped in, other landscape character areas in the wider Study Area are scoped out for the construction phase.
Landscape character during decommissioning	Temporary direct effects on landscape character arising from the dismantling and removal of turbines and other above-ground infrastructure.	Preparation and implementation of a CEMP.	Decommissioning would involve the removal of above-ground infrastructure, including the turbines. Access tracks may remain in place, subject to agreement with landowners. Decommissioning effects are expected to be temporary and no greater than those assessed for operation. A separate assessment of decommissioning effects is therefore not proposed.	Where effects are not expected to exceed those assessed during operation and on the basis that there is no potential for significant effects, this receptor scenario is therefore scoped out.
Landscape character potentially affected by cumulative construction activity	Cumulative landscape effects arising from construction of the Proposed Development at the same time as other developments.	No mitigation proposed.	Operational cumulative effects are expected to represent a reasonable worst-case scenario because construction cranes would not exceed the maximum tip height of the operational turbines. Cumulative construction effects are therefore unlikely to be greater than those assessed for operation. This does not preclude consideration of temporary facilities where their locations give rise to a specific likely significant effect.	Where effects are not expected to exceed those assessed during operation and on the basis that there is no potential for significant effects, this receptor scenario is therefore scoped out.
Visual Effects				
Visual amenity during construction	Temporary direct effects on visual amenity arising from construction activities.	- Design Considerations. - Preparation and implementation of a CEMP.	The impact of construction activities on views is unlikely to be any worse than the operational phase in most cases. However, there may be instances where temporary construction activities (e.g. construction compounds, temporary construction access arrangements, active borrow pits and storage areas) result in a greater effect on specific visual receptors due to the proximity of particular construction activities that are not part of the operational phase. These will be scoped in and assessed.	Visual receptors scoped out except where temporary construction structures/ activities (e.g. construction compounds, temporary construction access arrangements, active borrow pits and storage areas) will result in a greater effect on that

Receptor	Potential Impact Pathway	Mitigation	Additional Information	Scoping of Impact Pathways
			At this stage, the design is still developing and therefore there is uncertainty over which receptors will be affected.	receptor than will occur during operation.
Visual amenity during decommissioning	Temporary direct effects on visual amenity arising from the dismantling and removal of turbines and other above-ground infrastructure.	Preparation and implementation of a DEMP.	Decommissioning would involve the removal of above-ground infrastructure, including the turbines. Access tracks may remain in place, subject to agreement with landowners. Decommissioning effects are expected to be temporary and no greater than those assessed for operation. A separate assessment of decommissioning effects is therefore not proposed.	Where effects are not expected to exceed those assessed during operation and on the basis that there is no potential for significant effects, this receptor scenario is therefore scoped out.
Visual amenity potentially affected by cumulative construction activity	Cumulative visual effects arising from construction of the Proposed Development at the same time as other developments.	No mitigation proposed.	Operational cumulative effects are expected to represent a reasonable worst-case scenario because construction cranes would not exceed the maximum tip height of the operational turbines. Cumulative construction effects are therefore unlikely to be greater than those assessed for operation. This does not preclude consideration of temporary facilities where their locations give rise to a specific likely significant effect.	Where effects are not expected to exceed those assessed during operation and on the basis that there is no potential for significant effects, this receptor scenario is therefore scoped out.

TABLE 9.4 LANDSCAPE AND VISUAL SCOPING DETERMINATION OF POTENTIAL LSE DURING OPERATION

Receptor	Potential Impact Pathway	Mitigation	Additional Information	Scoping of Impact Pathways
Landscape Effects				
Landscape features and landscape character within the Site during operation	Direct effects on the landscape features and character of the Site due to the introduction of operational infrastructure.	Design considerations.	The Proposed Development would introduce large-scale energy infrastructure into the Site and may directly affect existing landscape features and the character of the Site. The nature and significance of these effects will be assessed in the LVIA.	Potential for significant impact, scoped in
Landscape Character within the 10 km Study Area	Indirect effects on the landscape character arising from the visibility and influence of the turbines and associated infrastructure within the surrounding landscape.	Design considerations.	There is potential for significant indirect effects on landscape character within 10 km of the proposed turbines. The regional Landscape Character Types within the 10 km Study Area will form the proposed landscape reporting units for the LVIA.	Potential for significant impact, scoped in

Receptor	Potential Impact Pathway	Mitigation	Additional Information	Scoping of Impact Pathways
Landscape Character beyond the 10 km Study Area	Effects on landscape character beyond a 10 km radius from the proposed wind turbines.	No mitigation proposed.	Having regard to the scale of the Proposed Development, the character of the receiving landscape, professional judgement and experience of similar developments, significant effects on landscape character are not anticipated beyond 10 km of the proposed turbine.	Effects are not expected to exceed those assessed during operation and are therefore scoped out.
Cumulative Landscape Character effects arising within the 10km Study Area	Indirect effects on the landscape character arising from the visibility and influence of the turbines and associated infrastructure within the surrounding landscape.	Design considerations	There is potential for significant indirect cumulative effects on landscape character within 10 km of the proposed turbines. The regional Landscape Character Types within the 10 km Study Area will form the proposed landscape reporting units for the LVIA.	Potential for significant impact, scoped in
Landscape receptors potentially affected by aviation lighting	Changes to perceived landscape character arising from visible aviation lighting on the turbines.	- Design considerations. - Development of an aviation lighting scheme that provides the minimum lighting necessary to meet aviation-safety requirements, subject to consultation with the relevant aviation stakeholders.	The proposed turbines would require aviation lighting. An Aviation Lighting Assessment will be undertaken to assess potential night-time landscape effects and will be coordinated with the LVIA.	Potential for significant impact, scoped in
Visual Effects				
Residents within 2 km of the proposed turbine locations	Changes to views and residential visual amenity arising from the presence and operation of turbines and associated infrastructure.	Design considerations.	A RVAA will be undertaken for residential properties within 2 km of the proposed turbines in accordance with the Landscape Institute's Technical Guidance Note 2/19 ⁵⁰ . The RVAA will form part of the consideration of residential visual amenity and will be informed by the findings of the LVIA.	Potential for significant impact, scoped in
Local communities	Changes to views experienced from settlements and community locations arising from the introduction and operation of turbines and associated infrastructure.	Design considerations.	The scale and visibility of the proposed turbines may result in significant visual effects for communities within the visual Study Area. Representative viewpoints will be used to inform the assessment in accordance with GLVIA3 ³⁴ .	Potential for significant impact, scoped in
Recreational receptors	Changes to views and visual amenity experienced by users of PROW, long-distance routes, cycle routes, open access land, nature reserves and other recreational locations.	Design considerations.	Recreational receptors may experience changes to views while travelling through or using the landscape, including from routes and locations close to the Site. The assessment will consider representative static and sequential views in accordance with GLVIA3 ³⁴ .	Potential for significant impact, scoped in

Receptor	Potential Impact Pathway	Mitigation	Additional Information	Scoping of Impact Pathways
Visitors to attractions	Changes to views and visual amenity experienced by visitors to heritage, nature conservation, tourism and recreational attractions.	Design considerations.	The Proposed Development may be visible from visitor attractions within the Study Area. Representative viewpoints and visualisations will be used to assess the potential significance of effects in accordance with GLVIA3 ³⁴ .	Potential for significant impact, scoped in.
Road users	Changes to sequential views experienced by people travelling on roads within the visual Study Area.	Design considerations.	Road users may experience intermittent or sustained views of the Proposed Development depending on distance, direction of travel, screening and the duration of visibility. Representative routes and viewpoints will be assessed in accordance with GLVIA3.	Potential for significant impact, scoped in.
Visual receptors beyond 30 km of the nearest proposed turbine	Changes to views arising from the Proposed Development at distances greater than 30 km.	No mitigation proposed.	Having regard to distance, the likely reduction in the apparent scale of the turbines and professional judgement, significant visual effects are not anticipated beyond 30 km of the nearest proposed turbine.	Not significant, scoped out.
Visual receptors potentially affected by aviation lighting	Changes to night-time views arising from visible aviation lighting on the turbines.	- Design considerations. - Development of an aviation lighting scheme that provides the minimum lighting necessary to meet aviation-safety requirements, subject to consultation with the relevant aviation stakeholders.	The proposed turbines would require aviation lighting. An Aviation Lighting Assessment will be undertaken to assess potential night-time visual effects and will be coordinated with the LVIA.	Potential for significant impact, scoped in.
Cumulative Visual effects arising within the 30 km Study Area	Cumulative visual effects arising from the Proposed Development in combination with other operational, consented and reasonably foreseeable wind energy developments included within the cumulative assessment.	Design considerations.	Wind turbines excluded through the cumulative screening process would not have a credible potential to give rise to likely significant cumulative effects with the Proposed Development. The criteria and justification for excluding developments will be documented in the ES. Further information regarding the cumulative LVIA is available in Appendix C .	Potential for significant impact, scoped in.

9.5 ASSUMPTIONS AND LIMITATIONS

ASSUMPTIONS

- 9.5.1 The scoping determination for the LVIA has been based on the design information available at the time of preparing this Scoping Report, including a maximum turbine tip height of 220 m and hub height of 134 m. These parameters have informed the preliminary ZTV modelling and identification of potential receptors.
- 9.5.2 In the absence of specific England-focused guidance for turbines of this scale, the assessment has been informed by relevant Scottish and Welsh guidance, together with professional judgement and experience from comparable onshore wind developments.
- 9.5.3 The Landscape Character Typology for the East of England (2010)⁴⁰ is assumed to provide the most consistent framework for assessing landscape character across the Study Area. The provisional viewpoints are assumed to be representative of the principal receptor groups and, where necessary, may act as proxy viewpoints for similar receptors.
- 9.5.4 The preliminary ZTVs are assumed to provide a reasonable indication of potential visibility but do not, in themselves, indicate the magnitude or significance of effects, which will be confirmed through fieldwork and detailed assessment.

LIMITATIONS

- 9.5.5 The baseline is currently based primarily on desk-based sources, including published landscape character assessments, mapping and aerial photography. Field surveys are ongoing and will be used to verify and refine the baseline presented in the ES.
- 9.5.6 The proposed viewpoints are provisional and may be micro-sited, amended, added to or removed following fieldwork, consultation and design development. Similarly, not all receptors have dedicated viewpoints and may instead be assessed using proxy viewpoints, wirelines, photomontages or other visualisation techniques.

- 9.5.7 The ZTVs show theoretical visibility based on terrain modelling and do not fully account for local screening from buildings, vegetation or other landscape features. Actual visibility will therefore be verified through field assessment.
- 9.5.8 Coverage of local landscape character assessments and Historic Landscape Characterisation data varies across the Study Area. Consequently, greater reliance has been placed on regional landscape character information to provide a consistent assessment framework.
- 9.5.9 The lists of receptors, routes, attractions and viewpoints presented in this Scoping Report are preliminary and may be refined as the design evolves and further consultation and survey work is completed. Any changes will be explained within the ES.

10. SHADOW FLICKER

10.1 INTRODUCTION

- 10.1.1 The EIA will include a Shadow Flicker assessment to identify and evaluate the likely significant effects of the Proposed Development on residential and other sensitive receptors during operation. The assessment will be undertaken in accordance with relevant Shadow Flicker guidance and good-practice assessment methods and will consider receptors within the Shadow Flicker Study Area, defined as a distance equal to ten times the maximum rotor diameter from each turbine location, together with the proposed micro-siting allowance.
- 10.1.2 The Shadow Flicker assessment will establish the baseline receptor environment, identify potentially sensitive receptors and determine where a credible Shadow Flicker impact pathway exists. The assessment will consider the potential frequency, duration and timing of Shadow Flicker effects at residential and other sensitive receptors within the defined Study Area. Appropriate modelling will be undertaken using the final turbine layout, turbine dimensions and receptor locations available at the time of assessment. The modelling will account for relevant parameters and assumptions, which will be clearly reported in the ES.
- 10.1.3 The findings of the desk-based review and ongoing iterative design process have informed the preliminary scoping decisions presented in this chapter and will continue to inform the evolution of the Proposed Development and preparation of the ES. Where the assessment identifies the potential for significant effects, appropriate embedded or additional mitigation measures will be developed and described in the ES. Inter-project and intra-project cumulative effects will be considered where a credible cumulative impact pathway is identified, in accordance with the methodology set out in **Chapter 18**.
- 10.1.4 The proposed Shadow Flicker assessment methodology is provided in **Appendix C**, with the relevant legislation, policy and guidance set out in **Appendix B**.

10.2 STUDY AREA

- 10.2.1 Shadow Flicker can occur when rotating turbine blades periodically interrupt sunlight, creating a flickering effect at nearby properties under specific meteorological and operational conditions. The assessment will focus on sensitive receptors where people may spend significant periods of time, including residential properties, office buildings and tourist accommodation.
- 10.2.2 The Shadow Flicker Study Area has been defined as a distance equal to ten times the maximum rotor diameter from each indicative turbine location, plus the proposed 100 m micro-siting allowance. Based on the maximum rotor diameter of 172 m for the Proposed Development, this results in a Study Area extending up to 1,820 m from the indicative turbine locations. This Study Area is shown on **Figure 10.1**.
- 10.2.3 The Study Area has been established with reference to the Department of Energy and Climate Change (DECC) Update of UK Shadow Flicker Evidence Base (2011)⁵¹, which identifies ten rotor diameters as accepted industry practice for Shadow Flicker assessment and indicates that effects beyond this distance are likely to be negligible. The inclusion of the micro-siting allowance provides a precautionary assessment envelope and ensures that potential effects remain adequately assessed should turbine positions be refined during the iterative design process.
- 10.2.4 UK Planning Practice Guidance states that Shadow Flicker effects cannot occur beyond 130 degrees either side of north from the turbines, as long shadows cannot be cast to the south in the UK. Nevertheless, for completeness and to provide a robust assessment, all potential sensitive receptors within the Study Area will be identified and considered irrespective of their orientation relative to the turbines.

10.3 BASELINE

- 10.3.1 Potential Shadow Flicker receptors are primarily concentrated within the village of Prickwillow, located to the west of the Site.

In addition, a number of isolated farmsteads and rural properties are distributed throughout the wider Study Area surrounding the Site. An initial desk-based review has identified approximately 189 potential sensitive receptors within the Shadow Flicker Study Area.

- 10.3.2 No recent planning applications for new residential development have been identified within the Study Area. This position will be kept under review as the project progresses. Any planning permissions granted, or planning applications submitted, for new sensitive receptors within the Study Area prior to a defined assessment baseline cut-off date will be considered, where reasonably practicable and proportionate, and incorporated into the assessment as appropriate.
- 10.3.3 All identified sensitive receptors are considered to be of high sensitivity due to the potential for Shadow Flicker to affect residential amenity and the occupation of buildings where people may spend prolonged periods of time. The ES will quantify potential Shadow Flicker effects at these receptors and identify, where necessary, appropriate mitigation measures to avoid or minimise significant effects.

10.4 SCOPING DETERMINATION OF POTENTIAL LIKELY SIGNIFICANT EFFECTS

- 10.4.1 **Table 10.1** and
- 10.4.2 **Table 10.2** present the scoping determination of potential LSE for the Shadow Flicker assessment during the construction, decommissioning and operational phases, and identify those matters proposed to be scoped into or out of the EIA.

TABLE 10.1 SHADOW FLICKER SCOPING DETERMINATION OF POTENTIAL LSE DURING CONSTRUCTION AND DECOMMISSIONING

Receptor	Potential Impact Pathway	Mitigation	Additional Information	Scoping of Impact Pathways
Sensitive receptors, including residential properties, office buildings and tourist accommodation	No credible shadow flicker impact pathway has been identified during construction or decommissioning.	No mitigation proposed.	Shadow flicker requires sunlight to be periodically interrupted by rotating turbine blades. The turbines would not be operational during construction and would cease operating before decommissioning works affecting them commence. Shadow flicker effects would therefore not arise during these phases.	No potential for significant impact, scoped out

TABLE 10.2 SHADOW FLICKER SCOPING DETERMINATION OF POTENTIAL LSE DURING OPERATION

Receptor	Potential Impact Pathway	Mitigation	Additional Information	Scoping of Impact Pathways
Sensitive receptors, including residential properties, office buildings and tourist accommodation within the Study Area	Periodic interruption of sunlight by rotating turbine blades may cast moving shadows across window openings, resulting in shadow flicker effects within occupied buildings.	- Detailed shadow flicker modelling using the final turbine layout and parameters. - Where required, mitigation may include turbine shutdown protocols or other receptor-specific measures identified through the assessment. - Details of the procedure to be used to investigate complaints made with regards to shadow flicker, and the appropriate mitigation measures to be used to avoid shadow flicker effects, will be provided in a Shadow Flicker Mitigation Protocol, which will be prepared prior to operation and maintenance of the Proposed Development as a requirement of the DCO.	Approximately 189 potential sensitive receptors have initially been identified within the Shadow Flicker Study Area. The occurrence and duration of shadow flicker will depend on turbine and receptor locations, window orientation, intervening screening, meteorological conditions and turbine operation. Detailed modelling will quantify the theoretical maximum and likely occurrence of shadow flicker at relevant receptors and inform the need for mitigation.	Potential for significant impact, scoped in
Sensitive receptors (cumulative)	Combined shadow flicker effects arising where a receptor is located within the Shadow Flicker Study Area of the Proposed Development and within the Shadow Flicker Study Area of one or more	- To be informed by the shadow flicker assessment and cumulative assessment findings. - Where required, mitigation may include turbine shutdown protocols or other receptor-specific measures identified through the assessment.	If operational wind farms are located in the vicinity of the Proposed Development, receptors may be located within the shadow flicker Study Area of the Proposed Development and within the Shadow Flicker Study Areas of one or more other wind farm developments (defined as a distance equal to ten rotor diameters from turbine locations). Other forms of development would not be included within the cumulative	Potential for significant impact, scoped in

Receptor	Potential Impact Pathway	Mitigation	Additional Information	Scoping of Impact Pathways
	other operational or proposed wind farm developments.	Details of the procedure to be used to investigate complaints made with regards to shadow flicker, and the appropriate mitigation measures to be used to avoid shadow flicker effects, will be provided in a Shadow Flicker Mitigation Protocol, which will be prepared prior to operation and maintenance of the Proposed Development as a requirement of the DCO.	assessment as shadow flicker effects are directly associated with the operation of wind turbines. Existing operational wind farms will be considered as part of the baseline assessment. The EIA will also consider cumulative effects with relevant consented and reasonably foreseeable wind farm developments where a credible cumulative impact pathway exists.	

10.5 ASSUMPTIONS AND LIMITATIONS

ASSUMPTIONS

- 10.5.1 The assessment will initially model a theoretical maximum scenario, assuming that turbines are operating continuously, weather conditions provide uninterrupted bright sunshine, turbine rotors are orientated to maximise shadow casting towards receptors, and no screening is provided by vegetation, buildings or other structures. These assumptions are intended to identify the maximum potential duration and frequency of shadow flicker effects and ensure a robust assessment.
- 10.5.2 For modelling purposes, receptors will be represented using standardised assumptions regarding window size, height and orientation. Receptor locations will be based on available address data and windows will be modelled facing each cardinal direction to identify all potential effects. These assumptions provide a consistent and precautionary basis for assessment and are not intended to represent the precise characteristics of individual properties.
- 10.5.3 Following completion of the worst-case assessment, a more realistic scenario will be derived using local meteorological data. This will account for the proportion of annual sunshine hours likely to occur at the Site and will provide an indication of the likely occurrence of shadow flicker effects under typical operating conditions.

LIMITATIONS

- 10.5.4 The Shadow Flicker assessment will be based on modelling and therefore represents an approximation of potential effects rather than a precise prediction of actual conditions experienced at individual receptors. The assessment will not take account of site-specific screening effects such as vegetation, buildings or other local features, which may reduce or entirely prevent shadow flicker effects in practice.
- 10.5.5 The realistic scenario assessment will incorporate local sunshine data; however, additional factors such as turbine downtime,

wind direction, operational controls and seasonal changes in vegetation cannot be predicted with certainty and may further reduce the occurrence of shadow flicker effects. Consequently, the assessment is expected to overestimate rather than underestimate potential effects and provides a conservative basis for the EIA.

11. HYDROLOGY, HYDROGEOLOGY, GEOLOGY AND PEAT

11.1 INTRODUCTION

- 11.1.1 This Chapter has been prepared by Fluid Environmental Consulting on behalf of the Applicant. The EIA will include an assessment of hydrology, hydrogeology, geology to identify and evaluate the likely significant effects of the Proposed Development on water and soil features during construction, operation and maintenance, and decommissioning. The assessment will be undertaken in accordance with relevant legislation, policy, guidance and current best practice (further detailed in **Appendix B**) and will consider effects on hydrological, hydrogeological, geological and peat receptors within the defined Study Area(s).
- 11.1.2 The assessment will establish the baseline hydrological, hydrogeological, geological and peat conditions, identify sensitive receptors and assess the nature and significance of effects arising from the Proposed Development. It will consider effects on surface water, groundwater, geology, soils and peat, including designated sites and other sensitive water and soil features. Desk-based data collection, engagement and proportionate site surveys will be undertaken, where appropriate, to inform the assessment.
- 11.1.3 The findings of the baseline review and ongoing design process have informed the preliminary scoping conclusions presented in this Chapter and will continue to inform the evolution of the Proposed Development and preparation of the ES. The desk-based review has considered relevant designated sites, available geological records and existing information on the hydrology and hydrogeology of the area. Initial site surveys have also been undertaken, and peat depth surveys commenced in August 2026 and are ongoing. Inter-project and intra-project cumulative effects will be considered where relevant in accordance with the methodology set out in **Chapter 18**.
- 11.1.4 The proposed Hydrology, Hydrogeology, Geology and Peat assessment methodology is provided in **Appendix C**, with the relevant legislation, policy and guidance set out in **Appendix B**.

11.2 STUDY AREA

- 11.2.1 The Hydrology, Hydrogeology and Geology Study Area comprises the Site and land within 2 km of the Site. For hydrological receptors, the Study Area also extends up to 5 km downstream of the Site to account for potential effects, including pollution events, sediment mobilisation and changes to surface water quality or flow, that may be transmitted beyond the immediate development area along hydrological pathways. The extent of the Study Area has been defined on a precautionary basis using professional judgement, taking account of the location of downstream receptors and the potential source-pathway-receptor linkages associated with the Proposed Development. This approach is consistent with the Environment Agency's source-pathway-receptor framework⁵². For the assessment of contaminated land, the Study Area comprises the land within the Indicative Order Limits, reflecting the localised nature of potential direct effects associated with ground disturbance.

11.3 BASELINE

DATA SOURCES

- 11.3.1 The following data sources have informed the preparation of this Scoping Report and will also be considered, where relevant, to inform the baseline and assessment presented in the ES:
- Cranfield University (2024): Soilscales [Dataset]. LandIS, Cranfield Soil and Agrifood Institute (CSAI)⁵³;
 - Environment Agency: Catchment Data Explorer⁵⁴;
 - Meteorological Office website for rainfall data (accessed August 2026)⁵⁵;
 - Ordnance Survey (OS) Mapping;
 - British Geological Survey (BGS): GeoIndex Boreholes database, 1:50,000 scale⁵⁶;
 - BGS Geology Viewer⁵⁷;
 - National Soil Map for England and Wales⁵⁸;
 - DEFRA / Natural England: Priority Habitat Inventory (includes peat soils and blanket bog habitats)⁵⁹;

- Environment Agency: Water Framework Directive River Basin Management Plans and Catchment Data Explorer⁶⁰;
- Environment Agency: Groundwater Vulnerability Maps⁶¹;
- Environment Agency: Aquifer Designation Maps (Superficial and Bedrock)⁶²;
- Environment Agency: Flood Map for Planning (Rivers and Sea)⁶³;
- Environment Agency: Drinking Water Safeguard Zones and Source Protection Zones⁶⁴;
- Joint Nature Conservation Committee (JNCC): Designated Sites View and Geological Conservation Review (GCR) site archive⁶⁵;
- National Biodiversity Network (NBN) Atlas (formerly NBN Gateway)⁶⁶;
- Natural England: England Peat Map Project Final Report, May 2025. Natural England Research Report 149⁶⁷.
- Multi-Agency Geographic Information for the Countryside (MAGIC) website⁶⁸; and
- Zetica Unexploded Ordinance Risk Maps⁶⁹.

DESK BASED

Topography

- 11.3.2 A review of Ordnance Survey Mapping and aerial imagery (Google, 2026) indicates the Site is located on the low-lying Fenland Landscape area of Cambridge, approximately 6.5 km northeast of the town of Ely. The Site elevation has a very narrow range, approximately -1 m to 0 m above Ordnance Datum (AOD). The Site and surrounding area comprise predominantly agricultural land, characterised by an extensive network of artificial drainage channels. Due to the minimal topographic variation and low elevation, natural surface water drainage is limited. Therefore, water levels are managed through the wider drainage network, including a series of pumping stations to support agricultural land use and flood risk management.

Soils

- 11.3.3 The soils across the Site reflect variations in topography and land use. Redmere North predominantly features 'Fen peat soils' (Soilscape 27) which are also located in small pockets in Redmere South. These peaty soils are naturally wet, with fertility ranging from very low to lime-rich and are typically associated with arable and agricultural land uses. Habitats include wet fen and Carr woodlands. These soils mainly drain to local groundwater. Where cultivated, these soils are typically drained to support agricultural land use. However, drainage and cultivation can result in gradual peat loss through oxidation and wind erosion. The shallow groundwater and presence of field ditches increase the vulnerability of water resources to nutrient pollution, while drainage of peat containing sulphides can release acidic water.
- 11.3.4 In Redmere South, the dominant soils are 'Loamy and sandy soils with naturally high groundwater and a peaty surface' (Soilscape 23). These soils are also found on the borders of Redmere North in both the north-west and east. These loamy and sandy soils are naturally wet with fertility ranging from low to high and are typically associated with arable land use and wet meadow habitats. The soils mainly drain to local shallow groundwater. Cultivation and winter harvesting can damage soil structure depending on subsoil texture and drainage, while irrigation may be required on lighter soils. The shallow groundwater and network of field drains increase the vulnerability of water resources to pollution from nutrients, pesticides and wastes applied to the land.
- 11.3.5 The distribution of soil types across the Study Area, based on the National Soil Map for England and Wales, LandIS Soilscales and Natural England peat soil mapping, is shown on **Figure 11.2**.

Peat

- 11.3.6 The likely distribution of peaty soils across the Site is shown on **Figure 11.3** Natural England Peaty Soils. The Natural England

mapping indicates that the majority of the Site is likely to be underlain by deep peaty soils, with two areas of soils containing peaty pockets identified in Redmere North.

Bedrock Geology

- 11.3.7 The BGS bedrock geology mapping indicates the Site to be underlain by a series of north-east to south-west aligned bands of sedimentary bedrock, as shown on **Figure 11.5**. From west to east across the Site, the bedrock units comprise the Kimmeridge Clay Formation, Roxham Sand Member, Woburn Sands Formation, Carstone Formation, Gault Formation and West Melbury Marly Chalk Formation.
- 11.3.8 The Kimmeridge Clay Formation occurs within the western parts of the northern and southern sections of the Site and comprises predominantly calcareous, silty and locally sandy mudstone, with thin beds of siltstone, cementstone and occasional sandstone. The formation typically consists of dark grey to black, locally organic-rich and fissile mudstone, with occasional calcareous mudstone and thin sandstone horizons.
- 11.3.9 A narrow band of Woburn Sands formation is underlain to the south of the Kimmeridge Clay Formation. It comprises fine – to coarse – grained, rounded marine quartz sand that is locally glauconitic, with silty horizons and occasional clay seams. The formation typically consists of grey to greenish-grey sand that weathers to yellow-brown, with local iron-rich cementation, pebbles and phosphatic nodules.
- 11.3.10 The Roxham Sand Member occurs within the northern part of the Site and comprises grey and yellow-green, pyritic, silty sand with a basal pebbly sandstone containing black chert and phosphatic nodules. The unit typically consists of bioturbated silty sand, with burrows potentially extending locally into the top of the underlying Kimmeridge Clay Formation.
- 11.3.11 A small area of Carstone Formation is also present in the western part of the Site and comprises greenish-brown, ferruginous sandstone that is typically thick-bedded, cross-bedded and locally oolitic. The formation is generally medium –

to coarse – grained and may contain pebbly layers, particularly towards the base where it can transition into conglomerate. Some beds may contain silt, clay, wisps, glauconite, the formation is burrowed in places with common Arenicolites and Skolithus.

- 11.3.12 The Gault Formation dominates most of the site and extends across the north and south regions of the Site. It comprises pale to dark grey or blue-grey clay and mudstone, locally containing glauconite, with a sandy base layer. The formation typically consists of fine-grained mudstone with occasional phosphatic nodules, pyrite and calcareous nodules, with local limestone beds.
- 11.3.13 A small area of West Melbury Marly Chalk Formation is present in the north-east of the Site comprises soft, marly chalk and hard grey limestone arranged in alternating layers. The formation typically consists of buff, grey and off-white chalk with interbedded limestone horizons.

Superficial Geology

- 11.3.14 The majority of the Site is underlain by superficial deposits of Quaternary age, including peat, alluvium, glaciofluvial deposits and river terrace deposits, as shown on **Figure 11.4**. Peat is mapped across much of the Site and may have implications for hydrology and ecology. Alluvium, comprising clay, silt, sand and gravel is present across Redmere North. Glaciofluvial deposits are in the far northeastern area of Redmere North and comprise predominantly sand and gravel. Tidal flat deposits, consisting of sand and silt, extend across the central area of the Site from west to northeast, reflective of former fluvial environments. Small areas of river terrace deposits are present within the central southern part of the Site, comprising clay, silt, sand and gravel.

Hydrogeology

- 11.3.15 The Aquifer Designation Map (Bedrock) (England) indicates that two Principal Aquifers are present within the Site, associated

with the Woburn Sands Member and the West Melbury Marly Chalk Formation as discussed above, as shown on **Figure 11.7**.

- 11.3.16 A review of the BGS Hydrogeology (1:625,000) data indicates that groundwater flow within the Site is predominantly associated with flow that is virtually all through fractures and other discontinuities with much of the Site classified as rocks with essentially no groundwater. This is reflected in the Gault Formation that dominates much of the Site and comprises low permeability mudstone that restricts groundwater movement. The West Melbury Marly Chalk Formation, located along the eastern boundary of Redmere North, is classified as a highly productive aquifer where groundwater flows through fractures and other discontinuities.
- 11.3.17 Part of the western area of Redmere South is underlain by the Woburn Sands Formation in an approximately 500 m wide strip. This formation is a highly productive aquifer with significant intergranular flow. The fine – to coarse – grained nature of the sand enables groundwater movement through pore spaces between sediment grains. Thin bands of low productivity aquifer with significant intergranular flow are also present in the east and west of Redmere North and in the east of Redmere South.
- 11.3.18 Superficial deposits also influence hydrogeological conditions across the Site. Peat deposits typically have low permeability and can restrict vertical groundwater movement, acting as a localised aquitard between the surface and underlying bedrock. Peat is commonly associated with high water tables and groundwater flow is limited except a thin upper layer known as the acrotelm.
- 11.3.19 Alluvial deposits comprising clay, silt, sand and gravel have variable permeability depending on the composition of the sediments. Areas with higher proportions of clay are more likely to restrict groundwater movement, whereas areas dominated by sand and gravel may allow greater intergranular groundwater flow.

- 11.3.20 The small areas of glaciofluvial deposits present within the Site are likely to have higher permeability due to their sand and gravel composition and may support localised groundwater movement through pore spaces between sediment grains.

Hydrology

- 11.3.21 The Site is located within the low-lying fenland landscape and flat topography. As a result, the Site does not contain any natural watercourses but is instead characterised by an artificial drainage network, as shown on **Figure 11.6**.
- 11.3.22 Redmere South drains towards the River Lark, on the south west boarder, via Baldwin's Lode and Lark Engine Drain. The River Lark continues northwest before discharging into the River Great Ouse. The central and northern parts of the Site drain south east towards the Little Ouse River, which flows westwards, along the boundary Redmere South, before joining the River Great Ouse of Mile River at Brandon Creek 5 km north west of the Site. Flows are managed downstream by sluice gates; the Denver Sluice continues the Great Ouse River while the A.G Wright sluice gate directs flow into the Great Ouse Relief Channel. The River Great Ouse and Great Ouse Relief Channel run broadly parallel before rejoining at Eau Brink Cut south of King's Lynn, where it flows northwards before ultimately discharging into the Wash, north of King's Lynn.
- 11.3.23 The Site lies within the Cam and Ely Ouse Management Catchment, and the Site lies entirely within one of its sub catchments. The Ely Ouse (South Level) water body catchment is 466.24 km² and covers areas such as Ely, Soham, Littleport and Southery. It encompasses a mix of rural regions in the north and more urbanised areas in the south.

Water Quality

- 11.3.24 The Site is partially underlain by two groundwater bodies. Cam and Ely Ouse Woburn Sands has a good Water Framework Directive (WFD) chemical status and extends across the Site in a north to south direction on the western side of the Site. The Cam and Ely Ouse Chalk groundwater body has a poor WFD

chemical status and covers the northern half of the Site on the eastern side.

- 11.3.25 The Site lies within South level and cut off-channel Operation Catchment and is entirely within the Ely Ouse South Level catchment.
- 11.3.26 The Ely Ouse (South Level) water body has been designated as moderate ecological status (2022). With high biological quality elements including fish and invertebrates. Physico-chemical quality elements were high for ammonia, biochemical oxygen demand (BOD), pH and good for dissolved oxygen and temperature, while moderate for phosphate.
- 11.3.27 The Little Ouse River water body has a WFD designation as moderate ecological status, with moderate biological quality elements such as fish but high invertebrates, moderate physico-chemical elements such as phosphate but high ammonia, dissolved oxygen, temperature and pH. These classifications indicate while heavily modified waterbody, they were high for fish and invertebrates.

Flood Risk

- 11.3.28 The EA flood maps were reviewed in September 2026. The Site lies within a zone 3 flood risk area meaning that it has a 1% (1 in 100) or greater annual probability of flooding from rivers.

Designated Sites

- 11.3.29 There is one designated site within the Indicative Order Limits, Shippea Hill is a SSSI and a Geological Conservation Review Site (GCR) and has been designated for its importance in the studies of Flandrian sea-level change and environmental history of the Fenland through palynological, sedimentological and archaeological studies, as shown on **Figure 11.1**. The designated sites located within the 5 km Study Area include:
- **Stallode Wash, Lakenheath SSSI** approximately 168 m east of the Site at its closest point designated for its species rich wetland habitats and supports two nationally rare plant species, the Water

Germander and the Marsh Pea, it is also an important wetland habitat for birds;

- **Breckland Farmland SSSI and SAC** approximately 530 m north-east of the Site designated for its breeding population of stone curlews, the predominantly arable farmland and semi-continental climate provide suitable nesting habitat for stone curlews with minimal disturbance from recreational activity, adjacent heathland also supports breeding and foraging activities for stone curlew. Additionally, the SAC covers inland dune, dry heath, calcareous grassland, eutrophic lake, alluvial woodland habitats and populations of great crested newt;
- **Pashford Poor's Fen, Lakenheath SSSI** approximately 4.6 km east of the Site at its closest point designated for its mosaic of species-rich wetland and grassland habitats. The site comprises species rich mesotrophic meadows, spring-fed fen, marshy grassland and woodland habitats. It provides a diverse habitat for a range of species, in particular beetles and includes the last known British Site for one Red Data Book Species;
- **Ely Pits and Meadows SSSI** are situated approximately 4.1 km south-west of the Site designated for its nationally important geological site for its fossil reptile assemblages from the Kimmeridge Clay, and for its breeding wetland birds including
- **Lakenheath Poor's Fen** approximately 4 km from Site has been designated for its species-rich fen meadow, calcareous and neutral grassland habitats, which support a diverse wetland flora including the nationally rare marsh peat and the uncommon Lesser Water Plantain, Brockweed and Water Mint.

11.3.30 The area surrounding the Site also contains a Drinking Water Protected Area (DWPA), which are designated to protect sources of public drinking water from pollution and over-abstraction. The Cut-off Channel DWPA is situated east of the Site, however, does not appear to be hydrologically connected to the Site, as shown on **Figure 11.6**.

Public Water Supply

11.3.31 The Cut-off channel DWPA is located 500 m east of the Site and has an abstraction at Blackdyke. It forms part of the Ely Ouse to

Essex Transfer Scheme (EOETS). The EOETS was developed to augment flows in Essex rivers for subsequent transfer into public water supply reservoirs.

Private Water Supply

- 11.3.32 Due to the semi-rural nature of the area surrounding the Site there may be some properties reliant on private water supplies (PWS).
- 11.3.33 Information requests for PWS records, registered and licensed water abstractions (including abstractions authorised under the Environment Agency), and details of Anglian Water assets and DWPA, within the Site and within the 5 km Study Area, will be issued to the local authority, the Environment Agency and Anglian Water. PWS abstracting 20 m³/day or less are not required to be licenced by the Environment Agency; records of such supplies are instead held by the Local Authority.

Unexploded Ordnance

- 11.3.34 Zetica UXO Risk Maps do not identify any risk areas of Moderate or High within the Study Area of the Proposed Development, as a result of UXO derived from WWII bombings.

Mines and Quarries

- 11.3.35 There are no historic mines or quarries recorded within the Site, a historic chalk pit is seen at Kenny Hill to the east of the Site.

Contaminated Land

- 11.3.36 The Site is predominantly in agricultural use and comprises intensively managed arable land. Based on the information reviewed to date, no land uses with a high potential to have resulted in significant land contamination have been identified within the Site. The potential presence of contaminated land will be considered further in the ES.

FIELD SURVEY

Peat

- 11.3.37 Peat probing is being completed on a 100 m grid to obtain an initial understanding of the peat depth and distribution on Site. Further high-density peat depth surveys will be undertaken within the Site in accordance with the relevant guidance (Scottish Government, Scottish Natural Heritage, SEPA (2017) Peatland Survey⁷⁰. Guidance on Developments on Peatland in the absence of specific English guidance) across the footprint of proposed infrastructure and a 50 m micro-siting allowance to inform refinement of the layout in order to avoid of peat (probe depths >0.3 m) where possible.
- 11.3.38 Further detailed peat probing will be undertaken across the footprint of the Proposed Development's infrastructure (including a micro-siting allowance) in accordance with the 2017 peatland survey guidance, in the absence of specific English guidance. The interpolated peat depth model will be used to optimise the layout to avoid peat so far as possible, with particular emphasis on avoiding peat greater than 1 m deep and unmodified peat.

Hydrology

- 11.3.39 A hydrological walkover survey of the Site will be undertaken following design freeze, covering the entire infrastructure layout. This will include verification and documentation of all proposed and existing watercourse crossings, identification of springs, wetlands and other water features, where infrastructure encroaches buffers or flood risk zones, water quality field measurements, and an overview of geomorphology and land cover of relevance to hydrology and soils. Further flood risk assessment may be required for watercourse crossings and infrastructure if located within EA flood risk zones.

Private Water Supply

- 11.3.40 Private water supply visits would also be undertaken, if required, following engagement with the private water supply

owners to verify the source location, the conveyance infrastructure, use, treatment, and any other pertinent details.

11.4 SCOPING DETERMINATION OF POTENTIAL LIKELY SIGNIFICANT EFFECTS

11.4.1 The construction, operation and maintenance and decommissioning of the Proposed Development have the potential to result in the following impacts:

- Changes in surface water or groundwater quality due to sediment release or accidental spills and leaks of oils, fuels and other chemicals stored or used on-site;
- Alteration of drainage patterns, watercourse flows, sediment loading and fluvial geomorphology;
- Changes to the recharge and flow of shallow groundwater systems, including groundwater supporting groundwater-dependent terrestrial ecosystems (GWDTEs);
- Loss or disturbance of peat and carbon-rich soils through excavation, erosion or dewatering, including associated risks to peat stability;
- Effects on water users and water-dependent receptors, including PWS, fisheries and aquatic habitats; and
- Changes to flood risk at watercourse crossings, within the Site and downstream of the Site.
- Disturbance of contaminated soils during construction, with potential effects on water quality through the mobilisation of contaminants to surface water and groundwater receptors.

11.4.2 An outline Peat Management Plan (OPMP) will be developed and submitted in support of the Application, presenting the estimated volumes of peat to be excavated, the methodologies for excavation and management, and the strategy for storage, reuse and restoration, in accordance with relevant guidance. A separate annex on peat restoration will be included with the HMMP.

11.4.3 A Borrow Pit Assessment will be undertaken for proposed borrow pit locations and will be appended to the ES.

11.4.4 **Table 11.1** and **Table 11.2** present the scoping determination of potential likely significant effects for the Hydrology, Hydrogeology and Geology assessment and identifies the matters proposed to be scoped into or out of the EIA.

TABLE 11.1 HYDROLOGY, HYDROGEOLOGY, GEOLOGY AND PEAT SCOPING DETERMINATION OF POTENTIAL LSE DURING CONSTRUCTION AND DECOMMISSIONING

Receptor	Potential Impact Pathway	Mitigation	Additional Information	Scoping of Impact Pathways
Watercourses	Temporary changes to surface water quality, flows and fluvial geomorphology during construction and decommissioning, including through sediment release, accidental pollution and physical disturbance at watercourse crossings.	- Drainage management and implementation of SuDS. Existing access tracks and watercourse crossings will be utilised where technically feasible, and any new access tracks will be designed to minimise watercourse crossings. - Appropriate watercourse avoidance buffers will be incorporated through the iterative design process. - Implementation of a CEMP incorporating pollution prevention, emergency response, erosion and sediment control, and drainage management measures to protect watercourses.	Watercourses may support agricultural abstractions and other water-dependent receptors. The Little Ouse River has moderate ecological status under the WFD. Further assessment is required to identify relevant hydrological pathways and receptors.	Potential for significant impact, scoped in
Groundwater Dependent Terrestrial Ecosystems	Changes to groundwater quality, levels or flows during construction and decommissioning, with consequential effects on GWDTEs.	Avoidance of GWDTEs and their groundwater source zones, where present, through the iterative design of the Proposed Development.	The presence of permeable bedrock and superficial deposits indicates that GWDTEs may be present within the Site. Further survey work will be undertaken to confirm their presence and potential hydrological connectivity.	Potential for significant impact, scoped in
Public Water Supply	Effect on public water supply either by a change in volume or water quality due to construction and decommissioning activities.	Drainage management, pollution-prevention measures and implementation of SuDS.	A potential public water supply abstraction is located within 1 km of the Site. Further assessment is required to confirm its location, use and potential connectivity with the Proposed Development.	Potential for significant impact, scoped in
Flood Risk	Flood risk to Site users and temporary changes to flood flows or extents upstream or downstream of construction areas.	Avoidance of areas at greatest flood risk, drainage management and implementation of SuDS.	The Site is situated within flood zone 3. A Flood Risk Assessment will be prepared to assess flood risk to and from the Proposed Development.	Potential for significant impact, scoped in
Peat, Peat Soil and Peatland	Excavation, compaction, degradation or loss of peat and peaty soils during construction and decommissioning, including potential effects on peatland hydrology and habitats.	Avoidance of deeper peat where practicable and implementation of appropriate peat handling, storage, reinstatement and restoration measures through an outline Peat Management Plan (PMP).	Available mapping indicates that peaty soils may be present across much of the Site, although their condition is likely to have been modified by agricultural activity. Further peat survey work will confirm peat extent, depth and condition.	Potential for significant impact, scoped in

Receptor	Potential Impact Pathway	Mitigation	Additional Information	Scoping of Impact Pathways
Peat Slide	Ground disturbance could increase the risk of peat instability, with a peat slide potentially affecting downstream watercourses or other receptors.	Avoidance of peat if possible and specific mitigation during construction from Geotechnical Engineer.	The generally flat topography of the Site indicates limited potential for peat instability. Peat depth and the emerging design will be reviewed and reported in the ES to confirm the absence of a pathway for significant effects and support the proposed scoping out of peat instability impacts.	No indication of potential for significant impact, scoped out. However, if further baseline studies indicate that a potential peat-slide impact pathway is present, peat slide will be scoped back into the ES.
Designated Sites	Temporary changes to surface water quality or flows could affect the qualifying features of hydrologically connected designated sites. Construction activities could also physically affect designated geological features where works occur within or adjacent to them.	Avoidance of designated features where practicable, together with drainage management, pollution-prevention measures and implementation of SuDS.	One site is located within the Indicative Order Limits, with a further five sites identified within the 5 km Study Area. Further assessment is required to confirm the relevant qualifying features and identify any hydrological, hydrogeological or physical impact pathways.	Potential for significant impact, scoped in
UXO	Ground disturbance during construction and decommissioning could encounter unexploded ordnance, with potential risks to construction workers and infrastructure.	Completion of a preliminary UXO desk study and implementation of proportionate risk-management measures during intrusive works, where required.	Zetica UXO Risk Maps do not identify any areas of Moderate or High risk within the Study Area in relation to UXO derived from Second World War bombing.	No indication of potential for significant impact, scoped out.
Mines and Quarries	Potential effects on ground conditions and stability associated with former or active mining and quarrying.	Avoidance of identified ground hazards through design, where required.	No historic or active mines or quarries have been identified within the Site based on the information reviewed at this stage.	No potential for significant impact, scoped out
Contaminated Land	Disturbance or mobilisation of existing contamination during construction and decommissioning, with potential effects on human health, soils, surface water and groundwater.	Avoidance of identified contamination where practicable and implementation of appropriate soil handling, pollution-prevention and remediation measures, where required.	The contaminated land Study Area comprises land within the Indicative Order Limits, reflecting the localised nature of potential direct effects associated with ground disturbance. The preliminary baseline indicates limited potential for contaminated land, although further assessment will consider historical land uses and credible source-pathway-receptor linkages	Potential for significant effects; scoped in.
Hydrology, Hydrogeology, Geology and	Construction and decommissioning activities associated with the Proposed Development in	Drainage management, pollution prevention measures, SuDS and peat management measures	Potential cumulative effects will be considered where there is spatial and temporal overlap with other	Potential for significant impact, scoped in

Receptor	Potential Impact Pathway	Mitigation	Additional Information	Scoping of Impact Pathways
Peatland Receptors (Cumulative)	combination with other developments may result in cumulative effects on surface water quality, groundwater quality and flows, flood risk, peat resources and geological receptors where shared pathways or receptors occur		developments and a plausible impact pathway to a shared receptor. The cumulative effects assessment methodology will be presented in Chapter 18 .	

TABLE 11.2 HYDROLOGY, HYDROGEOLOGY, GEOLOGY AND PEAT SCOPING DETERMINATION OF POTENTIAL LSE DURING OPERATION

Receptor	Potential Impact Pathway	Mitigation	Additional Information	Scoping of Impact Pathways
Watercourses	Changes to surface water quality, flows or fluvial geomorphology as a result of the installed infrastructure and reinstatement.	Operational drainage management and implementation and maintenance of SuDS.	Watercourses may support agricultural abstractions and other water-dependent receptors. The Little Ouse River has moderate ecological status under the WFD. Further assessment is required to identify relevant hydrological pathways and receptors.	Potential for significant impact, scoped in
Groundwater Dependent Terrestrial Ecosystems	Changes to the groundwater quantity, quality and morphology impacting GWDTEs due to installed infrastructure.	Monitoring of any potentially effected GWDTE’s to determine required mitigation.	The presence and potential groundwater connectivity of GWDTEs will be confirmed through further assessment.	Potential for significant impact, scoped in
Public Water Supply	Effect on public water supply either by a change in volume or water quality from the installed infrastructure.	Drainage management and SuDS implementation.	A potential public water supply abstraction is located within 1 km of the Site. Further assessment is required to confirm its location, use and potential connectivity with the Proposed Development.	Potential for significant impact, scoped in, subject to confirmation of connectivity.
Flood Risk	Hardstanding, access tracks and other infrastructure could alter runoff rates, drainage patterns and flood risk during operation.	Drainage design and implementation and maintenance of SuDS.	The Site is situated within flood zone 3. The Flood Risk Assessment will consider flood risk to and from the operational Proposed Development, taking account of the reinstatement of temporary construction areas.	Potential for significant impact, scoped in
Peat, Peat Soil and Peatland	Limited impact during operation and maintenance provided reinstatement and restoration measures are effective.	Monitoring to confirm that peat reinstatement and restoration measures are successful or if additional measures are required.	The effectiveness of peat reinstatement and restoration will depend on Site-specific ground and hydrological conditions and the final design of the Proposed Development.	Potential for significant impact, scoped in

Receptor	Potential Impact Pathway	Mitigation	Additional Information	Scoping of Impact Pathways
Peat Slide	Installed infrastructure or altered drainage could affect peat stability, with a peat slide potentially causing downstream pollution or physical effects.	No mitigation proposed.	The generally flat topography of the Site indicates limited potential for peat instability during operation.	No potential for significant impact, scoped out
Designated Sites	Operational changes to surface water quality, flows or drainage pathways could affect the qualifying features of hydrologically connected designated sites.	Operational drainage management and implementation and maintenance of SuDS, together with habitat management measures where required.	One site is located within the Indicative Order Limits, with a further five sites identified within the 5 km Study Area. Further assessment is required to confirm the relevant qualifying features and identify any operational impact pathways.	Potential for significant impact, scoped in
UXO	Encounter with UXO during maintenance activities involving localised ground disturbance.	Implementation of appropriate UXO risk-management measures during intrusive maintenance works, where required.	Ground disturbance would be greatest during construction. Operational activities would involve limited and localised ground disturbance, principally associated with occasional intrusive maintenance works. Any residual UXO risk would be managed through appropriate operational procedures informed by the preliminary UXO desk study.	No potential for significant impact, scoped out
Mines and Quarries	Potential effects on ground stability associated with installed infrastructure located over or close to former mining or quarrying features.	Avoidance of identified ground hazards through design, where required.	No historic or active mines or quarries have been identified within the Site based on the information reviewed at this stage.	No potential for significant impact, scoped out
Land Contamination	Accidental leaks or spills of fuels, oils, transformer fluids or other potentially contaminative substances associated with the operation and maintenance of the Proposed Development, including the BESS and on-site substation, could create or modify pollutant linkages affecting soils, groundwater or surface water receptors.	An OEMP will set out measures for the appropriate storage, handling and use of potentially contaminative substances.	The potential for land contamination during operation and maintenance would be limited to isolated accidental events. With the implementation of the measures secured through the OEMP, credible pollutant linkages would be prevented or appropriately controlled. Operational effects on land contamination receptors are therefore not anticipated to be significant.	No potential for significant effect, scoped out
Hydrology, Hydrogeology, Geology and Peatland Receptors (Cumulative)	The operation and maintenance of the Proposed Development in combination with other developments may result in cumulative effects on surface water quality, groundwater quality and flows, flood risk, peat resources and geological receptors where shared pathways or receptors occur.	Application and maintenance of operational drainage measures, SuDS and peat management measures, where relevant.	Potential cumulative effects will be considered where operational effects from the Proposed Development overlap with those from other developments and affect the same receptors. The cumulative effects assessment	Potential for significant cumulative effects; scoped in.

Receptor	Potential Impact Pathway	Mitigation	Additional Information	Scoping of Impact Pathways
			methodology will be presented in Chapter 18.	

11.5 ASSUMPTIONS AND LIMITATIONS

- 11.5.1 Floods are natural occurrences and they pose risks which can be exacerbated by construction of temporary and permanent structures within floodplains. With regards to flood risk specifically, the assessment is concerned with the risk to people and property from nearby fluvial watercourses, as well as flooding from other sources including surface water (pluvial) flooding, groundwater flooding, foul water and flooding from artificial sources.
- 11.5.2 The scoping assessment focuses on desk-based studies for public and private water supply information.
- 11.5.3 Peat depth probing will be undertaken at required densities and verified by representative coring however peat depth models will out of necessity interpolate across areas where probing frequencies will be up to 100 m apart. As the Site has been extensively worked for agriculture it is possible that probing will not be able to penetrate this layer to ascertain peat depths and alternative methods may also be required in places.
- 11.5.4 Baseline conditions such as surface water flow and visible groundwater emergence are subject to seasonal variation and may not be fully captured during proposed site visits. While observations will be made under varying weather conditions, temporary or ephemeral features may be undetected.

12. CLIMATE CHANGE AND GREENHOUSE GASES

12.1 INTRODUCTION

- 12.1.1 The EIA will include a Climate Change and Greenhouse Gas (GHG) Assessment to identify and evaluate the likely significant effects of the Proposed Development in relation to greenhouse gas emissions, climate change resilience and climate-related risks during construction, operation and maintenance and decommissioning. The assessment will be undertaken in accordance with relevant Climate Change and GHG assessment guidance and will consider the Proposed Development's contribution and vulnerability to climate change.
- 12.1.2 The Climate Change and GHG Assessment will establish the baseline climate change and GHG emissions context, identify relevant climate-related receptors and assess the nature and significance of effects arising from the Proposed Development.
- 12.1.3 The Climate Change and GHG assessment will comprise three interrelated assessment components:
- Greenhouse Gas (GHG) assessment;
 - Climate Change Risk assessment (CCRA); and
 - In-Combination Climate Impacts (ICCI) assessment.
- 12.1.4 A climate change and GHG review has been completed to inform the climate change and GHG emissions baseline and the proposed scope of the ES. The review has considered three assessment components: a GHG Assessment, a CCRA and an ICCI Assessment. These components have been informed by available climate data, future climate projections and consideration of the potential contribution and vulnerability of the Proposed Development to climate change.
- 12.1.5 The review has identified climate change and GHG-related matters that may require further consideration within the ES. As a result, the assessment will focus on greenhouse gas emissions and savings associated with the construction, operation and maintenance and decommissioning of the Proposed Development, together with the resilience of the Proposed

Development to future climate change. Climate-related effects that are more appropriately addressed within other technical assessments will be considered within the relevant ES chapters.

- 12.1.6 The findings of the review have informed the proposed scope of the Climate Change and GHG emissions assessment presented in this chapter and will continue to inform the iterative design process and preparation of the ES.
- 12.1.7 The ICCI Assessment will consider the interaction of projected climate change with the effects identified within relevant environmental topic assessments. Inter-project and intra-project cumulative effects will be considered where relevant in accordance with the methodology set out in **Chapter 18**.
- 12.1.8 The proposed Climate Change and GHG Assessment methodology is provided in **Appendix C**, with the relevant legislation, policy and guidance set out in **Appendix B**.

12.2 STUDY AREA

- 12.2.1 For the GHG assessment, there is no defined geographical Study Area. Greenhouse gas emissions contribute to climate change at a global scale and, as such, their effects are not geographically constrained. The assessment will therefore consider the contribution of the Proposed Development's lifecycle greenhouse gas emissions to the global atmosphere, taking account of emissions and removals associated with the construction, operation, maintenance and decommissioning of the Proposed Development. This will include, where relevant, emissions arising from the manufacture and transport of materials, construction activities, operational maintenance, land-use change and decommissioning activities, together with the renewable electricity generated by the Proposed Development and the extent to which this may displace emissions from alternative sources of electricity generation.
- 12.2.2 The CCRA will focus on the potential effects of future climate change on the Proposed Development, including infrastructure, workers and environmental receptors. The Study Area for the CCRA is therefore defined by the Indicative Order Limits,

reflecting the fact that the assessment considers the vulnerability and resilience of the Proposed Development to future climatic conditions.

- 12.2.3 The ICCI Assessment will consider how future climate change may influence the environmental effects identified within other EIA technical assessments. Accordingly, the Study Areas applied within the ICCI Assessment will correspond to those defined for the relevant environmental topics.

12.3 BASELINE

DATA SOURCES

- 12.3.1 The preliminary Climate Change and Greenhouse Gases baseline has been informed by a review of the following data sources:
- UK local authority and regional greenhouse gas emissions statistics published by the Department for Energy Security and Net Zero (DESNZ)⁷¹;
 - Met Office long-term climate averages and historic climate observations for East Cambridgeshire and Fenland;
 - Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report (AR6) climate projections and Shared Socioeconomic Pathways (SSPs);
 - UK Climate Projections (UKCP18)⁷²;
 - Climate Change Committee (CCC) reports and advice, including the Sixth Carbon Budget⁷³ and subsequent progress reports⁷⁴;
 - The Climate Change Act 2008 (as amended)⁷; and
 - Scottish Government (2025) Carbon Calculator for Wind Farms⁷⁵.
- 12.3.2 Additional information will be obtained, where necessary, through consultation with relevant stakeholders and review of emerging climate policy, guidance and scientific evidence available at the time the ES is prepared.

GREENHOUSE GAS ASSESSMENT

- 12.3.3 The baseline for the GHG Assessment will assume a 'do nothing' scenario in which the Proposed Development is not constructed and the electricity system instead reflects the average UK grid

mix. Any greenhouse gas emissions arising from the construction, operation and maintenance and decommissioning of the Proposed Development will therefore be assessed relative to this baseline, rather than on the basis that the Proposed Development would directly displace electricity generation from any specific fossil fuel technology.

- 12.3.4 The assessment will therefore consider the net change in greenhouse gas emissions resulting from the Proposed Development relative to an appropriate UK grid baseline and will evaluate those emissions within the context of the carbon budgets established under the Climate Change Act 2008 (as amended)⁷⁶, the UK's net zero target and other relevant climate change commitments. Given the global nature of climate change and greenhouse gas emissions, the global atmosphere is considered to be a receptor of high sensitivity.

CLIMATE CHANGE RISK ASSESSMENT

- 12.3.5 The existing climate baseline has been established using historic climate data for the East Cambridgeshire and Fenland administrative areas, derived from UK Met Office records spanning the period 1970 to 2020. The baseline reflects the generally warm, dry and relatively calm climatic conditions experienced across south-east England.

TABLE 12.1 EXISTING CLIMATE BASELINE CONDITIONS

Climate Metric	Existing Baseline
Maximum daily temperature (°C)	32.41
Number of days >35°C (days)	0
Maximum 1-day rainfall (mm)	45.04
Forest Fire Danger Index (days)	0
Consecutive Dry Days (days)	27
WRI Water Stress Index	0.17

- 12.3.6 Future baseline conditions have been informed by the Intergovernmental Panel on Climate Change (IPCC) Sixth

Assessment Report⁷⁷ and associated Shared Socioeconomic Pathways (SSPs). For the purposes of the resilience assessment, SSP5-8.5 has been adopted as a reasonable worst-case scenario, representing a high greenhouse gas emissions future characterised by continued reliance on fossil fuels and significant global warming.

- 12.3.7 Climate projections have been considered for the years 2030, 2050 and 2080, representing the likely climatic conditions experienced during the construction, operational and decommissioning phases of the Proposed Development.

TABLE 12.2 FUTURE CLIMATE BASELINE CONDITIONS (SSP5-8.5)

Climate Metric	2030	2050	2080
Maximum daily temperature (°C)	35.18	35.98	38.92
Number of days >35°C (days)	0.20	1.22	2.26
Maximum 1-day rainfall (mm)	48.89	48.97	50.00
Forest Fire Danger Index (days)	0	0	0
Consecutive Dry Days (days)	28.40	28.80	33.40
WRI Water Stress Index	0.20	0.25	0.31

- 12.3.8 The projections indicate an increase in extreme temperatures, periods of prolonged dry weather and water stress over the lifetime of the Proposed Development. More modest increases in extreme rainfall events are also projected. These changes have the potential to influence construction activities, operational performance, maintenance requirements and the condition of environmental receptors within the Site.
- 12.3.9 The infrastructure, workforce and environmental receptors associated with the Proposed Development are considered to be of high sensitivity to certain climate hazards and will therefore be assessed through the CCRA.

IN-COMBINATION CLIMATE IMPACTS ASSESSMENT

- 12.3.10 The baseline conditions for the ICCI Assessment are provided within the relevant technical chapters of this Scoping Report.

Future baseline conditions will similarly be informed by the respective topic assessments and will consider how projected climate change may alter receptor sensitivity, exposure and vulnerability over the lifetime of the Proposed Development.

- 12.3.11 The sensitivity of receptors considered within the ICCI Assessment will vary depending on the individual environmental topic and receptor under consideration. The assessment will therefore draw upon the receptor sensitivity classifications adopted within the corresponding technical assessments.

12.4 SCOPING DETERMINATION OF POTENTIAL LIKELY SIGNIFICANT EFFECTS

- 12.4.1 **Table 12.3** and **Table 12.4** present the scoping determination of potential LSE for the Climate Change and GHG assessment during the construction, decommissioning and operational phases, and identify those matters proposed to be scoped into or out of the EIA.

TABLE 12.3 CLIMATE CHANGE AND GHG SCOPING DETERMINATION OF POTENTIAL LSE DURING CONSTRUCTION AND DECOMMISSIONING

Receptor	Sensitivity	Potential Impact Pathway	Mitigation	Additional Information	Scoping of Impact Pathways
GHG Assessment					
Global Atmosphere	High	GHG emissions arising from the manufacture and transport of materials and components, construction plant and vehicles, land-use change, energy and fuel consumption, waste management, and decommissioning activities.	- Design measures to avoid and reduce embodied carbon and material use, where reasonably practicable. - Efficient use of plant, materials and resources. - Preparation and implementation of a CEMP. - Preparation and implementation of a DEMP.	Potential carbon emissions associated with turbine and infrastructure manufacture, land use change, fuel consumption, plant use, waste disposal and decommissioning activities.	Potential for significant impact, scoped in
Global atmosphere and climate-sensitive receptors (cumulative)	High	GHG emissions and climate-related effects arising from the Proposed Development in combination with emissions or effects associated with other developments.	N/A	The GHG assessment inherently considers the contribution of the Proposed Development's emissions to global atmospheric GHG concentrations. As GHG emissions are additive at a global scale irrespective of source, a separate cumulative effects assessment would not provide additional meaningful information. Potential cumulative climate change effects on the Proposed Development and receptors will instead be considered through CCRA, where relevant.	No potential for significant impact, scoped out
ICCI Assessment					
The Proposed Development, construction workforce and environmental receptors	High	Changes in the frequency or severity of climate hazards could affect construction and decommissioning activities, worker health and safety, temporary infrastructure, pollution-control measures and environmental receptors.	- Climate resilience measures incorporated into construction planning. - Severe weather response procedures. - Emergency response arrangements. - Environmental management measures incorporated into the CEMP and DEMP.	Construction and decommissioning activities may be exposed to extreme heat, rainfall, flooding, drought, storms and high winds. These matters will be considered where relevant within the CCRA and applicable technical assessments.	Potential for significant impact, scoped in

TABLE 12.4 CLIMATE CHANGE AND GHG SCOPING DETERMINATION OF POTENTIAL LSE DURING OPERATION

Receptor	Sensitivity	Potential Impact Pathway	Mitigation	Additional Information	Scoping of Impact Pathways
GHG Assessment					
Global Atmosphere	High	GHG emissions arising from the operation, inspection, maintenance and component replacement of the Proposed Development, including operational energy and fuel use and waste management, balanced against the avoided GHG emissions associated with generating and exporting renewable electricity in place of conventional non-renewable electricity generation.	- Design and operational measures to minimise energy, material and fuel consumption, where reasonably practicable. - No mitigation is proposed in relation to the beneficial effects of renewable electricity generation.	Operation and maintenance would generate GHG emissions over the lifetime of the Proposed Development. These emissions, together with avoided emissions associated with renewable electricity generation, will be quantified through the lifecycle GHG assessment to determine the net GHG balance and indicative carbon payback period. The use of the electricity generated would not constitute a separate material downstream source of GHG emissions and will therefore be reflected within the net assessment rather than assessed as a standalone pathway.	Potential for significant impact, scoped in. The net lifecycle GHG effect is scoped in. Downstream emissions from the use of generated electricity are scoped out as a separate impact pathway.
CCRA Assessment					
The Proposed Development, operational workforce and users	High	Higher temperatures and more frequent or severe heatwaves could affect infrastructure performance, battery systems, electrical equipment, worker health and safety, and maintenance requirements.	- Climate-resilient design. - Equipment cooling and temperature-management systems. Operational monitoring, maintenance and emergency-response procedures Identified through the CEMP and Battery Safety Management Plan (BSMP)	Projected increases in maximum temperatures may affect the performance and resilience of infrastructure over the operational lifetime.	Potential for significant impact, scoped in
The Proposed Development, operational workforce and environmental receptors	High	Changes in precipitation, extreme rainfall, flooding, drought and water stress could affect infrastructure, access, drainage, ground conditions, maintenance activities	Climate-resilient drainage and flood-risk design.	Changes in rainfall patterns and water stress may affect the Proposed Development and environmental receptors. Flood-related pathways will also be addressed within the ES hydrology and hydrogeology assessment.	Potential for significant impact, scoped in

Receptor	Sensitivity	Potential Impact Pathway	Mitigation	Additional Information	Scoping of Impact Pathways
		and surrounding environmental receptors.			
The Proposed Development, operational workforce and aviation receptors	High	Changes in wind speed, extreme gusts and storms could affect turbine operation, structural integrity, access, maintenance and aviation safety.	Design Considerations.	Changes in wind speed, including more frequent and extreme storms or gusts, may affect the efficiency and integrity of the Proposed Development.	Potential for significant impact, scoped in
The Proposed Development	High	Sea-level rise or changes in sea temperature could affect the Proposed Development.	No mitigation proposed.	The Proposed Development has no marine components. No direct pathway has been identified for effects associated with sea-temperature change. Potential inland flood consequences influenced by sea-level rise will be considered, where relevant, within the flood-risk assessment rather than as a standalone climate hazard.	No potential for significant impact, scoped out
The Proposed Development and environmental receptors - wildfire	High	Wildfire could damage infrastructure, affect operational safety or result in secondary environmental effects.	- Design Considerations. - Preparation and implementation of an OEMP and BSMP.	Although the climate projections currently indicate no material increase in the modelled Forest Fire Danger Index, the exceptionally hot and dry conditions experienced across England during summer 2026 demonstrated that wildfire risk may arise during prolonged periods of high temperature, drought and dry vegetation. Given the potential for wildfire to damage infrastructure, affect worker and public safety, disrupt operation of the Proposed Development and result in secondary effects on habitats, soils and water receptors, likely significant effects cannot be ruled out at the scoping stage. Wildfire risk will therefore be assessed through the Climate Change Risk Assessment, informed by relevant baseline evidence, future climate projections and the evolving design of the Proposed Development. Appropriate resilience, fire-prevention, vegetation-management and emergency-response measures will be identified where required.	Potential for significant impact, scoped in

Receptor	Sensitivity	Potential Impact Pathway	Mitigation	Additional Information	Scoping of Impact Pathways
ICCI Assessment					
Environmental receptors assessed within other EIA topics	Low-High	Future climate change could alter receptor sensitivity or the magnitude and likelihood of environmental effects associated with the Proposed Development.	Design Considerations.	In-combination climate change impacts will be assessed within the relevant EIA topic chapters, where the interaction between projected climate change and the topic-specific effects of the Proposed Development will be considered. The Climate Change and GHG Emissions ES chapter will provide a summary table drawing together the relevant effects identified and assessed across those topic chapters, rather than duplicating the detailed assessments.	Summary table only. Relevant climate-related effects will be drawn together from the topic-specific EIA chapters within the Climate Change and GHG Emissions ES chapter. Scoped in.

12.5 ASSUMPTIONS AND LIMITATIONS

ASSUMPTIONS

- 12.5.1 The Climate Change and GHG scoping decisions have been informed though using the use of available data and guidance at the time of writing and adopts a precautionary approach throughout. For the CCRA, it is assumed that the projected climate change hazards and trends identified through the selected climate scenarios provide an appropriate representation of future climatic conditions over the lifetime of the Proposed Development. To ensure a robust assessment, the CCRA will be based on a reasonable worst-case climate change scenario.
- 12.5.2 For the GHG Assessment, it is assumed that the Scottish Government carbon calculator for wind farm developments provides an appropriate and proportionate tool for estimating the carbon costs and carbon savings associated with the Proposed Development. The carbon calculator will therefore form the primary basis of the assessment. Where material emission sources are not adequately represented within the calculator, additional quantification of emissions will be undertaken as necessary to ensure a complete assessment.
- 12.5.3 The Climate Change and GHG emissions chapter of the ES will include an ICCI summary, drawing together the relevant climate-related effects identified and assessed within the other EIA topic chapters. This approach will provide a consolidated overview of the ICCI findings while avoiding duplication of the detailed assessments presented within the relevant topic chapters.
- 12.5.4 The GHG Assessment will assess the contribution of the Proposed Development against current UK climate policy, carbon budgets and statutory emissions reduction targets. It is assumed that the overall policy framework and trajectory towards net zero emissions will remain broadly applicable throughout the lifetime of the Proposed Development. To maintain a precautionary approach, the assessment will also consider the Seventh Carbon Budget⁷⁸, which represents the most stringent currently proposed future GHG emissions limit.

LIMITATIONS

- 12.5.5 The assessment of future climate risks is inherently uncertain because it relies on climate projections, emissions scenarios and modelling assumptions that may change as scientific understanding develops. Although a precautionary worst-case approach will be adopted, actual future climatic conditions may differ from those projected.
- 12.5.6 The GHG Assessment will be dependent on currently available information regarding the design, construction methods, material quantities, operational characteristics and decommissioning assumptions for the Proposed Development. As the design evolves, some inputs to the assessment may be refined; however, this is not anticipated to materially affect the scoping conclusions.
- 12.5.7 The carbon calculator methodology provides a recognised and proportionate approach for assessing wind farm carbon balances but may not capture all project-specific emission sources in detail. Where limitations in the methodology are identified, supplementary calculations will be undertaken to ensure that significant sources of emissions are appropriately considered.

13. TRAFFIC AND TRANSPORT

13.1 INTRODUCTION

- 13.1.1 This Chapter has been prepared by Arcitrans on behalf of the Applicant. The EIA will include a Traffic and Transport Assessment to identify and evaluate the likely significant effects of the Proposed Development on the local and strategic transport network during the construction, operation and maintenance and decommissioning phases. The assessment will be undertaken in accordance with relevant national planning policy and current good practice guidance, including the Institute of Sustainability and Environmental Professionals (formerly the Institute of Environmental Management and Assessment (IEMA)) Guidelines for Environmental Assessment of Road Traffic and other relevant transport assessment guidance (further detailed in **Appendix B** and **Appendix C**). The assessment will consider effects on transport receptors within the defined Study Area, including road users, local communities, non-motorised users and transport infrastructure.
- 13.1.2 The Traffic and Transport Assessment will establish the baseline transport conditions, identify sensitive receptors and assess the nature and significance of effects arising from the Proposed Development. The assessment will consider effects associated with the movement of construction workers, Heavy Goods Vehicles (HGVs), abnormal indivisible loads (AILs), construction materials, plant and equipment, together with operational and maintenance traffic. Effects relating to changes in traffic flows and composition, road safety, driver delay, severance, non-motorised user amenity, fear and intimidation, and access arrangements will be assessed. Traffic surveys, transport modelling, swept path analysis and access design assessments will be undertaken where appropriate to inform the assessment.
- 13.1.3 An initial review of the proposed construction access strategy has been completed, with further details provided in Section 13.3. Preliminary swept path analysis of the proposed AIL transport route (**Figure 13.1**) has identified two locations where highway improvements and/or temporary oversail of highway

land may be required to facilitate the delivery of larger turbine components. These areas are shown in detail on **Figure 2.3**. The extent and nature of any required highway works will continue to be refined through the design process in consultation with the relevant highway authorities and will be described further within the ES. The suitability of the proposed Site access arrangements will also be assessed, with access currently anticipated to be provided via a new or upgraded priority junction from the A1101. The final access design, together with any associated highway improvement works, will be developed through the iterative design process and informed by traffic surveys, engineering requirements and consultation with National Highways and the relevant local highway authorities.

- 13.1.4 The findings of the baseline review and ongoing transport design process have informed the preliminary scoping conclusions presented in this chapter and will continue to inform the evolution of the Proposed Development and preparation of the ES. A detailed assessment of construction traffic, AIL deliveries, highway improvement requirements and Site access arrangements will be undertaken to inform the assessment. Inter-project and intra-project cumulative effects will be considered where relevant in accordance with the methodology set out in **Chapter 18**.
- 13.1.5 The proposed Traffic and Transport Assessment methodology is provided in **Appendix C**, with the relevant legislation, policy and guidance set out in **Appendix B**.

13.2 STUDY AREA

- 13.2.1 The Traffic and Transport Study Area is shown on **Figure 13.1**.
- 13.2.2 The Study Area has been defined with reference to the likely routes that would be used by construction traffic associated with the Proposed Development, including staff vehicles, Heavy Goods Vehicles (HGVs), abnormal indivisible loads (AILs) and other construction-related traffic. The Study Area has been informed by a review of the anticipated origins of construction materials and personnel, the proposed Site access strategy,

Ordnance Survey mapping, and the location of receptors that may experience effects arising from changes in traffic conditions.

- 13.2.3 At this stage, it is anticipated that the principal Site access would be provided via a new or upgraded priority junction from the A1101. AIL deliveries associated with turbine components are currently assumed to arrive via the Port of East Anglia (Great Yarmouth) before travelling to the Site via the A47, A11, A14, A10 and A1101. The final access strategy and construction traffic routes will be confirmed through the iterative design process and in consultation with the relevant highway authorities.
- 13.2.4 The preliminary highway network proposed for assessment comprises those links considered likely to experience material changes in traffic flows as a result of the Proposed Development. These links are currently anticipated to include the B1382, A1101, A10, A14, A11 and A47. The final extent of the Study Area will be agreed with the relevant highway authorities and National Highways as the design and access strategy are refined.
- 13.2.5 The Study Area also includes receptors that may be affected by changes in traffic conditions, including motorised road users, non-motorised users (NMUs), PRoW, National Cycle Network (NCN) routes, local communities and sensitive residential frontages located along roads likely to be used by construction traffic. Road safety considerations, including locations with elevated collision records, and the proposed Site access arrangements also form part of the assessment Study Area.

13.3 BASELINE DATA SOURCES

- 13.3.1 The following data sources have informed the preparation of this chapter and will be used to inform the Traffic and Transport ES:
- Ordnance Survey (OS) mapping and aerial imagery, including Google Earth, to establish the local highway network, surrounding land uses and potential access routes;

- Department for Transport (DfT) road traffic count data, including Annual Average Daily Traffic (AADT) information, to characterise baseline traffic conditions on the study network;
- Norfolk County Council and Suffolk County Council highway information, as available, including details of the local road network, traffic regulation orders and public rights of way;
- PRoW mapping and information to identify walking, wheeling and horse-riding routes within the Study Area;
- National Cycle Network (NCN) mapping published by Sustrans to identify strategic cycling routes and active travel connections;
- National Highways and local highway authority data, where available, relating to road safety and network operation; and
- Personal Injury Collision (PIC) data obtained from the relevant highway authorities to establish the baseline road safety record within the Study Area.

DESK BASED

Highway Network

- 13.3.2 The Site is located within a predominantly rural area characterised by a network of local roads connecting settlements including Southery, Feltwell, Hockwold cum Wilton, Lakenheath, Beck Row, Mildenhall, Isleham, Soham, Ely, Prickwillow and Littleport. The surrounding highway network comprises a combination of local roads serving agricultural land and rural communities, together with strategic routes that provide wider connectivity across Cambridgeshire, Norfolk and Suffolk.
- 13.3.3 The principal roads within the Study Area are identified in paragraph 13.2.4 and **Figure 13.1**. These routes provide connections between the Site, surrounding settlements and the wider strategic highway network. The proposed access routes are primarily located on the A-road network, which carries the majority of traffic movements within the Study Area and experiences higher traffic volumes than the surrounding rural road network.

Motorised Users

- 13.3.4 Motorised users of the Study Area include private vehicle drivers, commercial vehicle operators, public transport users and agricultural traffic. Traffic conditions are generally characteristic of a rural area, with traffic movements associated with local communities, agricultural activities and travel between settlements. The strategic road network accommodates higher traffic volumes and provides connections to the wider region.

Non-Motorised Users

- 13.3.5 Non-motorised users comprise pedestrians, cyclists, equestrians and other vulnerable road users using the local highway network, PRow and informal recreational routes. Much of the local road network is rural in character, with limited footway provision, low levels of street lighting and generally low levels of pedestrian activity. The surrounding countryside supports recreational walking, cycling and horse riding, particularly along PRow and quieter local roads.

PRow and National Cycle Network

- 13.3.6 A number of PRow cross or adjoin the Site and provide connections between surrounding settlements and the wider countryside. These routes are used by walkers, cyclists and equestrians for both recreational and local access purposes. Several PRow also intersect the surrounding highway network within the Study Area.
- 13.3.7 National Cycle Network routes are present within the wider area surrounding the Site and provide recreational and utility cycling opportunities. These routes form part of the wider network of recreational receptors that may be sensitive to changes in traffic conditions and road-user amenity.

Communities and Sensitive Receptors

- 13.3.8 Sensitive residential receptors occur within settlements and along road frontages located throughout the Study Area. Settlements in proximity to the Site include Southery, Feltwell, Hockwold cum Wilton, Lakenheath, Beck Row, Mildenhall,

Isleham, Soham, Ely, Prickwillow and Littleport. Residents within these communities may be sensitive to changes in traffic conditions, particularly where roads pass through settled areas.

Road Safety

- 13.3.9 The road safety baseline will be established using the most recent available five-year Personal Injury Accident (PIA) dataset for the Study Area highway network. Consultation will be undertaken with the relevant highway authorities to identify any locations with elevated collision rates, known road safety concerns or planned highway improvement schemes that may be relevant to the assessment.

FUTURE BASELINE

- 13.3.10 In the absence of the Proposed Development, the overall function and character of the highway network are anticipated to remain broadly consistent with existing conditions. Changes to traffic conditions are expected to arise primarily from background traffic growth, planned development and ongoing agricultural, commercial and residential activity within the wider area.
- 13.3.11 The receptors described above are preliminary and have been identified based on the current understanding of the Proposed Development and likely construction traffic routes. As the design evolves and the Site layout, access arrangements and transport routes are refined, the Study Area and receptors will be reviewed and confirmed within the ES. Receptor sensitivities and assessment criteria will be established in accordance with relevant industry guidance and agreed, where appropriate, through consultation with the relevant highway authorities.

FIELD SURVEY

- 13.3.12 Traffic, transport and active travel surveys undertaken as required to inform the assessment, including traffic counts, routing studies and junction observations.

13.4 SCOPING DETERMINATION OF POTENTIAL LIKELY SIGNIFICANT EFFECTS

13.4.1 **Table 13.1** and

13.4.2 **Table 13.2** present the scoping determination of potential LSE for the Traffic and Transport assessment during the construction, decommissioning and operational phases, and identify those matters proposed to be scoped into or out of the EIA.

13.4.3 Given the nature of the Proposed Development, the majority of potential traffic and transport effects are expected to arise during construction, when traffic generation would be at its greatest. Operational traffic is anticipated to be limited to periodic maintenance and servicing visits, generating a small number of light vehicle movements across the local highway network. Traffic volumes of this scale are not expected to exceed the IEMA screening thresholds for detailed assessment on any link within the Study Area. Operational traffic effects are therefore proposed to be scoped out of the assessment. The ES will confirm the anticipated operational vehicle numbers and present the screening assessment to substantiate this position.

TABLE 13.1 TRAFFIC AND TRANSPORT SCOPING DETERMINATION OF POTENTIAL LSE DURING CONSTRUCTION AND DECOMMISSIONING

Receptor	Potential Impact Pathway	Mitigation	Additional Information	Scoping of Impact Pathways
All road users, local communities and residents	Fear and intimidation arising from increases in traffic flows, HGV movements and changes in traffic composition during construction.	- Preparation and implementation of a Construction Traffic Management Plan (CTMP), Abnormal Load Route Assessment (ALRA) and Transport Assessment. - Consideration of construction haul road options and the use of on-site borrow pits, where practicable, to reduce construction traffic generation. Additional measures would be implemented, where required.	Construction traffic may increase perceptions of danger and reduce user comfort for road users and nearby communities, particularly on rural roads where HGVs form a relatively small proportion of existing traffic flows.	Potential for significant impact, scoped in
Affected highway network, all road users, local communities and residents	Effects associated with the movement of abnormal indivisible loads (AILs), including temporary disruption, highway constraints and the requirement for highway improvement works or oversail.	- Completion of an ALRA to confirm route suitability and identify any required off-site highway works. - CTMP measures would include defined delivery routes, timing restrictions, escort vehicles, stakeholder notification and accommodation works where required.	An initial swept path assessment has identified locations where highway improvements and/or temporary oversail may be required to facilitate delivery of turbine components. Further route refinement and consultation will be undertaken as the design develops.	Potential for significant impact, scoped in
Non-motorised users (pedestrians, cyclists and equestrians)	Reduction in non-motorised user amenity arising from increased traffic flows, HGV movements and changes in traffic composition during construction.	CTMP, ALRA and Transport Assessment.	Construction traffic may adversely affect the amenity of pedestrians, cyclists and equestrians through increased noise, vehicle movements, perceived risk and reduced enjoyment of routes.	Potential for significant impact, scoped in
Non-motorised users (pedestrians, cyclists and equestrians)	Delay to non-motorised users at road crossings and along routes affected by construction traffic.	CTMP measures including traffic management, crossing arrangements, route management and communication with users.	Increased traffic movements may result in delays to pedestrians, cyclists and equestrians, particularly where routes intersect construction traffic corridors.	Potential for significant impact, scoped in
All road users and pedestrians	Changes in road user and pedestrian safety associated with additional construction traffic, HGVs and AIL movements.	CTMP, ALRA and Transport Assessment.	Construction traffic may alter road safety conditions through increased vehicle movements and changes in traffic composition. The assessment will consider baseline collision data and highway characteristics.	Potential for significant impact, scoped in
Road users (drivers and passengers)	Driver and passenger delay arising from additional construction traffic using the local and strategic highway network.	CTMP, ALRA and Transport Assessment.	Construction traffic may result in temporary delays on sections of the highway network used by construction vehicles. The assessment will consider route characteristics, traffic flows and professional judgement regarding network capacity.	Potential for significant impact, scoped in

Receptor	Potential Impact Pathway	Mitigation	Additional Information	Scoping of Impact Pathways
Local communities and residents	Community severance arising from increased traffic flows and HGV movements affecting access to local facilities, services and amenities.	CTMP, ALRA and Transport Assessment.	Increased traffic volumes may affect the ability of local communities to access facilities and services and may reduce connectivity between parts of settlements.	Potential for significant impact, scoped in
PRoW users	Temporary delays, diversions or restrictions affecting PRoW during construction activities.	CTMP measures including safe crossing points, clear signage, maintenance of access and minimisation of disruption to public routes.	Construction activities may require temporary diversions or crossing arrangements affecting accessibility and convenience for PRoW users.	Potential for significant impact, scoped in
Local receptors	Changes in air quality associated with construction traffic.	Assessed separately within the Air Quality chapter.	Traffic-related air quality effects will be considered as part of the Air Quality assessment and are not proposed to be assessed within the Traffic and Transport chapter.	No potential for significant impact, scoped out
Traffic and transport receptors (cumulative)	Combined effects arising from the Proposed Development together with other developments affecting the same highway network and receptors.	To be informed by the Traffic and Transport assessment and cumulative assessment findings.	Cumulative effects may arise where multiple developments generate traffic on the same sections of the highway network during overlapping construction periods. Inter-project and intra-project cumulative effects will be assessed in accordance with Chapter 18 .	Potential for significant impact, scoped in
Traffic and transport receptors during decommissioning	Traffic effects associated with decommissioning activities, including the removal of infrastructure and associated vehicle movements.	- Existing access arrangements and traffic management measures would be utilised where appropriate. - A Decommissioning Traffic Management Plan would be prepared if required.	Decommissioning traffic volumes are anticipated to be no greater than, and likely lower than, those associated with construction. Decommissioning would broadly comprise the reverse of construction activities but without the import of significant quantities of materials. As future baseline traffic conditions cannot meaningfully be predicted over the operational life of the Proposed Development, a detailed decommissioning traffic assessment is not considered proportionate.	No potential for significant impact, scoped out

TABLE 13.2 TRAFFIC AND TRANSPORT SCOPING DETERMINATION OF POTENTIAL LSE DURING OPERATION

Receptor	Potential Impact Pathway	Mitigation	Additional Information	Scoping of Impact Pathways
PRoW users	Changes to PRoW routes and journey lengths resulting	Design consideration and maintenance of appropriate public access arrangements.	Any changes to PRoW routes will be considered through the iterative design process and informed by the final layout of the Proposed	Potential for significant

Receptor	Potential Impact Pathway	Mitigation	Additional Information	Scoping of Impact Pathways
	from the operational layout of the Proposed Development.		Development. At this stage, it is not possible to conclude whether the Proposed Development will result in changes to existing PRow routes, accessibility or user experience. The ES will therefore consider the potential for temporary and permanent effects on PRow users, including changes in journey length, accessibility and connectivity, where relevant. Depending on the final design, operational access tracks, PRow enhancements and permissive path improvements may also provide opportunities to enhance recreational access and connectivity.	impact, scoped in
Highway network in the vicinity of the Site	Vehicle movements associated with routine operation, maintenance and monitoring of the Proposed Development.	No specific mitigation required beyond standard operational management procedures.	Operational traffic is expected to be limited to occasional maintenance, inspection and monitoring visits. Traffic levels would be substantially lower than those experienced during construction.	No potential for significant impact, scoped out
Traffic and transport receptors (cumulative)	Combined operational traffic effects arising from the Proposed Development together with other developments.	To be informed by the Traffic and Transport assessment and cumulative assessment findings.	Given the low volume of operational traffic anticipated, significant cumulative operational traffic effects are not expected.	No potential for significant impact, scoped out

13.5 ASSUMPTIONS AND LIMITATIONS

ASSUMPTIONS

- 13.5.1 The consideration of likely Traffic and Transport receptors and effects is based on a reasonable worst-case scenario derived from the maximum design parameters currently available. The final turbine layout, access arrangements and construction methodology remain subject to ongoing design development and will be refined within the ES.
- 13.5.2 The approach to turbine foundations and the feasibility of on-site borrow pits have not yet been confirmed. Pending confirmation, conservative assumptions regarding the import of construction materials and aggregate will be adopted to enable a robust assessment of construction traffic effects.
- 13.5.3 The Site access arrangements and AIL route remain under consideration. The final assessment will be based on the confirmed access strategy and construction traffic routes agreed through the design process and consultation with the relevant highway authorities.
- 13.5.4 The road safety assessment will be informed by the most recent available five-year PIA dataset, which is assumed to provide an appropriate representation of existing road safety conditions within the Study Area.
- 13.5.5 Future year traffic flows will be derived using appropriate growth factors, including TEMPro where relevant, to account for background traffic growth between the baseline survey year and the anticipated construction year.
- 13.5.6 Operational traffic associated with the Proposed Development is anticipated to be limited to routine inspection, maintenance and monitoring visits and is therefore not expected to give rise to likely significant effects. Similarly, decommissioning traffic is anticipated to be no greater than, and likely lower than, that associated with construction.
- 13.5.7 The assessment extent will be informed by the ISEP (formerly IEMA) traffic screening thresholds and professional judgement,

particularly where low baseline traffic flows may generate disproportionately high percentage changes.

LIMITATIONS

- 13.5.8 At the time of preparing this Scoping Report, baseline traffic surveys have not yet been completed. Consequently, the magnitude and significance of traffic effects cannot be quantified at this stage. Baseline conditions will be established through ATC surveys supplemented by publicly available traffic datasets.
- 13.5.9 Consultation responses, including the Scoping Opinion and feedback from National Highways and the relevant highway authorities, have not yet been received. The Study Area, assessment scope, sensitive receptors and cumulative developments list may therefore be refined following consultation.
- 13.5.10 Decommissioning is anticipated to occur many decades after construction and future traffic conditions cannot be predicted with confidence over such timescales. As a result, decommissioning effects cannot be assessed to the same level of detail as construction effects. This limitation is not considered material to the scoping conclusions because decommissioning traffic volumes are expected to be lower than those associated with construction.

14. NOISE AND VIBRATION

14.1 INTRODUCTION

- 14.1.1 The EIA will include a Noise and Vibration Assessment to identify and evaluate the likely significant effects of the Proposed Development on noise sensitive receptors during the construction, operation and maintenance and decommissioning phases.
- 14.1.2 The assessment will be undertaken in accordance with relevant national planning policy and current good practice guidance, including BS 5228 Code of Practice for Noise and Vibration Control on Construction and Open Sites^{79,80}, BS 4142 Methods for Rating and Assessing Industrial and Commercial Sound⁸¹, and the Assessment and Rating of Wind Turbine Noise (ARWTN) guidance⁸², together with other relevant noise and vibration assessment guidance.
- 14.1.3 The Noise and Vibration Assessment will establish the baseline noise environment, identify sensitive receptors and assess the nature and significance of effects arising from the Proposed Development. The assessment will consider construction and decommissioning noise and vibration including on-site activities and traffic, operational wind turbine noise, operational noise associated with the BESS, substation and associated infrastructure, and cumulative noise effects, including effects on residential dwellings and other identified noise sensitive receptors. Baseline noise surveys, desktop studies and operational noise modelling will be undertaken, where appropriate, to inform the assessment.
- 14.1.4 The findings of the baseline review and ongoing design process have informed the preliminary scoping conclusions presented in this chapter and will continue to inform the evolution of the Proposed Development and preparation of the ES. A cumulative noise assessment will be undertaken to consider the potential for combined effects arising from other relevant developments. Inter-project and intra-project cumulative effects will be considered where relevant in accordance with the methodology set out in Appendix C and **Chapter 18**.

- 14.1.5 The proposed Noise and Vibration Assessment methodology is provided in **Appendix C**, with the relevant legislation, policy and guidance set out in **Appendix B**.

14.2 STUDY AREA

- 14.2.1 The Noise and Vibration assessment Study Areas have been defined having regard to the nature of the Proposed Development, the characteristics of the surrounding environment and the potential for significant noise and vibration effects to occur during the construction, operation and maintenance and decommissioning phases.
- 14.2.2 For construction noise, the Study Area will include residential dwellings and other occupied buildings located within 300 m of construction activities. The construction noise Study Area may be extended up to 1 km where low rural background noise levels indicate an increased potential for audible effects.
- 14.2.3 For construction vibration, the Study Area will include residential dwellings and other occupied buildings located within 100 m of construction activities. This 100 m study area has been defined on the basis that construction-related ground-borne vibration reduces rapidly with distance and any potentially significant effects are most likely to occur at receptors located in close proximity to the works.
- 14.2.4 Dwellings located along construction traffic routes will also be considered where traffic-related noise effects may occur, initially expected to be within 50 m of construction traffic routes.
- 14.2.5 The construction noise and vibration Study Areas are consistent with best practice applications of BS 5228-168, BS 5228-2, and DMRB LA 111⁸³ guidance and potential for increased audibility in rural environments with low background noise levels.
- 14.2.6 For operational noise associated with the BESS, on-site substation and other ancillary electrical infrastructure, the Study Area will comprise noise sensitive receptors surrounding the proposed infrastructure that could potentially be affected by operational plant noise. The extent of the Study Area will be

defined by the anticipated zone of influence of the relevant fixed plant and is expected to extend up to approximately 2 km from the noise sources.

- 14.2.7 For operational wind turbine noise, the Study Area will be defined with reference to the preliminary operational noise contours predicted for the Proposed Development and will encompass all noise sensitive receptors located within, or in close proximity to, the area where operational wind turbine noise could potentially give rise to significant effects. The Study Area will be defined in accordance with the principles set out in ARWTN and the Institute of Acoustics Good Practice Guidance (IoA GPG), broadly by the preliminary 35 dB L_{A90} contour for the Proposed Development. The Study Area will include all dwellings and other noise sensitive receptors requiring consideration within the operational wind turbine noise assessment.
- 14.2.8 The Noise and Vibration Study Areas are shown on **Figure 14.1**.

14.3 BASELINE DATA SOURCES

- 14.3.1 The following data sources have informed this chapter and will be used to inform the Noise and Vibration assessment reported within the ES:
- OS mapping and aerial imagery, including Google Earth;
 - Meteorological data to inform the operational noise assessment;
 - Relevant guidance and standards, including ARWTN, the IoA GPG, BS 4142, BS 5228 parts 1 and 2, and DMRB LA 111;
 - Information on existing and consented wind energy developments to inform cumulative noise assessment, where required; and
 - Noise and vibration modelling, calculations and supporting surveys undertaken as necessary to assess construction, operational and decommissioning effects.

DESK BASED

Existing Noise Environment

- 14.3.2 The Site is located within a predominantly rural landscape comprising agricultural land, dispersed farmsteads and small rural settlements. The existing acoustic environment is therefore expected to be characterised by generally low background sound levels, particularly during evening and night-time periods.
- 14.3.3 The principal sources of existing noise are anticipated to comprise wind-disturbed vegetation, birds, farm animals, agricultural activities and vehicle movements on local roads. In locations closer to the A10, A1101, A142 and other principal routes, road traffic is expected to represent a more notable component of the existing noise environment. Agricultural machinery and seasonal farming activities are also likely to contribute to localised variations in noise levels.
- 14.3.4 Baseline noise monitoring will be undertaken to establish the existing noise environment through qualitative observations recorded during surveys and quantitative measurements of sound pressure levels.

Noise and Vibration Sensitive Receptors

- 14.3.5 Noise and vibration sensitive receptors within the Study Area comprise residential properties and other occupied buildings located within and around the Site. These receptors may be affected by construction and decommissioning activities, operational wind turbine noise, and operational noise associated with the BESS, substation and other ancillary infrastructure.
- 14.3.6 An initial desktop review of Ordnance Survey AddressBase data and publicly available mapping indicates that there are a number of residential and non-residential dwellings located within the preliminary 35 dB L_{A90} contour for the Proposed Development, as shown on **Figure 14.1**. **Table 14.1** lists the locations of the 134 noise sensitive receptors.

TABLE 14.1 NSR LOCATIONS

NSR	Address	Easting	Northing
NSR001	1 Shrub Hill, Brandon Bank, PE38 0PX	566271	288038
NSR002	6 Shrub Hill, Brandon Bank, PE38 0PX	566311	287975
NSR003	1 Bungalow, Brandon Bank, PE38 0PX	566363	288014
NSR004	The Old Hostel, Feltwell, IP26 4JR	567105	289636
NSR005	4 Bungalow, Feltwell, IP26 4JP	567429	289649
NSR006	1 Bungalow, Feltwell, IP26 4JP	567614	289679
NSR007	2 White Hostel,rm, Hockwold Cum Wilton, IP26 4JW	569190	289177
NSR008	Black Dyke Barn, Hockwold Cum Wilton, IP26 4JW	568865	288403
NSR009	Black Dyke Farm, Hockwold Cum Wilton, IP26 4JW	568975	288528
NSR010	6 Black Dyke Farm, Hockwold Cum Wilton, IP26 4JW	568978	288346
NSR011	1 Black Dyke Farm, Hockwold Cum Wilton, IP26 4JW	569043	288410
NSR012	Black Dyke Cottage, Hockwold Cum Wilton, IP26 4JW	569345	288246
NSR013	Oakwood Park Lakes, Hockwold Cum Wilton, IP26 4JW	569115	287715
NSR014	Sheppards Farm, Lakenheath, IP27 9LG	568139	285568
NSR015	Pumping Station Bungalow, Lakenheath, IP27 9LJ	567646	285559
NSR016	50 Sold Cum Wilton, IP26 4JW27 9LH	566637	285762
NSR017	Decoy Farm, Lakenheath, IP27 9LH	566667	285693
NSR018	52A Sedge Fen, Lakenheath, IP27 9LH	566518	285732
NSR019	53A Sedge Fen, Lakenheath, IP27 9LH	566470	285604
NSR020	Orchard House, Brandon Bank, PE38 0PU	563195	288255
NSR021	Riverside, Brandon Bank, PE38 0PU	562758	288782
NSR022	The Old Anchor In, Brandon Bank, PE38 0PU	562621	289013
NSR023	Stokes Farm, Brandon Bank, PE38 0PU	563341	289861
NSR024	Alpine, Brandon Bank, PE38 0PU	563592	290052

NSR	Address	Easting	Northing
NSR025	Friesland Farm, Burnt Fen, IP28 8EQ	563710	282334
NSR026	Wings Hostel, Ely, CB7 4SR	563127	283732
NSR027	1 Willow Farm, Ely, CB7 4SR	563723	283740
NSR028	Whistle Farm, Burnt Fen, IP28 8EQ	564539	282718
NSR029	The Chalet, Burnt Fen, IP28 8EF	564753	283357
NSR030	Farthing Drove Bungalow, Burnt Fen, IP28 8EF	564857	283284
NSR031	Harris Farm, Burnt Fen, IP28 8EB	566015	282588
NSR032	The Chestnuts, Burnt Fen, IP28 8EB	565322	281598
NSR033	Townmore Farm, Burnt Fen, IP28 8EB	566181	281854
NSR034	Foleigh, Burnt Fen, IP28 8EB	565485	281340
NSR035	Cross Bank Farm, Burnt Fen, IP28 8EA	565778	280872
NSR036	1 Poplar Farm Cottages, Burnt Fen, IP28 8EA	565964	280820
NSR037	7 Shippea Hill Road, Kenny Hill, IP28 8DZ	566058	280719
NSR038	2 Shippea Hill Road, Kenny Hill, IP28 8DZ	566092	280679
NSR039	Danaville, Kenny Hill, IP28 8DZ	566169	280495
NSR040	Summers Farm, West Row, IP28 8RQ	564672	280325
NSR041	County Farm, West Row, IP28 8RH	564003	280248
NSR042	Alder Farm, Mildenhall, IP28 8RJ	562514	279675
NSR043	Old School House, Isleham, CB7 5RQ	562614	279293
NSR044	The Cock Inn, Isleham, CB7 5RH	562288	279859
NSR045	Kings Farm, Soham, CB7 5UJ	561678	280930
NSR046	4 Pratts Farm Bungalow, Mildenhall, CB7 4SW	561818	281781
NSR047	Larks Grange, Mildenhall, CB7 4SW	561667	281754
NSR048	Lark Engine Farmhouse, Prickwillow, CB7 4SW	561204	282356
NSR049	20 Lark Bank, Prickwillow, CB7 4SW	560720	282891
NSR050	6 Lark Bank, Prickwillow, CB7 4SW	560614	282992
NSR051	September Cottage, Prickwillow, CB7 4UR	559568	283068
NSR052	Bridge Farm, Prickwillow, CB7 4UP	559508	282916

NSR	Address	Easting	Northing
NSR053	1 Mile End Farm, Prickwillow, CB7 4SJ	560371	282995
NSR054	2 Mile End Crossing, Prickwillow, CB7 4TQ	560513	283124
NSR055	The Old Vicarage, Prickwillow, CB7 4SJ	559999	282588
NSR056	62 Main Street, Prickwillow, CB7 4UN	559832	282424
NSR057	9 Riverside Close, Prickwillow, CB7 4UW	559677	282613
NSR058	Elderberry Cottage, Prickwillow, CB7 4UR	559735	282741
NSR059	19 A Main Street, Prickwillow, CB7 4UN	559520	282481
NSR060	7 Putney Hill Road, Prickwillow, CB7 4UU	559692	281843
NSR061	24 A Main Street, Prickwillow, CB7 4UN	559458	282411
NSR062	Considered noise sensitive	561693	288926
NSR063	Poplar Farm, Burnt Fen, IP28 8EA	566443	280902
NSR064	The Old Vicarage, Cambridgeshire, CB7 4TG	562122	289184
NSR065	7 Church Farm Bungalows, Kenny Hill, IP28 8DT	566701	279996
NSR066	Sunrose Farm, Prickwillow, CB7 4SN	560535	283955
NSR067	1 Mile End Road, Prickwillow, CB7 4TQ	560823	283878
NSR068	Shippea Hill Farmhouse, Prickwillow, CB7 4SL	561619	283863
NSR069	2 New Yard, Littleport, CB7 4SY	561842	284782
NSR070	1 Peacocks Farm, Littleport, CB7 4SY	563104	284588
NSR071	4 Bulldog Bridge Cottages, Shippea Hill, CB7 4SU	562112	285104
NSR072	1 Flander Farm Cottage, Littleport, CB7 4SY	561940	285245
NSR073	48 Mildenhall Road, Littleport, CB7 4SY	561601	285439
NSR074	Considered noise sensitive	560513	285116
NSR075	9 Putney Hill Road, Prickwillow, CB7 4UU	560131	281484
NSR076	Fletchers Farm, Soham, CB7 5UH	560782	280309
NSR077	66 Great Fen Road, Soham, CB7 5UH	560751	280107
NSR078	Longacres, Soham, CB7 5UH	560585	279980
NSR079	Lilliput, Isleham, CB7 5RQ	562284	278870
NSR080	24 Prickwillow Road, Isleham, CB7 5RQ	562374	278629

NSR	Address	Easting	Northing
NSR081	Old School House, West Row, IP28 8QP	562916	278940
NSR082	River View, Isleham, CB7 5RQ	562950	278601
NSR083	Fen Farm, Isleham, CB7 5RQ	563251	278905
NSR084	Ranville Farm, West Row, IP28 8QN	564500	278857
NSR085	Forty Farmhouse, West Row, IP28 8RG	565211	279198
NSR086	Chestnut Far, West Row, IP28 8RG	565779	278992
NSR087	The Shire, Kenny Hill, IP28 8DY	566324	280301
NSR088	Fenland View, Kenny Hill, IP28 8DY	566502	280112
NSR089	New Harris Farm, Burnt Fen, IP28 8EB	566746	282760
NSR090	Elderire, Kenny, Burnt Fen, IP28 8EB	565506	283118
NSR091	Old Plough And Duck, Burnt Fen, IP28 8EF	564502	283836
NSR092	The Railway Tavern, Shippea Hill, CB7 4SP	564211	284066
NSR093	1 Station Cottages, Shippea Hill, CB7 4SP	564019	284081
NSR094	St Jamesough And Duck, Burnt Fen, Il, CB7 4SU	564063	284389
NSR095	3 Plantation Farm Cottages, Ely, CB7 4SS	564047	284812
NSR096	The Bungalow, Ely, CB7 4SS	564099	284832
NSR097	4 Sebastopol Cottages, Ely, CB7 4SS	564025	284883
NSR098	1 Redmere, Ely, CB7 4ST	563957	285019
NSR099	8 Redmere, Ely, CB7 4ST	563965	285075
NSR100	Sebastopol Bungalow, Ely, CB7 4SS	563968	285923
NSR101	3 Redmere Cottages, Ely, CB7 4SS	564108	286280
NSR102	Engine House, Brandon Bank, PE38 0PX	565094	286907
NSR103	Old Watermans Arms, Little Ouse, CB7 4TG	563881	287531
NSR104	1 Church Farm Bungalows, Little Ouse, CB7 4TG	562331	289084
NSR105	Iron Bridge Farmhouse, Brando Bank, PE38 0PU	562189	289329
NSR106	Considered noise sensitive	563328	291134
NSR107	Considered noise sensitive	563636	291642
NSR108	Halmoire, Feltwell, IP26 4EN	567779	291706

NSR	Address	Easting	Northing
NSR109	Oulsham Drove, Feltwell, IP26 4EL	568131	291564
NSR110	Pine Tree Bungalow, Feltwell, IP26 4EJ	568409	291159
NSR111	1 Ploughmans Drove, Feltwell, IP26 4ET	568755	290827
NSR112	White Bridge Farm, Feltwell, IP26 4EJ	569458	290429
NSR113	New Cut Farm, Feltwell, IP26 4EJ	569481	290102
NSR114	Sternshouse Farm, Feltwell, IP26 4EJ	569581	290147
NSR115	Corkway Farmhouse, Feltwell, IP26 4EG	569476	289771
NSR116	The Bungalow, Feltwell, IP26 4EG	569761	289949
NSR117	White Dyke Bungalow, Feltwell, IP26 4JW	569170	289462
NSR118	Grange Farm, Hockwold Cum Wilton, IP26 4JN	570157	288498
NSR119	Grange Cottages, Hockwold Cum Wilton, IP26 4JN	570293	288376
NSR120	Black Dyke Bungalow, Hockwold Cum Wilton, IP26 4JW	570162	288212
NSR121	Red Barn, Hockwold Cum Wilton, IP26 4JQ	570312	287220
NSR122	Considered noise sensitive	561957	289288
NSR123	Kens Corner, Hockwold Cum Wilton, IP26 4JQ	570445	287124
NSR124	7 Sedge Fen, Lakenheath, IP27 9LQ	566165	284417
NSR125	12 Sedge Fen, Lakenheath, IP27 9LQ	566416	284366
NSR126	17 Sedge Fen, Lakenheath, IP27 9LQ	566745	284337
NSR127	44 Sedge Fen, Lakenheath, IP27 9LQ	567204	284703
NSR128	Flacks Farm, Lakenheath, IP27 9LQ	567362	284788
NSR129	Albion Farm, Lakenheath, IP27 9LG	567557	284591
NSR130	22 Sedge Fen, Lakenheath, IP27 9LE	567009	284164
NSR131	The Old School, Lakenheath, IP27 9LG	567314	284213
NSR132	38 Sedge Fen, Lakenheath, IP27 9LG	567496	284226
NSR133	26 Sedge Fen, Lakenheath, IP27 9LG	567153	283818
NSR134	36 Poultry Road, Lakenheath, IP27 9LG	567923	284113

- 14.3.7 The noise and vibration receptors presented **Table 14.1** are limited to human receptors. Noise and vibration predictions (including baseline survey work) may be undertaken to assist with the assessment of potential impacts on ecological receptors however this assessment of potential significant effects would be discussed within the Biodiversity and Nature Conservation chapter of the EIA (See **Chapter 6** of this Scoping Report).

Future Baseline

- 14.3.8 In the absence of the Proposed Development, the Site and surrounding area are expected to remain predominantly rural in character. Existing noise sources associated with agriculture, local traffic and rural activities are therefore anticipated to remain broadly consistent over time. Changes to the future baseline may occur as a result of other committed developments, changes in traffic patterns or changes in land use within the surrounding area.

FIELD SURVEY

Baseline Noise Monitoring

- 14.3.9 Baseline noise monitoring will be undertaken to characterise the existing acoustic environment and establish background sound levels for use within the operational noise assessment. Details of the proposed baseline monitoring methodology are provided in **Appendix C**.

14.4 SCOPING DETERMINATION OF POTENTIAL LIKELY SIGNIFICANT EFFECTS

- 14.4.1 **Table 14.2** and **Table 14.3** present the scoping determination of potential LSE for the Noise and Vibration assessment during the construction, decommissioning and operational phases, and identify those matters proposed to be scoped into or out of the EIA.

TABLE 14.2 NOISE AND VIBRATION SCOPING DETERMINATION OF POTENTIAL LSE DURING CONSTRUCTION AND DECOMMISSIONING

Receptor	Potential Impact Pathway	Mitigation	Additional Information	Scoping of Impact Pathways
Residential receptors	Noise arising from construction and decommissioning activities.	Implementation of a Construction Noise and Vibration Management Plan. Measures are anticipated to include the application of best practicable means (BPM), appropriate plant selection, maintenance of equipment, screening where practicable, and management of working hours.	Temporary noise arising from construction and decommissioning activities may affect nearby noise sensitive receptors. Receptors within the rural Study Area are likely to experience relatively low existing ambient noise levels and may therefore be more sensitive to temporary increases in noise. Construction and decommissioning noise levels exceeding 65 dB $L_{Aeq,T}$ during daytime periods, 55 dB $L_{Aeq,T}$ during evenings and weekends, or 45 dB $L_{Aeq,T}$ during night-time periods have the potential to result in significant effects, depending on the specific context and duration of the activity. The assessment will be undertaken in accordance with BS 5228-1 and significance will be determined based on the magnitude of impact.	Potential for significant impact, scoped in
Residential receptors	Noise arising from construction traffic and decommissioning traffic.	Embedded mitigation through the use of established access routes and traffic management measures, where required.	Construction and decommissioning traffic has the potential to generate temporary increases in road traffic noise at receptors located along haul routes and will be assessed where material changes in traffic flows are predicted. Decommissioning traffic movements are anticipated to be substantially lower than those associated with the construction phase, with a shorter duration and reduced transport requirements, and accordingly it is expected that impacts would be no worse than the impacts associated with construction traffic forecasts. The assessment will be undertaken in accordance with DMRB LA111 and BS 5228-1 as relevant, and significance will be determined based on the magnitude of impact.	Potential for Significant impact, scoped in
Residential receptors	Vibration arising from construction and decommissioning activities	No mitigation proposed.	Construction and decommissioning vibration will be assessed where vibration-inducing activities, such as piling or extensive compaction works, are anticipated to occur within 100 m of sensitive receptors. This distance reflects the recognised Study Area for construction vibration impacts following the best practice application of BS 5228-2. The assessment will be undertaken in accordance with BS 5228-2 and significance will be determined based on the magnitude of impact.	Potential for Significant impact, scoped in

TABLE 14.3 NOISE AND VIBRATION SCOPING DETERMINATION OF POTENTIAL LSE DURING OPERATION

Receptor	Potential Impact Pathway	Mitigation	Additional Information	Scoping of Impact Pathways
Residential receptors	Operational noise generated by the BESS, substation, transformers, inverters, cooling equipment and other ancillary infrastructure, including electrical hum and corona discharge noise where relevant.	- Siting and layout of noise generating equipment to maximise separation distances from noise sensitive receptors, where reasonably practicable. - Where required, mitigation measures may include specification of lower-noise equipment, optimised plant layout, acoustic enclosures, acoustic barriers, bunding and other engineering controls.	Operational noise may arise from the BESS, substation and associated electrical infrastructure, including transformers, inverters, cooling equipment and electrical plant. The assessment will consider representative noise sensitive receptors in accordance with BS 4142. The significance of effects will be determined through using the BS 4142 Initial Assessment results together with site-specific contextual factors and professional judgement.	Potential for significant impact, scoped in
Residential receptors	Operational wind turbine noise.	Where operational noise predictions indicate exceedances of the relevant operational noise limits, mitigation measures will be considered. These may include the selection of quieter turbines, incorporation of serrated trailing edges and operation in low-noise modes.	Operational wind turbine noise may affect the amenity of nearby noise sensitive receptors. In accordance with ARWTN, operational noise will be assessed against Total Noise Assessment Criteria (TNAC) derived from measured background sound levels. ARWTN also requires the establishment of Site-Specific Noise Limits (SSNLs) for the Proposed Development. The SSNLs define the maximum noise contribution from the Proposed Development, ensuring that cumulative operational wind turbine noise remains within the applicable TNAC at noise sensitive receptors. Compliance with the applicable SSNLs and TNAC would generally protect residential amenity, while exceedances may result in adverse and potentially significant effects.	Potential for significant impact, scoped in
Residential receptors	Cumulative operational noise effects.	Where the cumulative assessment identifies the potential for exceedances of the applicable cumulative noise limits, mitigation measures may include the selection of quieter turbines, incorporation of serrated trailing edges and operation in low-noise modes.	Cumulative effects may arise where operational noise from the Proposed Development combines with noise from operational, consented, under construction or proposed wind energy developments. The cumulative assessment will consider the combined contribution of all relevant schemes and whether cumulative noise levels remain within the applicable ARWTN TNAC criteria.	Potential for significant impact, scoped in
Residential receptors	Infrasound from wind turbines	No mitigation proposed.	ARWTN concludes that infrasound from modern upwind wind turbines at typical receptor distances is well below the threshold of perception and has not been shown to	No potential for significant impact, scoped out

Receptor	Potential Impact Pathway	Mitigation	Additional Information	Scoping of Impact Pathways
			result in adverse physical or mental health effects. A specific assessment of infrasound is therefore not proposed.	
Residential receptors	Low frequency noise from wind turbines	No mitigation proposed.	ARWTN states that noise sensitive receptors are adequately protected from low frequency noise through the application of the operational noise limits based on A-weighted noise levels. A separate assessment of low frequency noise is therefore not proposed.	No potential for significant impact, scoped out
Residential receptors	Amplitude Modulation	No mitigation proposed.	ARWTN states that elevated amplitude modulation (AM) is accounted for within the guidance criteria by way of character corrections. A separate assessment of AM is not proposed.	No potential for significant impact, scoped out
Residential receptors	Ground-borne vibration from wind turbines	No mitigation proposed.	ARWTN concludes that ground-borne vibration from modern upwind wind turbines is significantly below human perception thresholds and does not result in adverse effects on human receptors. A specific assessment is therefore not proposed.	No potential for significant impact, scoped out
Residential receptors	Operational underground noise	No mitigation proposed.	Underground electrical cables do not generate significant operational noise. A specific assessment of underground cable route noise is therefore not considered necessary.	No potential for significant impact, scoped out
Residential receptors	Operational traffic noise and vibration	No mitigation proposed.	Operational traffic associated with the Proposed Development is expected to be limited to routine maintenance, inspection and monitoring visits. Traffic levels are therefore anticipated to be insufficient to give rise to significant noise or vibration effects.	No potential for significant impact, scoped out
Noise sensitive receptors (cumulative)	Combined noise effects arising from the Proposed Development together with other relevant developments and from multiple operational noise sources associated with the Proposed Development.	- Siting and layout of noise generating equipment to maximise separation distances from noise sensitive receptors, where reasonably practicable. - Where required, mitigation measures may include specification of lower-noise equipment, optimised plant layout, acoustic enclosures, acoustic barriers, bunding and other engineering controls. - Where the cumulative assessment identifies the potential for exceedances of the applicable cumulative noise limits,	Inter-project cumulative effects may arise where noise from the Proposed Development combines with noise from other operational, consented, under-construction or reasonably foreseeable developments affecting the same receptors. Intra-project cumulative effects may arise from the combined operation of the turbines, BESS, substation, transformers and other ancillary electrical infrastructure. Cumulative effects will be assessed in accordance with Appendix C and the	Potential for significant impact, scoped in

Receptor	Potential Impact Pathway	Mitigation	Additional Information	Scoping of Impact Pathways
		mitigation measures may include the selection of quieter turbines, incorporation of serrated trailing edges and operation in low-noise modes.	applicable assessment criteria, including ARWTN and BS 4142, where relevant.	

14.5 ASSUMPTIONS AND LIMITATIONS

ASSUMPTIONS

- 14.5.1 The Noise and Vibration scoping determination was based on the maximum design parameters currently available and will be refined as the design of the Proposed Development evolves. The final turbine layout, turbine specification, BESS design, substation design and associated infrastructure locations remain subject to ongoing design development.
- 14.5.2 The operational wind turbine noise assessment will be based on established industry guidance and associated good practice guidance, and assumes that compliance with the relevant operational noise limits can be achieved through iterative design and mitigation.
- 14.5.3 Baseline noise monitoring has not yet been undertaken. It is assumed that the monitoring programme will provide representative measurements of existing background sound levels across the Study Area and will be suitable for informing both the operational wind turbine noise assessment and the BS 4142 assessment of fixed plant noise associated with the BESS, substation and associated infrastructure.
- 14.5.4 Construction and decommissioning vibration effects are assumed to be negligible because vibration-inducing activities such as piling or extensive compaction works are not currently anticipated within 100 m of sensitive receptors.

LIMITATIONS

- 14.5.5 At the time of preparing this Scoping Report, baseline noise monitoring has not been completed. Consequently, existing background sound levels and operational noise limits cannot be quantified at this stage. These data will be collected and presented within the ES.
- 14.5.6 The design of the Proposed Development, including the final turbine layout, BESS configuration, substation design and associated infrastructure, has not yet been finalised. As a result,

the assessment presented at scoping is necessarily based on preliminary information and reasonable worst-case assumptions.

- 14.5.7 The identification of 134 representative noise sensitive receptors within the preliminary 35 dB L_{A90} contour is based on an initial desktop review and will be confirmed as part of the detailed assessment. Receptors may be added or removed where updated design information or receptor status indicates this is appropriate.

15. SOCIO-ECONOMICS, TOURISM, RECREATION AND LAND USE

15.1 INTRODUCTION

15.1.1 The EIA will include a Socio-Economics, Tourism, Recreation and Land Use assessment to identify and evaluate the likely significant effects of the Proposed Development on local communities, the economy, tourism and recreation receptors, social infrastructure, agricultural land and farm businesses during construction, operation and maintenance and decommissioning. The assessment will be undertaken in accordance with relevant guidance and good practice and will consider effects on socio-economic, tourism, recreation and land use receptors within the defined Study Areas.

15.1.2 The assessment will establish the baseline socio-economic, tourism, recreation and land use conditions through a desk-based review and identify sensitive receptors that may be affected by the Proposed Development. The review has considered local and national labour markets, economic activity, local communities, tourism and recreation, social infrastructure, agricultural land and farm businesses. The assessment will consider effects on:

- Socio-economic receptors, including direct, indirect and induced impacts on employment and economic output measured in Gross Value Added (GVA);
- The wider economy, including knock-on socio-economic effects and effects on employment in other key sectors;
- Socio-cultural receptors, including effects on social infrastructure, culture and identity;
- Tourism and recreation receptors, including direct effects on tourism and recreation assets and combined effects on amenity; and
- Land use receptors, including temporary or permanent loss of land and effects on agricultural land, farm holdings and farm businesses.

- 15.1.3 The findings of the baseline review and ongoing design process have informed the preliminary scoping conclusions presented in this chapter and will continue to inform the evolution of the Proposed Development and preparation of the ES. Inter-project and intra-project cumulative effects will be considered where relevant in accordance with the methodology set out in **Chapter 18**.
- 15.1.4 The proposed Socio-Economics, Tourism, Recreation and Land Use assessment methodology is provided in **Appendix C** of this Scoping Report, with the relevant legislation, policy and guidance set out in **Appendix B**.

15.2 STUDY AREA

- 15.2.1 The Study Area has been defined according to the spatial extent of the receptors that may experience effects arising from the Proposed Development:
- For socio-economic impacts such as employment generation, GVA and supply chain effects, the Study Area comprises England and a Local Study Area encompassing the administrative areas of East Cambridgeshire District Council, West Suffolk Council and King's Lynn and West Norfolk Borough Council;
 - Wider socio-economic and socio-cultural effects will be considered within the Local Study Area and a Neighbourhood Study Area comprising the wards of Methwold, Feltwell, Littleport, Lakenheath, Ely North, The Rows, Soham North, Fordham and Isleham;
 - The tourism and recreation Study Area comprises the Site and land within 5 km of the Indicative Order Limits. This reflects the area within which direct effects on Public Rights of Way (PRoW) and recreational receptors, together with indirect amenity effects arising from the Proposed Development, are most likely to occur; and
 - The land use Study Area comprises the Site itself, reflecting the localised nature of any direct effects on agricultural land and existing land uses.
- 15.2.2 The Socio-economics, Land Use, Tourism and Recreation Study Areas are illustrated on **Figure 15.1**.

15.3 BASELINE

DESK BASED

Socio-Economic Context

- 15.3.1 Economic activity and employment rates are generally above the national average within the East Cambridgeshire and West Suffolk, but below average within King's Lynn and West Norfolk. Employment is also above average in East Cambridgeshire and West Suffolk, but below average in King's Lynn and West Norfolk⁸⁴.
- 15.3.2 Productivity, measured by GVA per filled job, is below the national average across the Local Study Area⁸⁵. Median workplace earnings are also below average, particularly in East Cambridgeshire where they are £100 per week less than the average for England. Residents' earnings are, however, above average in East Cambridgeshire⁸⁶.

Wider Socio-Economic Context

- 15.3.3 The Local Study Area contains a mixed rural economy characterised by employment in agriculture, manufacturing, construction, business support services and tourism-related activities. The tourism sector is an important employer in the Neighbourhood Study Area, with employment in accommodation and food services around twice the national average⁸⁷.

Socio-Cultural Context

- 15.3.4 The Neighbourhood Study Area has a population of approximately 58,500 people⁸⁸ and includes a number of rural settlements surrounding the Site. Demographic characteristics are broadly comparable with national averages, although the wider Local Study Area has a relatively older population profile.⁸⁹ Housing tenure is also broadly in line with national averages⁹⁰.
- 15.3.5 Levels of deprivation are generally moderate, with surrounding communities falling around the middle of national deprivation rankings⁹¹. The spatial distribution of socio-economic deprivation

within the Study Areas is shown on **Figure 15.2**, which presents the latest Index of Multiple Deprivation (IMD) data published by the Office for National Statistics (ONS).

Tourism and Recreation

- 15.3.6 Tourism and recreational receptors within and around the Site include a network of PRoW, the Hereward Way and Via Beata long-distance routes, and local recreational destinations including nature reserves, an indoor cricket centre, and motor racing circuit. No nationally significant tourism attractions have been identified, however there are a number of campsites, holiday parks, and other tourism accommodation providers within the Study Area. Key tourism and recreation receptors that may be sensitive to potential visual effects arising from the Proposed Development are identified in paragraphs 9.3.36 - 9.3.39

Land Use

- 15.3.7 The Site is predominantly in agricultural use. Defra Predictive Agricultural Land Classification (ALC) mapping⁹² indicates that the entirety of the Site comprises Best and Most Versatile (BMV) agricultural land, comprising land within Grades 1, 2 and 3. The predictive ALC mapping within the Indicative Order Limits is shown on **Figure 15.3**. The Applicant will seek to undertake targeted ALC surveys within the Indicative Order Limits, subject to land access and other relevant constraints, to confirm the BMV status of the land.

Key Sensitivities

- 15.3.8 This baseline indicates that there is some variation between local authority areas within the Local Study Area, with above average levels of employment and economic activity in some areas and below average in others. Workplace earnings and GVA per job are below average across the Local Study Area. Manufacturing, construction, accommodation and food services, and agriculture are important local employers, and indicative data suggests that the Site is located on BMV agricultural land.

Future Baseline

- 15.3.9 Socio-economic baseline conditions may change over time as a result of demographic, economic and policy changes occurring during the development of the Proposed Development. Whilst baseline datasets will be updated where appropriate prior to completion of the ES, any changes in key socio-economic indicators are anticipated to be relatively small and are unlikely to materially alter the conclusions of the assessment.

15.4 SCOPING DETERMINATION OF POTENTIAL LIKELY SIGNIFICANT EFFECTS

- 15.4.1 **Table 15.1** and **Table 15.2** present the scoping determination of potential LSE for the Socio-Economics, Tourism, Recreation and Land Use assessment during the construction, decommissioning and operational phases, and identify those matters proposed to be scoped into or out of the EIA.

TABLE 15.1 SOCIO-ECONOMICS, TOURISM, RECREATION AND LAND USE SCOPING DETERMINATION OF POTENTIAL LSE DURING CONSTRUCTION AND DECOMMISSIONING

Receptor	Potential Impact Pathway	Mitigation	Additional Information	Scoping of Impact Pathways
Local and national labour markets	Socio-economic impacts: direct employment generated by construction and decommissioning activities, together with indirect and induced employment supported through supply-chain expenditure and expenditure by workers.	No mitigation proposed.	Construction of the Proposed Development is expected to generate direct employment on-site, together with indirect and induced employment through the supply chain and worker expenditure, which may be significant at the local level. It is not expected that employment effects would be significant at national level. Decommissioning would generate employment through similar pathways, although the scale and duration of these effects are expected to be lower than during construction. The scale and geographical distribution of employment effects will be assessed in the ES.	Local Study Area: Potential for significant impact, scoped in National Study Area: No potential for significant impact, scoped out
Local and national economies	Socio-economic impacts: direct, indirect and induced GVA generated through expenditure on labour, materials, equipment and services during construction and decommissioning.	No mitigation proposed.	Construction expenditure is expected to generate direct, indirect and induced GVA in the local and national economy as a result of construction expenditure on Site and in the supply chain. These effects may be significant at the local level but are not expected to be significant at national level. Similar but smaller-scale effects are anticipated during decommissioning.	Local Study Area: Potential for significant impact, scoped in National Study Area: No potential for significant impact, scoped out
Local businesses and economic sectors	Wider socio-economic effects: changes in demand for goods, services, accommodation and other business inputs arising from construction expenditure, supply-chain activity and the presence of the construction workforce.	No mitigation proposed.	Construction activity may generate knock-on socio-economic effects for businesses in relevant sectors such as construction. There is also the potential for wider-socio-economic effects on the tourism sector from increased demand for accommodation and impacts on tourism and recreation receptors (discussed below) and on the agriculture sector from impacts on agricultural land (also discussed below). The nature, scale and distribution of these effects will be assessed in the ES.	Potential for significant impact, scoped in
Local communities	Socio-cultural effects: Temporary changes in population and workforce presence, demand for accommodation and local services, and community conditions arising from	- Preparation and implementation of an Accommodation Strategy, if required. - Measures incorporated within the CEMP.	The scale, duration and accommodation requirements of the construction workforce are not yet confirmed. An incoming workforce could temporarily affect accommodation availability, demand for local services and facilities, and community identity and way of life. The assessment will consider these matters using the available workforce and construction-programme assumptions. Effects during decommissioning are	Potential for significant impact, scoped in

Receptor	Potential Impact Pathway	Mitigation	Additional Information	Scoping of Impact Pathways
	construction and decommissioning activities.		anticipated to arise through similar pathways but are expected to be of a smaller scale.	
Local communities	Socio-cultural effects: temporary closure, diversion, restriction or disruption affecting access to social infrastructure where construction or decommissioning activities interact directly with existing routes or facilities.	- Design considerations. - Measures incorporated within the CEMP and DEMP.	Construction may interact directly on routes or facilities within and close to the Site, resulting in temporary changes in access to social infrastructure. The assessment will consider the location, duration and nature of any disruption, the availability and suitability of alternative routes, and the sensitivity of affected users. Comparable effects may arise during decommissioning.	Potential for significant impact, scoped in
Local communities	Socio-cultural effects: changes in amenity of social infrastructure arising from construction and decommissioning traffic, noise, vibration, dust, air emissions, lighting and visual disturbance.	- Design considerations. - Preparation and implementation of a CEMP and DEMP.	Construction and decommissioning activities may result in effects on amenity for users of social infrastructure within the 5 km Tourism and Recreation Study Area from a combination of traffic, noise, air quality, and visual effects. The assessment will draw upon the findings of the relevant assessments to avoid duplication and identify any likely significant socio-economic effects.	Potential for significant impact, scoped in
Users of PRow, tourism and recreation assets	Tourism and recreation effects: temporary closure, diversion, restriction or disruption affecting use of or access to PRow or other tourism and recreation assets, where construction or decommissioning activities interact directly with existing routes or facilities.	- Design considerations. - Preparation and implementation of a PRow Management Plan, where required. - Measures incorporated within the CEMP and DEMP.	Construction may interact directly with PRow and other routes or facilities within and close to the Site, resulting in temporary diversions, restrictions or changes in accessibility. The assessment will consider the location, duration and nature of any disruption, the availability and suitability of alternative routes, and the sensitivity of affected users. Comparable effects may arise during decommissioning.	Potential for significant impact, scoped in
Users of Public Rights of Way, tourism and recreation assets	Tourism and recreation effects: changes in recreational amenity arising from construction and decommissioning traffic, noise, vibration, dust, air emissions, lighting and visual disturbance.	- Design considerations. - Preparation and implementation of a PRow Management Plan. - Preparation and implementation of a CEMP and DEMP.	Construction and decommissioning activities may temporarily affect the amenity and enjoyment of PRow, tourism and recreation assets within the 5 km Tourism and Recreation Study Area due to a combination of traffic, noise, air quality, and visual effects. The assessment will draw upon the findings of the relevant assessments to avoid duplication and identify any likely significant socio-economic or recreational effects.	Potential for significant impact, scoped in
Agricultural land and farm holdings	Land use effects: temporary and permanent land take, disturbance or severance of	Design consideration to minimise loss of, or loss of access to, BMV agricultural land.	The land required for the installed operational infrastructure may result in the temporary loss of agricultural land and influence farm operations,	Potential for significant impact, scoped in

Receptor	Potential Impact Pathway	Mitigation	Additional Information	Scoping of Impact Pathways
	agricultural land; loss of or restricted access to fields and agricultural infrastructure; soil disturbance; and disruption to farm operations during construction and decommissioning.		potentially resulting in knock-on effects for agricultural businesses and the local agricultural sector.	
Socio-economic, tourism, recreation and land-use receptors (cumulative)	Combined effects arising from the Proposed Development together with other developments, or from multiple impact pathways associated with the Proposed Development acting on the same receptor.	To be informed by the socio-economic, tourism, recreation and land-use assessment and the cumulative assessment findings.	Cumulative effects could arise where other developments generate concurrent demand for labour, accommodation, services or construction supply chains, affect the same communities or recreational assets, or result in additional land take or disruption to the same farm holdings. Inter-project and intra-project cumulative effects will be assessed in accordance with Chapter 18 .	Potential for significant impact, scoped in

TABLE 15.2 SOCIO-ECONOMICS, TOURISM, RECREATION AND LAND USE SCOPING DETERMINATION OF POTENTIAL LSE DURING OPERATION

Receptor	Potential Impact Pathway	Mitigation	Additional Information	Scoping of Impact Pathways
Local and national labour market	Socio-economic impacts: direct employment generated by operation and maintenance activities, together with indirect and induced employment supported through supply-chain expenditure and expenditure by operational workers.	Preparation and implementation of a Skills and Employment Strategy.	Operation of the Proposed Development would generate direct employment associated with operation, inspection and maintenance activities. Further indirect and induced employment may be supported through expenditure within the supply chain and by operational workers. Although operational employment is expected to be lower than construction employment, the scale and geographical distribution of the effect will be assessed in the ES.	Local Study Area: Potential for significant impact, scoped in National Study Area: No potential for significant impact, scoped out
Local and national economy	Socio-economic impacts: direct, indirect and induced GVA generated through operational expenditure on labour, maintenance, equipment, materials and services.	Preparation and implementation of a Skills and Employment Strategy.	Operational expenditure has the potential to support economic activity within the Local Study Area and nationally. The assessment will estimate direct, indirect and induced GVA associated with operation and maintenance, having regard to anticipated expenditure, sourcing assumptions and applicable economic multipliers. Although this is expected to be lower than during construction, the scale and geographical distribution of the effect will be assessed in the ES.	Local Study Area: Potential for significant impact, scoped in National Study Area: No potential for significant impact, scoped out

Receptor	Potential Impact Pathway	Mitigation	Additional Information	Scoping of Impact Pathways
Local businesses and economic sectors	Wider socio-economic effects: changes in demand for goods and services arising from operation and maintenance expenditure, supply-chain activity and expenditure by operational workers.	No mitigation proposed	Operation and maintenance may provide opportunities for businesses in sectors including engineering, maintenance, transport, accommodation and business services. However, operational employment and expenditure are expected to be relatively limited and dispersed, and are unlikely to result in material wider effects.	No potential for significant impact, scoped out
Local communities	Socio-cultural effects: changes in population, housing demand, demand for local services and community conditions arising from the operational workforce.	No mitigation proposed	Operational employment is not anticipated to result in significant changes to local demographics, demand for services, housing provision or community identity.	No potential for significant impact, scoped out
Local communities	Socio-cultural effects: permanent closure, diversion, severance, restriction or other direct change affecting access to social infrastructure during operation.	Design considerations.	No additional direct impacts on social infrastructure are anticipated during operation and maintenance beyond those established during construction.	No potential for significant impact, scoped out
Local communities	Socio-cultural effects: changes in amenity arising from the presence and operation of turbines and associated infrastructure, including landscape and visual change, operational noise, aviation lighting and maintenance activity.	Design considerations.	There is potential for indirect amenity effects on users of social infrastructure arising from a combination of operational visual and, where relevant, noise effects within the surrounding area.	Potential for significant impact, scoped in
Users of PRow, tourism and recreation assets, and social infrastructure	Tourism and recreation effects: permanent closure, diversion, restriction or other direct change affecting PRow, tourism and recreation assets during operation.	- Design considerations. - Preparation and implementation of a PRow Management Plan, where required.	No additional direct impacts on PRow or tourism and recreation resources are anticipated during operation and maintenance beyond those established during construction.	No potential for significant impact, scoped out
Users of PRow, tourism and recreation assets, and social infrastructure	Tourism and recreation effects: changes in recreational amenity arising from the presence and operation of turbines and associated infrastructure, including landscape and visual change, operational	Design considerations.	There is potential for indirect amenity effects on users of PRow and tourism and recreation receptors arising from a combination of operational visual and, where relevant, noise effects within the surrounding area.	Potential for significant impact, scoped in

Receptor	Potential Impact Pathway	Mitigation	Additional Information	Scoping of Impact Pathways
	noise, aviation lighting and maintenance activity.			
Agricultural land and farm holdings	Land use effects: long-term occupation of agricultural land, severance or restriction of access, and changes to agricultural operations arising from the presence of the Proposed Development.	Design considerations to avoid or minimise the permanent loss of, or loss of access to, BMV agricultural land. Maintenance of suitable agricultural access arrangements.	No new direct impacts on agricultural land are anticipated during operation. Long-term land-use effects arising from the establishment of the Proposed Development will be assessed within the construction assessment.	No potential for significant impact, scoped out
Socio-economic, tourism, recreation and land-use receptors (cumulative)	Combined effects arising from the Proposed Development together with other developments, or from multiple impact pathways associated with the Proposed Development acting on the same receptor.	To be informed by the Socio-Economics, Tourism, Recreation and Land Use assessment and cumulative assessment findings.	Cumulative effects could arise where other developments generate concurrent demand for labour or supply-chain services, affect the same communities or recreational assets, result in additional agricultural land take, or contribute to combined changes in recreational amenity. Inter-project and intra-project cumulative effects will be assessed in accordance with Chapter 18 .	Potential for significant impact, scoped in

15.5 ASSUMPTIONS AND LIMITATIONS

ASSUMPTIONS

- 15.5.1 The Socio-Economics, Tourism, Recreation and Land Use scoping determinations have been undertaken as a desk-based assessment informed by publicly available datasets, published information and consultation responses from relevant stakeholders. For the ES, no primary surveys or fieldwork are currently proposed. The assessment will be based on the most up-to-date information available at the appropriate geographical scale at the time of assessment. Where limitations in the available evidence base are identified, including in relation to tourism, recreation or community use patterns, a precautionary approach will be adopted and any associated assumptions will be clearly stated within the ES.

LIMITATIONS

- 15.5.2 A further limitation is that socio-economic datasets are available at different administrative and geographical scales and do not always align directly with the Study Areas adopted for the assessment. Where data are not available at the preferred geographical level, information for the most appropriate area of best fit will be used, such as local authority-level data in place of ward-level data. Where this approach is required, the rationale and any implications for the assessment will be clearly explained within the ES.

16. AVIATION, RADAR AND TELECOMMUNICATIONS

16.1 INTRODUCTION

- 16.1.1 This Chapter has been prepared by Coleman Aviation on behalf of the Applicant. The EIA will include an Aviation, Radar and Telecommunications Assessment to identify and evaluate the likely significant effects of the Proposed Development on aviation operations, radar systems, telecommunications infrastructure and aviation safeguarding interests during construction, operation and maintenance and decommissioning. The assessment will be undertaken in accordance with relevant Aviation, Radar and Telecommunications guidance and consultation requirements, including guidance published by the Civil Aviation Authority (CAA), Ministry of Defence (MoD), National Air Traffic Services (NATS) and other relevant stakeholders, and will consider effects on civil and military aviation receptors, radar systems and telecommunications infrastructure within the defined Study Areas.
- 16.1.2 The Aviation, Radar and Telecommunications Assessment will establish the baseline aviation, radar and telecommunications environment, identify sensitive receptors and assess the nature and significance of effects arising from the Proposed Development. The assessment will consider effects on airspace arrangements, instrument flight procedures (IFPs), communication, navigation and surveillance (CNS) infrastructure, civil and military radar systems, military low-flying operations, emergency aviation operations, aviation lighting requirements and telecommunications infrastructure. Receptors considered will include civil and military aerodromes, air traffic control and air defence radar systems, military low-flying operations, emergency aviation operators and telecommunications infrastructure. The assessment will be informed by a desk-based review of publicly available information, consultation with relevant stakeholders and, where appropriate, technical appraisal of potential aviation, radar and telecommunications interactions.

- 16.1.3 The findings of the baseline review and ongoing design process have informed the preliminary scoping conclusions presented in this chapter and will continue to inform the evolution of the Proposed Development and preparation of the ES. Where required, additional technical assessments will be undertaken to consider potential effects on aviation infrastructure, radar systems, aviation procedures and telecommunications links. Inter-project and intra-project cumulative effects will be considered where relevant in accordance with the methodology set out in **Chapter 18**.
- 16.1.4 The proposed Aviation, Radar and Telecommunications assessment methodology is provided in **Appendix C**, with the relevant legislation, policy and guidance set out in **Appendix B**.

16.2 STUDY AREA

- 16.2.1 The Aviation, Radar and Telecommunications assessment Study Area has been defined with reference to Civil Aviation Authority (CAA) guidance, CAP 764⁹³, Ministry of Defence (MoD) safeguarding requirements, aerodrome consultation zones, radar line-of-sight considerations and the potential operational influence of turbines with a maximum tip height of up to 220 m. The Study Area encompasses the Site and surrounding area within which aviation, radar or telecommunications interests could potentially be affected by the Proposed Development.
- 16.2.2 Consultation is being, or will be, undertaken with relevant stakeholders, including the CAA, National Air Traffic Services (NATS), the MoD, United States Air Force Europe (USAFE), airport operators, such as Cambridge Airport, and telecommunications providers, as appropriate, to inform the assessment and confirm the extent of the Study Area.
- 16.2.3 The final Study Area will be refined through the assessment process, taking account of stakeholder responses, radar safeguarding requirements, aviation safeguarding criteria and the characteristics of the Proposed Development.

16.3 BASELINE

DESK BASED

- 16.3.1 The Proposed Development is located within Class G (uncontrolled) airspace extending from ground level to Flight Level (FL) 195 (approximately 19,500 ft). Above FL195, the Site lies beneath Class C controlled airspace used principally by aircraft operating on upper air routes between the UK, mainland Europe and North America.
- 16.3.2 Immediately to the south and south-east of the Site lies the Lakenheath/Mildenhall Combined Military Aerodrome Traffic Zone (CMATZ). The CMATZ extends to a radius of approximately 5 nautical miles around Royal Air Force (RAF) Lakenheath and RAF Mildenhall and provides protection for military aircraft undertaking take-off, landing and circuit operations. Whilst the CMATZ remains Class G airspace, the proximity of the Site indicates a potentially important interaction with military aviation activities.
- 16.3.3 Within Class A, C and G airspace, the following ATS rules apply:
- Class A airspace - aircraft operating in Class A airspace must receive an explicit clearance from ATC before entering. Within Class A airspace ATC provides full separation to all participating aircraft and instructions from ATC are mandatory;
 - Class C airspace – all aircraft operating within Class C controlled airspace (i.e. above FL195) must be in receipt of an ATS from NATS En-Route PLC (NERL) or a separate authorised military service provider; and
 - Class G airspace - any aircraft can operate in this area of uncontrolled airspace without mandatory requirement to be in communication with, or receive a radar service from, an ATC unit. Pilots of aircraft operating under VFR in Class G airspace are ultimately responsible for seeing and avoiding other aircraft and obstructions.
- 16.3.4 A review of aviation, radar and telecommunications constraints has identified a range of civil and military receptors that may have the potential to interact with the Proposed Development.

These receptors are summarised in **Plate 16.1** and **Table 16.1** below:

PLATE 16.1 AVIATION RECEPTOR LOCATIONS

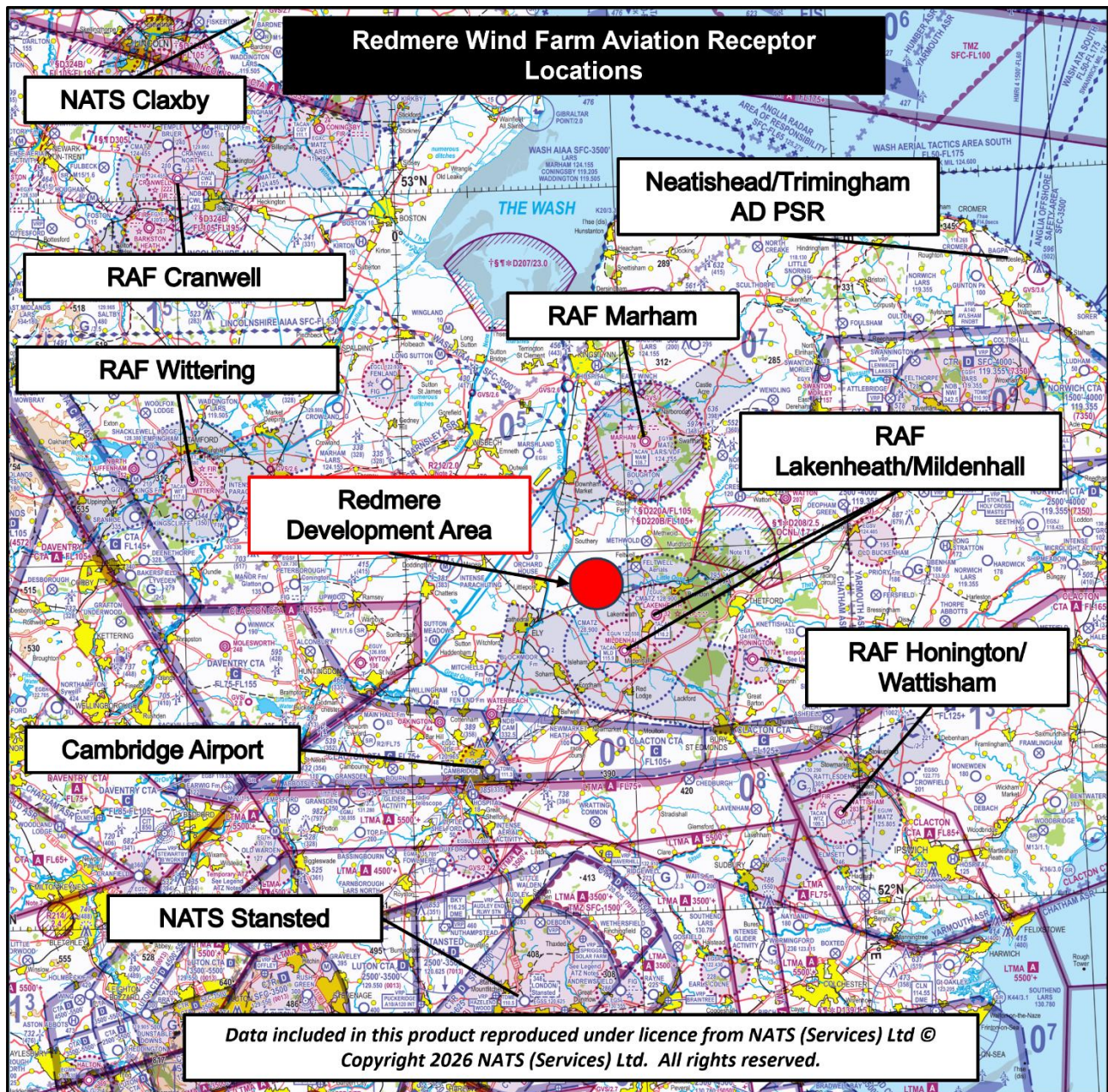


TABLE 16.1 AVIATION, RADAR AND TELECOMMUNICATIONS RECEPTORS

Receptor Category	Receptor	Distance and Direction from Site	Potential Interaction
Civil Aerodrome	Cambridge Airport	Approximately 28 km south-west	Potential effects on IFPs, Communication, Navigation and Surveillance (CNS) infrastructure and safeguarding interests.
Military Aerodrome	RAF Mildenhall	Approximately 9.5 km south-east	Potential effects on military IFPs and aerodrome safeguarding interests.
Military Aerodrome	RAF Lakenheath	Approximately 13 km east-south-east	Potential effects on military IFPs, safeguarding interests and surveillance systems.
Military Aerodrome	RAF Marham	Approximately 30 km north-east	Potential effects on military safeguarding and radar interests.
Military Aerodrome	RAF Wattisham	Approximately 50 km south-east	Potential effects on military safeguarding and radar interests.
Civil ATC Radar	NATS Stansted PSR	Potential radar line-of-sight (RLOS)	Potential radar interference and turbine returns.
Civil ATC Radar	NATS Debden PSR	Potential RLOS	Potential radar interference and turbine returns.
Civil ATC Radar	NATS Cromer PSR	Potential RLOS	Potential radar interference and turbine returns.
Civil ATC Radar	NATS Claxby PSR	Potential RLOS	Potential radar interference and turbine returns.
Civil ATC Radar	Cambridge Airport PSR	Approximately 28 km south-west	Potential radar clutter and surveillance effects.
Military ATC Radar	RAF Lakenheath PSR	Approximately 13 km east-south-east	Potential radar interference.

Receptor Category	Receptor	Distance and Direction from Site	Potential Interaction
Military ATC Radar	RAF Honington PSR	Approximately 28 km south-east	Potential radar interference.
Military ATC Radar	RAF Marham PSR	Approximately 30 km north-east	Potential radar interference.
Military ATC Radar	RAF Wattisham PSR	Approximately 56 km south-east	Potential radar interference.
Military ATC Radar	RAF Wittering PSR	Approximately 65 km north-west	Potential radar interference.
Military ATC Radar	RAF Cranwell PSR	Approximately 89 km north-west	Potential radar interference.
Military Surveillance Radar	RAF Lakenheath SSR	Approximately 13 km east-south-east	Potential effects on secondary surveillance radar operations.
Air Defence Radar	RAF Neatishead ADPSR	Approximately 74 km north-east	Potential radar visibility and operational effects.
Air Defence Radar	RAF Trimingham ADPSR	Approximately 79 km north-east	Potential radar visibility and operational effects.
Military Low Flying	Low Flying Area (LFA) 6	Site located within LFA 6	Potential effects on military low-flying operations.
Emergency Aviation	Air Ambulance, Search and Rescue and Police Air Support operations	Regional operations	Potential obstacle and aviation lighting considerations.

Receptor Category	Receptor	Distance and Direction from Site	Potential Interaction
Telecommunications	Fixed telecommunications links and communication infrastructure	To be confirmed through consultation	Potential signal interference or line-of-sight obstruction.
Meteorological Radar	Met Office weather radar network	Outside safeguarding zones	Significant effects not anticipated.

- 16.3.5 The review of aviation, radar and telecommunications constraints identifies a number of civil and military aviation receptors with the potential to interact with the Proposed Development (**Table 16.1**). Key considerations include potential effects on instrument flight procedures, radar systems, military low-flying operations, aviation lighting requirements and telecommunications infrastructure. The proximity of RAF Mildenhall and RAF Lakenheath indicates that military aviation interests are likely to be a particular focus of the assessment.
- 16.3.6 The Proposed Development lies outside the safeguarding consultation zones associated with operational Met Office weather radar infrastructure and significant effects on meteorological radar systems are not anticipated. The baseline will be refined through ongoing consultation and technical assessment undertaken as part of the EIA.

16.4 SCOPING DETERMINATION OF POTENTIAL LIKELY SIGNIFICANT EFFECTS

- 16.4.1 **Table 16.2** and **Table 16.3** present the scoping determination of potential LSE for the Aviation, Radar and Telecommunications assessment during the construction, decommissioning and operational phases, and identify those matters proposed to be scoped into or out of the EIA.
- 16.4.2 No effects on aviation are expected during the decommissioning phase beyond those identified for the construction phase. Decommissioning activities would principally comprise the dismantling and removal of above-ground infrastructure using construction-type plant and equipment over a temporary and relatively short duration. As the operational turbines and associated structures would be removed, no ongoing aviation impacts would arise, and the nature, scale and extent of decommissioning activities are not anticipated to give rise to any new or materially different effects on aviation receptors compared with those assessed for the construction phase. Accordingly, a separate assessment of the decommissioning phase is proposed to be scoped out of the ES.

TABLE 16.2 AVIATION, RADAR AND TELECOMMUNICATIONS SCOPING DETERMINATION OF POTENTIAL LSE DURING CONSTRUCTION AND DECOMMISSIONING

Receptor	Potential Impact Pathway	Mitigation	Additional Information	Scoping of Impact Pathways
Cambridge Airport IFPs	Physical obstruction associated with turbines, cranes and other tall construction equipment may affect published arrival or departure procedures.	- Consultation with Cambridge Airport. - Formal IFP assessment by a CAA-approved procedure design organisation, where required. - Any necessary amendments to IFPs would be completed and published in the appropriate aviation documentation before construction. Implementation of embedded aviation-safety measures, including obstacle notification, aeronautical charting and Notices to Aviation (NOTAMs).	The Proposed Development lies within the relevant IFP safeguarding area. The assessment will establish whether the proposed turbines or construction equipment would penetrate or otherwise affect protected flight-procedure surfaces.	Potential for significant impact, scoped in
Low flying operations, including military aircraft and civilian Emergency Helicopter Service Units (EHSUs)	Turbine construction and the use of cranes and other tall construction equipment could introduce temporary physical obstacles to low flying operations in the vicinity of the Site. Such obstacles may be difficult to identify from the air, particularly during poor meteorological or visibility conditions, potentially increasing the risk of obstacle collision.	- Consultation with the Ministry of Defence (MoD) and relevant civilian emergency aviation operators. - Advance notification of construction activities and temporary obstacles, including through NOTAMs, where required. - Temporary obstacle marking and lighting, where required.	The Site is located within Low Flying Area 6. Military low flying and civilian emergency helicopter operations may take place in the wider area, and potential effects associated with turbines, cranes and other tall construction equipment cannot currently be excluded. Further assessment and consultation will therefore be undertaken through the EIA.	Potential for significant impact, scoped in
Military aerodrome IFPs associated with RAF Mildenhall, RAF Lakenheath, RAF Marham and RAF Wattisham	Physical obstruction associated with turbines, cranes and other tall construction equipment may affect military arrival, departure or other instrument flight procedures and associated aerodrome operations.	- Consultation with the MoD and United States Air Force Europe (USAFE), as applicable. - Formal IFP assessment by a CAA-approved procedure design organisation, where required. Any necessary amendments to IFPs would be completed and published before construction. - Implementation of embedded obstacle-notification, charting and lighting measures.	The Site is within the designated 30 nm IFP safeguarding zone for military aerodromes. Consultation will be required with MoD. A formal IFP assessment would potentially need to be carried out by a CAA APDO.	Potential for significant impact, scoped in

Receptor	Potential Impact Pathway	Mitigation	Additional Information	Scoping of Impact Pathways
Aviation users and operators during decommissioning	Physical-obstruction effects could arise from cranes and other tall equipment used to dismantle the turbines. These effects would be comparable to, and would not exceed, those identified for construction.	Application of the relevant embedded aviation-safety measures identified for construction, including advance notification, NOTAMs, charting and temporary obstacle lighting, where required.	No aviation effects specific to decommissioning have been identified. Potential effects would arise through the same pathways as construction and would be temporary. As construction represents the worst-case scenario for aviation effects, decommissioning effects are considered to be no greater than those assessed for construction and are therefore proposed to be scoped out.	No potential for significant impact, scoped out
Local minor aerodromes	No interaction with the safeguarding interests or operations of local minor aerodromes is anticipated.	No mitigation proposed.	The Proposed Development lies outside the applicable consultation distances for local minor aerodromes.	No potential for significant impact, scoped out
Prohibited, Restricted and Danger Areas and military Practice and Exercise Areas (PEXAs)	Effects on the use or operation of restricted airspace.	No mitigation proposed.	The Proposed Development lies outside the lateral boundaries of Prohibited, Restricted and Danger Areas and military PEXAs. Its proximity to the Lakenheath/Mildenhall Combined Military Aerodrome Traffic Zone will instead be considered through the relevant individual aviation receptors and impact pathways.	No potential for significant impact, scoped out
Met Office weather radar	No effects on meteorological radar operations are anticipated.	No mitigation proposed.	The Proposed Development lies outside the designated 20 km safeguarding zone of any Met Office weather radar.	No potential for significant impact, scoped out

TABLE 16.3 AVIATION, RADAR AND TELECOMMUNICATIONS SCOPING DETERMINATION OF POTENTIAL LSE DURING OPERATION

Receptor	Potential Impact Pathway	Mitigation	Additional Information	Scoping of Impact Pathways
Cambridge Airport Air Traffic Control Primary Surveillance Radar (ATC PSR)	Operating wind turbines may result in reflected energy appearing as clutter on controllers’ radar screens, which could represent or mask actual aircraft radar returns	Consultation with Cambridge Airport to confirm the potential effect and agree an appropriate technical or operational mitigation solution, where	Radar effects arise principally when turbine blades are moving. Further technical assessment and consultation are required to establish whether the turbines	Potential for significant impact, scoped in.

Receptor	Potential Impact Pathway	Mitigation	Additional Information	Scoping of Impact Pathways
	and affect the provision of radar-based Air Traffic Services.	required. Any required mitigation would be agreed and secured before operation.	would be detectable by, and materially affect, the Cambridge Airport ATC PSR.	
Military Air Defence Primary Surveillance Radars at RAF Neatishead and RAF Trimingham	Operating wind turbines may result in reflected energy appearing as clutter on controllers' radar screens, which could represent or mask actual aircraft radar returns and affect the provision of military radar-based Air Traffic Services.	Consultation with the MoD to confirm effects and identify an agreed mitigation solution, where required. Potential measures may include radar software capable of suppressing turbine clutter or replacement/additional surveillance technology.	Preliminary review indicates that the Proposed Development may be within radar line of sight of the Neatishead and Trimingham Air Defence PSRs. The suitability and availability of mitigation will be established through consultation and technical assessment.	Potential for significant impact, scoped in
Military ATC PSRs at RAF Cranwell, RAF Honington, RAF Lakenheath, RAF Marham, RAF Wattisham and RAF Wittering, together with RAF Lakenheath Secondary Surveillance Radar (SSR)	Moving turbine blades may generate radar clutter or false tracks, mask aircraft returns or otherwise affect the provision of military radar-based Air Traffic Services.	Consultation with the MoD and USAFE, as applicable, supported by radar assessment. An appropriate technical or operational mitigation proposal would be developed and submitted for stakeholder approval where required, with implementation secured before operation.	The Proposed Development is potentially within radar line of sight of the identified military radar systems. RAF Lakenheath is of particular relevance due to its proximity and the potential for interaction with both its PSR and SSR.	Potential for significant impact, scoped in
NATS En-Route plc (NERL) ATC PSRs at Stansted, Debden, Cromer and Claxby	Operating wind turbines may result in reflected energy appearing as clutter on controllers' radar screens, which could represent or mask actual aircraft radar returns and affect the provision of military radar-based Air Traffic Services.	Consultation with NATS to confirm effects and agree mitigation, where required.	Preliminary review indicates potential radar line of sight between the Proposed Development and the identified NERL PSRs. The requirement for mitigation will be determined through technical assessment and consultation.	Potential for significant impact, scoped in
Military low-flying operations, civilian EHSUs and other aviation users	The operational turbines would form permanent tall obstacles, with potential implications for low-flying aircraft and emergency aviation operations. Visible and infrared aviation lighting may also affect aviation operations and the surrounding environment.	Preparation and implementation of an Aviation Lighting Plan in consultation with the CAA and MoD. Provision of visible and MoD-accredited infrared aviation lighting, as required. Notification and charting of turbine locations, dimensions and lighting status. An Aviation Lighting Assessment will identify the minimum visible lighting needed to meet aviation-safety requirements.	The turbines would have a maximum tip height of up to 220 m and would therefore require aviation obstacle lighting. The lighting assessment will be coordinated with the ES Landscape and Visual Impact Assessment where relevant.	Potential for significant impact, scoped in

Receptor	Potential Impact Pathway	Mitigation	Additional Information	Scoping of Impact Pathways
Fixed telecommunications links and communications infrastructure	Turbines may physically obstruct line-of-sight links or cause signal interference, potentially affecting fixed telecommunications services.	Consultation with relevant telecommunications operators. Where an effect is identified, mitigation may include micro-siting, link realignment, relocation or replacement of affected infrastructure, subject to agreement with the operator.	The presence, alignment and sensitivity of potentially affected links will be confirmed through consultation and technical assessment.	Potential for significant impact, scoped in
Local minor aerodromes	Interaction with local minor aerodrome operations.	No mitigation proposed.	The Proposed Development lies outside the applicable consultation distances for local minor aerodromes.	No potential for significant impact, scoped out
Prohibited, Restricted and Danger Areas and military PEXAs	Effects on the use or operation of restricted airspace.	No mitigation proposed.	The Proposed Development lies outside the lateral boundaries of Prohibited, Restricted and Danger Areas and military PEXAs.	No potential for significant impact, scoped out
Met Office weather radar	Effects on meteorological radar operations	No mitigation proposed.	The Proposed Development lies outside the designated 20 km safeguarding zone of any Met Office weather radar.	No potential for significant impact, scoped out
Aviation receptors—cumulative effects	No specific cumulative effect is anticipated because effects on aviation systems and operations are receptor-specific and are addressed individually with the relevant aviation stakeholder.	No mitigation proposed.	Other wind energy developments and existing mitigation arrangements will be reviewed where relevant to understanding the receiving aviation system. However, the acceptability and mitigation of the Proposed Development will be determined on a receptor-by-receptor basis.	No potential for significant impact, scoped out of a standalone cumulative assessment.

16.5 ASSUMPTIONS AND LIMITATIONS

- 16.5.1 The scoping determination is based on the most up-to-date publicly available information available at the time of reporting and has not yet been fully informed by stakeholder consultation. Potential effects on IFPs and radar systems are preliminary and will require confirmation through formal IFP assessments, radar line-of-sight and technical studies, and consultation with relevant stakeholders.
- 16.5.2 The final aviation lighting requirements for the Proposed Development have not yet been determined and will be subject to the findings of a future aviation lighting assessment and agreement with the CAA and MoD. Similarly, the suitability and availability of any radar mitigation measures remain uncertain pending further technical evaluation and stakeholder agreement.
- 16.5.3 The cumulative assessment will assume that aviation effects can be considered separately for each aviation receptor. In addition, the assessment methodology relies substantially on professional judgement in identifying and evaluating effects, as no universally accepted sensitivity and magnitude criteria exist for all aviation receptors.

17. OTHER ENVIRONMENTAL TOPICS

17.1 HUMAN HEALTH

INTRODUCTION

17.1.1 Aspects which have potential to affect human health during construction, operation and maintenance and decommissioning include land contamination, pollution of water supplies, noise and vibration, air quality, traffic, and socio-economics. All these aspects will be covered by other ES chapters, including:

- Hydrology, Hydrogeology, Geology and Peat;
- Traffic and Transport;
- Noise and Vibration;
- Climate Change and Greenhouse Gases; and
- Socio-Economics, Tourism, Recreation and Land Use.

17.1.2 Methodologies proposed to assess potential impacts and effects on Human Health are referred to in the relevant section of **Appendix C** for those chapters noted above.

PROPOSED SCOPE OF THE EIA

17.1.3 A standalone Human Health assessment is proposed to be scoped out of the EIA. Potential effects on human health and wellbeing arising from the Proposed Development will, where relevant, be considered within the specialist assessments presented in the ES. Collectively, these assessments will provide a proportionate and comprehensive evaluation of the pathways through which the Proposed Development could influence human health and wellbeing.

17.1.4 **Table 17.1** presents the proposed scope of Human Health assessment during the construction, decommissioning and operational phases, and identifies those matters proposed to be scoped into or out of the EIA.

TABLE 17.1 PROPOSED SCOPE OF THE HUMAN HEALTH ASSESSMENT

Human Health Pathway	Relevant Receptors	Relevant Assessment Topic(s)	Scoping Justification
Ground and Water Environment	Site workers, future site users, private water supply users and nearby communities	Hydrology, Hydrogeology, Geology and Peat	Potential health effects associated with ground conditions, peat disturbance, land contamination, water quality and flood risk will be assessed through the Hydrology, Hydrogeology and Geology assessment. Any necessary mitigation and residual effects will be identified through that assessment.
Traffic, Access and Community Connectivity	Residents, road users, pedestrians, cyclists, recreational users and local communities	Traffic and Transport	Potential effects relating to construction traffic, road safety, access, severance and transport-related amenity will be assessed through the Traffic and Transport assessment.
Amenity and Wellbeing	Residential properties, recreational users and other sensitive receptors	Noise and Vibration; Landscape and Visual Impact Assessment	Potential effects on amenity, wellbeing and quality of life arising from noise, vibration, construction activity and landscape and visual change will be assessed within the relevant specialist assessments.
Climate, Socio-Economics and Wider Determinants of Health	Local communities, businesses, employees, visitors and the wider population	Climate Change and GHG; Socio-Economics, Tourism, Recreation, and Land Use	Potential effects relating to climate change, employment, recreation, tourism, community amenity and wider determinants of health and wellbeing will be assessed through the Climate Change and GHG and

Human Health Pathway	Relevant Receptors	Relevant Assessment Topic(s)	Scoping Justification
			Socio-Economics, Tourism and Recreation assessments.
Electromagnetic Fields	Occupants of nearby properties, site workers, land users and local communities	Project Design	The BESS and grid connection infrastructure will be designed and installed in accordance with relevant statutory requirements and the ICNIRP guidelines for limiting public exposure to electromagnetic fields. Underground cabling and industry-standard design measures will ensure that EMF levels remain well below applicable exposure limits at publicly accessible locations. Given the regulatory controls governing the design and operation of electrical infrastructure, together with the rapid attenuation of EMFs with distance, significant environmental effects associated with EMF are not anticipated. EMF is therefore proposed to be scoped out of the EIA.
Inter-related Effects	Occupants of nearby properties, site workers, land users and local communities	EIA Cumulative Effects Assessment	Potential interactions between environmental effects relevant to health and wellbeing will be considered through the cumulative and inter-related effects assessment, where appropriate

- 17.1.5 The potential pathways through which the Proposed Development could affect human health and wellbeing will therefore be assessed through the relevant technical assessments within the ES. As these assessments collectively address the principal determinants of health, and no significant health effects are anticipated beyond those already captured within the proposed scope of assessment, a standalone Human Health chapter is not considered necessary or proportionate and is scoped out of the ES.

17.2 AIR QUALITY

INTRODUCTION

- 17.2.1 This section outlines the relevant baseline conditions, policy context and likely significant air quality effects associated with the Proposed Development, along with the proposed approach to assessment and scoping.
- 17.2.2 The proposed Air Quality assessment methodology is provided in **Appendix C**, with the relevant legislation, policy and guidance set out in **Appendix B**.

STUDY AREA

- 17.2.3 The Study Area for the Air Quality assessment will comprise two components relating to construction dust and construction traffic emissions.
- 17.2.4 For the assessment of dust emissions and dust deposition arising from construction activities, the Study Area will include all human and ecological receptors located within 250 m of the Proposed Development construction footprint and associated construction working areas. This distance is consistent with recognised good practice guidance and reflects the zone within which significant dust effects are most likely to occur. Potential dust effects on ecological receptors will be assessed within the Biodiversity and Nature Conservation chapter of the ES.
- 17.2.5 For the assessment of air quality effects associated with construction traffic, the Study Area will comprise roads within the construction traffic route network where changes in traffic

flows attributable to the Proposed Development may occur. Sensitive receptors located within 200 m of affected road links will be considered, together with receptors located within 250 m of site access points and construction compound entrances, where traffic movements are anticipated to be greatest.

BASELINE

- 17.2.6 This section provides a review of existing air quality conditions in the vicinity of the Proposed Development to provide a benchmark against which to assess potential air quality impacts. Baseline air quality data for relevant pollutants will be obtained from publicly available national and local monitoring datasets for the ES.
- 17.2.7 The Proposed Development is not located within an Air Quality Management Area (AQMA). A review of the Department for Environment Food and Rural Affairs (DEFRA) interactive map⁹⁴ indicates that the nearest designated AQMAs are Cambridge AQMA, located approximately 26 km to the south, Wisbech AQMA No. 1 (SO₂), approximately 26 km to the north-west, and Whittlesey AQMA No. 1 (SO₂), approximately 36 km to the west.
- 17.2.8 Sensitive receptors relevant to air quality include residential properties and community facilities located along potential construction traffic routes.

PROPOSED SCOPE OF THE EIA

- 17.2.9 **Table 17.2** presents the scoping determination of potential LSE for the Air Quality assessment during the construction, decommissioning and operational phases, and identify those matters proposed to be scoped into or out of the EIA.

TABLE 17.2 PROPOSED SCOPE OF THE AIR QUALITY ASSESSMENT

Receptor	Potential Impact Pathway	Mitigation	Additional Information	Scoping of Impact Pathway
Local human health receptors along construction traffic routes within the Traffic and Transport Study Area	Changes in concentrations of traffic-related pollutants arising from additional construction vehicle movements.	Construction traffic management measures, where required.	Construction traffic volumes are anticipated to remain below the relevant Local Air Quality Management Technical Guidance (LAQM.TG) screening criteria. However, this will be verified once construction traffic forecasts are available. Where the screening criteria are exceeded, or construction traffic has the potential to affect receptors within an AQMA, a proportionate assessment will be undertaken.	Potential for significant impact, scoped in
Local human health and ecological receptors within and immediately surrounding the Site	Dust and particulate matter generated by earthworks, construction activities, vehicle movements and the handling or storage of materials.	Preparation and implementation of a CEMP, incorporating standard dust-control and good-practice measures.	Construction dust emissions would be temporary and localised in nature and can be effectively controlled through the implementation of standard good practice mitigation measures secured through the CEMP, in accordance with IAQM guidance (IAQM, 2024) ⁹⁵ . With these measures in place, significant effects are not anticipated and this impact pathway is therefore proposed to be scoped out.	No potential for significant impact, scoped out
Local human health and	Dust, particulate matter and	Preparation and	Decommissioning activities are expected to be similar in nature to, and no greater	No potential

Receptor	Potential Impact Pathway	Mitigation	Additional Information	Scoping of Impact Pathway
ecological receptors during decommissioning	vehicle emissions arising from the dismantling and removal of infrastructure.	implementation of a DEMP, incorporating appropriate dust-control and traffic-management measures.	in scale than, construction activities. The construction assessment will therefore represent a reasonable worst-case scenario for decommissioning, and a separate assessment is not proposed.	for significant impact, scoped out

17.3 MAJOR ACCIDENTS AND DISASTERS

INTRODUCTION

- 17.3.1 The EIA Regulations¹ require consideration of the vulnerability of the Proposed Development to major accidents and disasters and the potential for consequential significant effects on the environment. The review covers construction, operation and maintenance and decommissioning, and considers risks to environmental receptors and to people living, working or recreating in the vicinity of the Proposed Development.
- 17.3.2 Across all phases, credible incident pathways include accidental leaks or spillages of oils, fuels, chemicals or waste materials, fire, and infrastructure or equipment failure. Climate-related changes, particularly increased wind speeds, windstorms, heat and dry conditions, could increase loading on infrastructure or contribute to fire risk. These matters have therefore informed the identification of proportionate prevention and response measures.
- 17.3.3 Natural disasters could, in principle, alter the likelihood or consequences of a major accident. Accordingly, these hazards are not expected to materially influence the assessment of major accident scenarios.

STUDY AREA AND BASELINE

- 17.3.4 The Study Area for the major accidents and disasters equates to the area within the Indicative Order Limits.
- 17.3.5 The Proposed Development is not located within an area known for natural disasters such as wildfires, floods, hurricanes, tornadoes, volcanic eruptions, earthquakes, or tsunamis. As climate change progresses, however, weather events are becoming more extreme, and it is likely that the UK will see an increase in large storms, high rainfall events and flooding in the future.
- 17.3.6 There are no Control of Major Accident Hazards sites within 3 miles (4.82 km) of the Proposed Development.

COMPONENT SPECIFIC CONSIDERATIONS

BESS

- 17.3.7 In rare circumstances, battery faults can result in fire or thermal runaway. These hazards are well understood and can be reduced through appropriate siting, system design, thermal management, monitoring, fire detection and suppression, spatial separation and emergency response arrangements. These measures would be secured through a Battery Safety Management Plan. With these controls applied, the BESS is not expected to give rise to likely significant environmental effects.

Wind Turbines

- 17.3.8 Wind turbines incorporate automatic braking and shutdown systems that restrict operation during extreme wind speeds. During severe windstorms, turbines would cease operation to reduce the potential for damage or structural failure. Given the controls incorporated into turbine design and the low likelihood of extreme events at the Site, the risk of infrastructure failure is considered very low.

PROPOSED SCOPE OF THE EIA

- 17.3.9 It is proposed that Major Accidents and Disasters is scoped out as a standalone topic in the EIA. Risks relating principally to occupational or public health and safety would be proportionately addressed through embedded mitigation, detailed design, compliance with applicable health and safety legislation, and established construction and operational controls.
- 17.3.10 Accidental leaks or spillages of oils, fuels, chemicals and wastes are proposed to be scoped out of further assessment under Major Accidents and Disasters. Relevant pollution pathways would be considered in the Hydrology, Hydrogeology and Geology chapter of the ES, with prevention and response measures secured through the Pollution Prevention Plan, CEMP and standard construction mitigation practice.

- 17.3.11 Hurricanes, tornadoes and volcanic activity are proposed to be scoped out because the area is not known to be susceptible to these hazards. Vulnerability and resilience to climate-related natural hazards are also proposed to be scoped out because the identified climate trends are not expected to significantly affect the Proposed Development. Increased windstorms and potential wildfire or fire events associated with infrastructure failure would be managed through design and operational controls, and no likely significant residual effects are anticipated. These matters will nevertheless be considered, as relevant, within the Climate Change and GHG ES chapter.
- 17.3.12 On this basis, no likely significant environmental effects are expected to arise from the vulnerability of the Proposed Development to major accidents or disasters. No standalone ES chapter is therefore proposed. Where relevant, individual technical chapters would identify applicable embedded mitigation, management measures and cross-topic dependencies.
- 17.3.13 **Table 17.3** presents a detailed breakdown of the scope and rationale for scoping out each consideration of the preliminary Major Accidents and Disasters assessment.

TABLE 17.3 PROPOSED SCOPE OF THE MAJOR ACCIDENTS AND DISASTERS ASSESSMENT

Receptor	Potential Impact Pathway	Mitigation	Additional Information	Scoping of Impact Pathways
Soils, peat, surface water, groundwater and ecological receptors; indirectly, people	Accidental leakage or spillage of oils, fuels, chemicals or waste during construction, operation and maintenance or decommissioning, resulting in contamination or pollution	- Appropriate layout and storage controls. - Pollution Prevention Plan (PPP); CEMP and DEMP.	Relevant pollution pathways will be considered in the Hydrology, Hydrogeology and Geology chapter of the ES.	No potential for significant impact, scoped out
People and environmental receptors in the vicinity of the BESS, including air, soils, water and habitats	A battery fault during operation could result in fire or thermal runaway, with potential for heat, smoke, contaminated firewater or other releases to affect nearby receptors	- Appropriate siting, good-practice BESS and fire safety design. - Preparation and implementation of a Battery Safety Management Plan (BSMP).	The BESS will be designed and operated in accordance with relevant industry good practice and fire safety standards	No potential for significant impact, scoped out
People and environmental receptors in proximity to wind turbines	Structural or mechanical failure of a wind turbine during extreme wind conditions could result in damage to infrastructure and localised effects on nearby receptors.	- Compliance with applicable turbine design standards. - Incorporation of safety measures such as automatic braking and shutdown systems; - Regular inspection and maintenance. - Cessation of operation during severe windstorms, where required.	Turbines would cease operating when defined wind-speed thresholds are exceeded. The likelihood of failure is considered very low with standard design and operational controls	No potential for significant impact, scoped out
Proposed Development infrastructure and downstream environmental receptors	Flooding during construction, operation and maintenance or decommissioning could damage infrastructure, mobilise pollutants or increase downstream flood risk.	- Site-specific drainage and flood risk design. - Appropriate siting of infrastructure.	Flood risk would be considered in the Hydrology, Hydrogeology and Geology chapter of the ES.	No potential for significant impact, scoped out
People, habitats, soils and Proposed Development infrastructure	Increased heat and dry conditions could contribute to wildfire or increase the likelihood and consequences of a fire associated with construction activities or operational infrastructure.	- Implementation of fire prevention measures and emergency response procedures - Vegetation management.	Climate-related changes in heat and dryness would inform detailed design, fire prevention and emergency planning. Relevant BESS-specific measures would be confirmed through the BSMP, with these matters covered in the Climate Change and GHG assessment presented in the ES.	No potential for significant impact, scoped out
People, Proposed Development infrastructure and environmental receptors	Hurricanes, tornadoes or volcanic activity could, in principle, damage infrastructure and result in consequential effects on nearby receptors.	Standard resilient design and emergency planning arrangements	These hazards are not considered characteristic of the Site, and no project-specific mitigation beyond standard design and emergency arrangements is identified as necessary	No potential for significant impact, scoped out

Receptor	Potential Impact Pathway	Mitigation	Additional Information	Scoping of Impact Pathways
People, Proposed Development infrastructure and environmental receptors	An unforeseen natural disaster could damage infrastructure or initiate a consequential pollution, fire or safety incident.	• Compliance with relevant design standards. • Inspection and maintenance. • Emergency planning and response arrangements	The available evidence indicates that other natural disasters are unlikely at the Site. The position should be reviewed if new baseline or design information identifies a credible project-specific pathway.	No potential for significant impact, scoped out
Construction and operational workforce; nearby residents, workers and recreational users	General occupational or public safety incidents during construction, operation and maintenance or decommissioning could result from construction activities, vehicle movements, electrical equipment, working at height, infrastructure failure or unauthorised access	• Compliance with the Health and Safety at Work etc. Act 1974 and the Construction (Design and Management) Regulations 2015.	These matters principally relate to occupational and public health and safety rather than environmental effects and would be managed through applicable legislation, detailed design and established industry good practice.	No potential for significant impact, scoped out

17.4 FORESTRY

INTRODUCTION

- 17.4.1 Forestry effects will be considered as part of the EIA process to identify potential impacts on existing trees, woodland and forestry resources within the Proposed Development. The assessment will consider effects arising during construction, operation and maintenance and decommissioning, including any tree felling required to facilitate access tracks, electrical infrastructure and associated works, and consequential effects on woodland structure and management.
- 17.4.2 The Proposed Development is located predominantly within an intensively managed agricultural landscape and substantial woodland removal is not anticipated. However, the extent of any tree felling or woodland loss will be confirmed through the ongoing design process and baseline habitat surveys.
- 17.4.3 The forestry assessment will:
- Identify areas of woodland and trees that may be affected within the Indicative Order Limits;
 - Confirm the species composition, condition and management of affected woodland;
 - Quantify any tree felling or woodland loss required during construction, operation and maintenance or decommissioning;
 - Identify any associated felling licence and compensatory restocking requirements;
 - Consider implications for woodland structure, management and the risk of net deforestation; and
 - Identify measures to avoid or minimise woodland loss and maintain compliance with relevant legislation and guidance, including the Forestry Act 1967⁹⁶ and the UK Forestry Standard⁹⁷.
- 17.4.4 Effects on Ancient Woodland will not be assessed within the Forestry chapter and will instead be considered within Biodiversity and Nature Conservation ES chapter, where potential effects on irreplaceable habitats and designated ecological features will be assessed.

STUDY AREA AND BASELINE

- 17.4.5 The forestry Study Area comprises all land within the Indicative Order Limits where woodland, tree belts, hedgerow trees or other forestry resources may be affected by the Proposed Development.
- 17.4.6 Baseline forestry conditions will be established through review of publicly available mapping, aerial imagery and habitat survey information, supplemented by the detailed UKHab surveys and habitat condition assessments being undertaken for the Proposed Development.
- 17.4.7 The baseline assessment will identify:
- Woodland habitats present within the Indicative Order Limits;
 - Woodland type, extent and condition;
 - The presence of mature trees and tree groups;
 - Areas of plantation woodland, shelterbelts or other managed woodland resources; and
 - Any woodland features that may be affected by the Proposed Development.
- 17.4.8 The findings of the UKHab surveys and condition assessments will be used to confirm the extent, type and condition of woodland habitats and to inform the assessment of potential forestry effects.
- 17.4.9 Ancient Woodland located within the wider area surrounding the Proposed Development has been identified through publicly available datasets and will be considered within the Biodiversity and Nature Conservation assessment. The nearest Ancient Woodland is located approximately 12 km north of the Proposed Development and is therefore well separated from the Indicative Order Limits.

PROPOSED SCOPE OF THE EIA

- 17.4.10 **Table 17.4** identifies the potential forestry effects associated with the Proposed Development and sets out whether these effects are proposed to be scoped into or out of the EIA, together with the justification for each scoping decision.

TABLE 17.4 PROPOSED SCOPE OF THE FORESTRY ASSESSMENT

Potential Effect	Scoped In / Scoped Out	Justification
Loss of woodland and trees within the Indicative Order Limits	Scoped In	Limited woodland removal may be required to facilitate infrastructure associated with the Proposed Development. The extent of any woodland loss will be confirmed through detailed design and habitat surveys.
Effects on woodland structure and management	Scoped In	Any tree felling may alter the extent or management of woodland resources. These effects will be assessed where woodland is affected.
Effects on Ancient Woodland	Scoped Out (Forestry Chapter)	Effects on Ancient Woodland will be assessed within the Biodiversity and Nature Conservation chapter. The nearest Ancient Woodland is located approximately 12 km north of the Proposed Development and no direct effects are anticipated.
Operational forestry effects	Scoped Out	No ongoing forestry impacts are anticipated during operation and maintenance beyond the permanent loss of woodland assessed during construction.
Decommissioning forestry effects	Scoped Out	Decommissioning effects are anticipated to be temporary and of a similar or lesser magnitude than construction effects and are not expected to result in significant additional forestry effects.

17.5 WASTE

Introduction

- 17.5.1 This section sets out the proposed approach to considering waste arising from the construction, operation and maintenance and decommissioning of the Proposed Development. The consideration of waste will address the anticipated types and

quantities of waste generated, the application of the waste hierarchy, and the arrangements for the appropriate storage, handling, transfer, recovery and disposal of waste.

- 17.5.2 Paragraph 1(d) of Schedule 4 to the Infrastructure Planning (EIA) Regulations 2017¹ requires the ES to provide an estimate, by type and quantity, of the waste expected to be produced during the construction and operational phases. Schedule 4 also requires the likely significant effects associated with the disposal and recovery of waste to be described. Although paragraph 1(d) expressly refers to construction and operation (including maintenance), waste arising during decommissioning will also be considered, where relevant, to provide a proportionate lifecycle consideration of the Proposed Development.
- 17.5.3 The Waste (England and Wales) Regulations 2011 establish duties relating to the waste hierarchy, while the Control of Pollution (Amendment) Act 1989 includes controls relating to the transport of controlled waste. The Controlled Waste (England and Wales) Regulations 2012 classify waste as household, industrial or commercial waste, and the Hazardous Waste (England and Wales) Regulations 2005 provide controls for the classification, mixing, movement and documentation of hazardous waste.

Study Area

- 17.5.4 The Study Area will comprise the Indicative Order Limits, within which waste would be generated and temporarily stored, together with appropriately authorised off-site waste management facilities to which waste may be transported for recovery, recycling, treatment or disposal.
- 17.5.5 The geographical extent of waste movements cannot be defined at the scoping stage because the types and capacities of receiving facilities available during construction and decommissioning are not yet known. The ES will therefore identify the relevant waste management context and available capacity at an appropriate geographical scale, based on the

waste streams anticipated and the facilities reasonably available at the time of assessment.

Potential Waste Streams

- 17.5.6 The detailed quantities of waste likely to be generated are not yet known and will depend on the final design, construction methods, material requirements and opportunities for the beneficial reuse of materials. The principal waste streams anticipated at this stage are set out below.

Construction

- 17.5.7 Waste generated during construction may include:
- Excavated soils, subsoils and other materials that cannot be reused within the Site;
 - Surplus concrete and other materials associated with turbine, BESS, substation and ancillary infrastructure foundations;
 - Metals, cabling and electrical installation materials;
 - Timber, plastics, packaging and pallets;
 - Vegetation arising from Site clearance;
 - General waste from construction compounds, offices and welfare facilities;
 - Wastewater arising from dewatering, wheel washing and cleaning activities;
 - Oils, fuels, chemicals, absorbent materials and contaminated containers;
 - Damaged or surplus components and equipment; and
 - Waste arising from the construction of access tracks, hardstandings, fencing, drainage infrastructure and other associated works.

Operation and Maintenance

- 17.5.8 Waste generation during operation and maintenance is expected to be limited principally to routine maintenance, repair and replacement activities. Potential operational waste streams may include:
- Waste oils, lubricants, coolants and filters;

- Replacement turbine, BESS, substation and electrical components;
- Electrical and electronic equipment, cabling and control systems;
- Damaged or end-of-life battery modules and associated equipment;
- Packaging and general maintenance waste; and
- Vegetation arising from landscape, habitat and access management.

17.5.9 Battery modules and other potentially hazardous waste would be stored, handled, transported and treated through appropriately authorised arrangements in accordance with the applicable hazardous waste and waste-management requirements.

Decommissioning

17.5.10 Decommissioning would broadly involve the dismantling and removal of turbines and other above-ground infrastructure, together with the removal or management of electrical plant, buildings, fencing and ancillary equipment. Potential waste streams may include:

- Turbine blades, towers and internal components;
- Metals, cabling, transformers and other electrical equipment;
- BESS battery modules, containers and associated electrical infrastructure;
- Concrete and foundation materials, where removed;
- Track, hardstanding and drainage materials, where removed;
- Demolition and general site-clearance waste; and
- Oils, chemicals and other potentially hazardous materials.

17.5.11 Materials would be reused, recycled or recovered where reasonably practicable, with disposal treated as the least-preferred option in accordance with the waste hierarchy. The detailed approach would be set out in the decommissioning management plan arrangements applicable at that time.

Mitigation and Management

- 17.5.12 Waste would be managed in accordance with the waste hierarchy, prioritising:
- Prevention;
 - Preparation for reuse;
 - Recycling;
 - Other recovery; and
 - Disposal as a last resort.
- 17.5.13 Waste-management measures would be incorporated into a Site Waste Management Plan forming part of the CEMP. The Site Waste Management Plan would include, as appropriate:
- Anticipated waste types and quantities;
 - Opportunities to prevent waste and reuse materials within the site;
 - Measures for waste segregation and secure storage;
 - Arrangements for the management of hazardous waste;
 - Use of appropriately authorised waste carriers and receiving facilities;
 - Waste-transfer and consignment documentation;
 - Monitoring and record-keeping arrangements; and
 - Measures to demonstrate application of the waste hierarchy and compliance with relevant legislation.
- 17.5.14 Operational waste would be managed through appropriate operational procedures, including specific arrangements for battery modules, oils, electrical components and hazardous materials. Waste arising during decommissioning would be addressed through the DEMP or equivalent arrangements applicable at that time.

PROPOSED SCOPE OF THE EIA

- 17.5.15 **Table 17.5** identifies the proposed scope of the assessment of waste generated by the Proposed Development.

TABLE 17.5 PROPOSED SCOPE OF THE WASTE ASSESSMENT

Potential Effect	Scoped In / Scoped Out	Additional Information
Generation and management of waste during construction, operation and maintenance and decommissioning	Waste considerations scoped in; standalone Waste ES chapter scoped out	The ES will provide a proportionate estimate of the types and quantities of waste expected to arise during construction and operation, in accordance with paragraph 1(d) of Schedule 4 to the EIA Regulations¹. Available information on anticipated decommissioning waste will also be provided, recognising the uncertainty associated with forecasting waste-management practices and facility capacity at the end of the Proposed Development's operational life. The waste hierarchy will be applied, materials will be reused within the Site where suitable, and waste will be managed by appropriately authorised contractors and facilities in accordance with applicable legislation. Waste streams and management measures will be controlled through a Site Waste Management Plan and the relevant construction, operational and decommissioning environmental management arrangements. The availability and capacity of suitable waste-management facilities and disposal routes will be reviewed as the design and assessment progress. The

Potential Effect	Scoped In / Scoped Out	Additional Information
		position will be monitored and the assessment updated where changes in the anticipated waste quantities, waste-management routes or available facility capacity could alter the conclusions of the assessment. Subject to confirmation within the ES of anticipated waste types and quantities and the availability of suitable management routes, waste is not expected to give rise to likely significant environmental effects. Waste considerations are therefore scoped into the ES on a proportionate basis, but a standalone Waste ES chapter is scoped out. The relevant information will instead be reported within the description of the Proposed Development and supported by the relevant environmental management and waste-management documentation.
Cumulative effects arising from waste generated by the Proposed Development in combination with other relevant developments, including potential pressure on waste-management and disposal facilities	Scoped In	The ES will consider, on a proportionate basis, whether waste generated by the Proposed Development in combination with waste from other relevant developments could place additional pressure on available waste-management, recovery or disposal facilities. The assessment will be informed by the anticipated waste types and quantities for the Proposed Development, available information

Potential Effect	Scoped In / Scoped Out	Additional Information
		for other relevant developments, and the identified capacity and availability of suitable facilities and management routes. The availability of information on other developments and waste-management capacity will be monitored as the EIA progresses. Where new or updated information indicates a potential change in cumulative demand or facility capacity, the assessment will be reviewed and updated accordingly.

17.6 TRANSBOUNDARY EFFECTS

- 17.6.1 Given the nature and location of the Proposed Development, and the distance from the nearest international border, there is no credible pathway for likely significant environmental effects to occur outside the United Kingdom. Transboundary effects are therefore scoped out of the EIA.

18. CUMULATIVE EFFECTS

18.1 INTRODUCTION

- 18.1.1 The requirement for a cumulative effects assessment (CEA) is established by the EIA Directive (2014/52/EU)⁹⁸ and is transposed into domestic legislation through the EIA Regulations 2017¹. Schedule 4, Paragraph 5(e) of the EIA Regulations requires the ES to include a description of the likely significant effects of the Proposed Development arising from:

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

- 18.1.2 The purpose of the CEA is to identify whether the effects of the Proposed Development, when considered alongside the effects of other relevant developments, plans or projects, could result in cumulative effects that are greater than those arising from the Proposed Development in isolation.
- 18.1.3 The CEA will be undertaken having regard to relevant PINS guidance, including the Nationally Significant Infrastructure Projects: Advice on Cumulative Effects Assessment⁹⁹ guidance, together with other relevant good practice guidance applicable to individual technical topics. Further topic-specific cumulative assessment methodologies are provided in **Appendix C**. Where a topic-specific methodology is not set out in **Appendix C**, the cumulative effects assessment will be undertaken in accordance with the overarching methodology described in this chapter.

18.2 ASSESSMENT SCOPE

- 18.2.1 The CEA will consider:
- Inter-project cumulative effects; and
 - Intra-project cumulative effects.
- 18.2.2 Inter-project cumulative effects comprise effects arising from the Proposed Development in combination with other existing,

consented, under construction and reasonably foreseeable developments.

- 18.2.3 Intra-project cumulative effects comprise effects arising from multiple impact pathways associated with the Proposed Development acting on the same receptor.
- 18.2.4 The requirement for cumulative assessment will be determined by each technical topic based on the sensitivity of receptors, the nature of the potential effects and the likelihood of interaction with other developments or impact pathways.
- 18.2.5 At the scoping stage, the extent and focus of the cumulative assessment cannot be fully defined for all environmental topics because the nature and extent of potential effects arising from the Proposed Development remain under development. The final scope of the cumulative assessment will therefore be refined through the EIA process as baseline information, survey results, consultation responses and assessment findings become available.
- 18.2.6 The cumulative assessment will consider residual effects following the application of embedded and additional mitigation measures, where sufficient information is available.

18.3 INTER-PROJECT CUMULATIVE EFFECTS

- 18.3.1 The inter-project CEA will be undertaken using a four-stage screening and assessment process, as set out below:
- Identification of cumulative developments to establish the cumulative long list (stage 1);
 - Screening and refinement to a cumulative short list (stage 2);
 - Topic-specific cumulative assessment to identify the significant cumulative effects (stage 3); and
 - Assessment of likely significant cumulative effects (stage 4).
- 18.3.2 A 30 km Study Area from the Indicative Order Limits has been applied as an initial administrative search criterion for the identification of developments to be considered within the CEA. This distance has been defined using professional judgement and reflects the broadest spatial extent of the technical

assessments that inform the CEA, including landscape and visual, ecological and ornithological assessments. The 30 km Study Area provides a proportionate and consistent basis for identifying potentially relevant developments and is not constrained by local authority boundaries, which do not necessarily align with the geographic extent of potential environmental effects. While some topic-specific assessments, such as Socioeconomics, Tourism, Recreation and Land Use, may consider effects across a broader geographical area, these assessments do not rely on fixed-distance Study Areas and their wider spatial extent reflects the nature of the receptors and impact pathways being assessed rather than an appropriate basis for identifying cumulative developments. Accordingly, the 30 km Study Area is considered a proportionate initial search area.

- 18.3.3 The CEA Study Area will remain under review throughout the EIA process and may be refined where topic-specific assessments identify a need for a larger or smaller search area.
- 18.3.4 Developments will only progress from the cumulative long list where they have the potential to interact with the Proposed Development through a shared receptor or impact pathway.
- 18.3.5 Inclusion in the long list does not necessarily mean that a development will be assessed by every environmental topic. Each development will be subject to further topic-specific screening, having regard to its nature, scale, planning status, programme, geographical relationship with the Proposed Development, potential for temporal overlap, shared receptors and the presence of a credible cumulative impact pathway. Topic-specific Study Areas and screening criteria may therefore result in developments being included in some assessments but excluded from others.
- 18.3.6 Applications that have been refused, withdrawn or abandoned will generally be excluded unless there is evidence that the development remains reasonably foreseeable, for example through an undetermined replacement application or an appeal. Screening and scoping applications will not be included solely on

the basis of those submissions because they do not constitute full applications and may not provide sufficient design or environmental information to support a meaningful cumulative assessment.

- 18.3.7 **Figure 18.1a-c** presents the preliminary cumulative development long list identified using the initial search criteria.
- 18.3.8 The cumulative development long list will remain under review during the EIA. It will be updated to an appropriate cut-off date before completion of the ES, and the reasons for including or excluding developments from each topic-specific cumulative assessment will be recorded.
- 18.3.9 The Applicant is also promoting the Chatteris Wind Farm (ID 66, as shown in **Figure 18.1c**) project. As both projects are being progressed by the same Applicant and are located within the wider Fenland area, information available through the pre-application process may assist in the identification and assessment of cumulative effects where common receptors or impact pathways exist. Chatteris Wind Farm will therefore be considered within the CEA.

REFINEMENT OF THE LONG LIST OF CUMULATIVE DEVELOPMENTS

- 18.3.10 Following identification of the initial long list of developments, a proportionate screening exercise will be undertaken to identify those developments with the potential to contribute to cumulative effects with the Proposed Development. The screening process will be informed by the topic-specific Study Areas and zones of influence (ZoIs) defined within the individual environmental topic chapters.
- 18.3.11 The ZoIs represent the maximum geographical extent over which the Proposed Development could give rise to potentially significant environmental effects for each receptor group. As such, they provide an appropriate basis for identifying developments that have a realistic potential to interact with the Proposed Development and contribute to cumulative effects.

- 18.3.12 The long list of developments will therefore be reviewed against the topic-specific ZoIs presented in **Table 18.1**. Developments located outside the relevant ZoI, or where there is no credible pathway for cumulative interaction, will be screened out of further consideration. Those developments located within the relevant ZoI and sharing a common receptor or impact pathway with the Proposed Development will be taken forward to the cumulative assessment short list.
- 18.3.13 This approach ensures that the CEA remains proportionate and focused on developments with a realistic potential to contribute to significant cumulative effects, whilst avoiding the inclusion of projects for which no meaningful environmental interaction is anticipated.

TABLE 18.1 PROPOSED SPATIAL SCOPE OF THE CEA

Technical Topic	ZoI
Biodiversity and Nature Conservation	The Site and land within 2 km for local statutory and non-statutory designated sites and protected species; 5 km for nationally designated sites; 10 km for internationally designated sites; and 30 km for designated sites where bats are a qualifying feature. The spatial scope will be refined where ecological connectivity or another credible impact pathway extends beyond these distances.
Ornithology	20 km for European designated sites and 10 km for other statutory designated sites, together with the relevant species-specific survey areas and buffers. The CEA will consider developments with the potential to affect the same designated sites, bird populations, habitats or flight routes.
Cultural Heritage and Archaeology	The Site for direct physical effects; 1 km for non-designated heritage assets and archaeological remains; and 10 km for designated heritage assets and potential setting effects. Developments beyond these distances may be considered where a credible cumulative setting impact pathway is identified, including through the ZTV.
Landscape and Visual	10 km from the outermost proposed turbines for cumulative landscape character effects; 30 km from the outermost proposed turbines for cumulative visual effects; and 2 km from the proposed turbine

Technical Topic	ZoI
	locations for residential visual amenity. The cumulative LVIA will also be informed by the Zone of Theoretical Visibility and the potential for developments to affect common landscape or visual receptors. Appendix C provides further details of the proposed LVIA CEA methodology.
Shadow Flicker	A distance equal to ten times the maximum rotor diameter from each indicative turbine location, plus the proposed 100 m micro-siting allowance, resulting in a Study Area of up to 1.82 km. The cumulative assessment will include other wind farm developments where a receptor falls within overlapping Shadow Flicker Study Areas.
Hydrology, Hydrogeology and Geology	The Site and land within 2 km, extending up to 5 km downstream for hydrological receptors where effects could be transmitted along surface-water or groundwater pathways. For contaminated land, the spatial scope comprises land within the Indicative Order Limits. Cumulative developments will be included where they share a receptor, catchment or credible hydrological, hydrogeological or geological pathway with the Proposed Development.
Climate Change and Greenhouse Gases	GHG emissions: global climatic system, recognising that GHG emissions are cumulative irrespective of their geographical source. Climate Change Resilience Assessment and in-combination climate change impacts: the Proposed Development and the spatial Study Areas adopted by the relevant environmental topic assessments.
Traffic and Transport	The construction traffic routes and highway network expected to be used by traffic associated with the Proposed Development, including the abnormal indivisible load route, together with affected junctions, communities, sensitive highway links and PRow.
Noise and Vibration	Wind farms within 10 km. This reflects the area within which operational, consented, under construction and proposed wind farms may have the potential to make a material contribution to cumulative operational wind turbine noise levels at noise sensitive receptors, in accordance with ARWTN and IOA Good Practice Guide principles.

Technical Topic	ZoI
	Appendix C provides further details of the proposed Noise and Vibration CEA methodology.
Socio-Economics, Tourism, Recreation and Land Use	Socio-economic effects: England and the Local Study Area comprising East Cambridgeshire, West Suffolk and King's Lynn and West Norfolk districts; socio-cultural effects: the Local Study Area and the defined Neighbourhood Study Area; tourism and recreation: the Site and land within 5 km of the Indicative Order Limits; and land use: the Site. The CEA will focus on developments capable of affecting the same labour markets, communities, tourism and recreation receptors, agricultural land or farm holdings.
Aviation, Radar and Telecommunications	No fixed spatial ZoI or standalone cumulative assessment is proposed. Other wind energy developments and existing mitigation arrangements will be reviewed where relevant to understanding effects on individual aviation, radar or telecommunications receptors. Potential interactions will be considered on a receptor-specific basis, informed by safeguarding criteria, IFP areas, radar line-of-sight, low-flying areas, aerodrome operations and telecommunications link alignments.
Air Quality	For construction dust, the construction footprint and associated working areas, together with sensitive human receptors within 250 m. For construction traffic emissions, roads within the construction traffic route network where changes in traffic flows attributable to the Proposed Development may occur, including sensitive receptors within 200 m of affected road links and within 250 m of Site access points and construction compound entrances. Cumulative assessment should focus on other developments whose construction activities or traffic could overlap spatially and temporally with those of the Proposed Development and affect the same sensitive receptors or road links.
Waste	Case-by-case, based on the location and capacity of relevant waste-management infrastructure and the potential for concurrent developments to place combined demand on the same facilities or waste streams.

- 18.3.14 The final cumulative developments included within the ES will be agreed through consultation, where appropriate.

18.4 INTRA-PROJECT CUMULATIVE EFFECTS

- 18.4.1 The intra-project CEA will consider whether multiple environmental effects arising from the Proposed Development could interact to result in a greater overall effect on a common receptor than would be identified through the individual topic assessments alone.
- 18.4.2 The assessment will be informed by the findings of the individual technical assessments presented within the ES and will comprise the following stages:
- Review of significant and non-significant effects identified within the topic chapters;
 - Identification of receptors that may be subject to multiple effects arising from the Proposed Development;
 - Consideration of the interaction between relevant impact pathways affecting those receptors;
 - Assessment of the overall cumulative effect on each receptor; and
 - Identification of any likely significant intra-project cumulative effects.
- 18.4.3 The assessment will focus on receptors for which multiple effects are predicted and where the combined effect may differ from, or be greater than, the individual effects reported within the topic chapters. Where relevant, the assessment will consider the interaction of effects arising from different environmental topics and the influence of multiple impact pathways acting on the same receptor.

19. STRUCTURE OF THE ES

19.1.1 The proposed scope and structure of the ES is as follows:

- ES Volume 1: Non-Technical Summary;
- ES Volume 2: Main Report comprising:
 - Chapter 1 – Introduction;
 - Chapter 2 - Description of the Proposed Development;
 - Chapter 3 - Policy Context;
 - Chapter 4 - Consideration of Alternatives;
 - Chapter 5 - Approach to EIA and Consultation;
 - Chapter 6 - Biodiversity and Nature Conservation;
 - Chapter 7 – Ornithology;
 - Chapter 8 - Cultural Heritage and Archaeology;
 - Chapter 9 - Landscape and Visual;
 - Chapter 10 - Shadow Flicker;
 - Chapter 11 - Hydrology, Hydrogeology, Geology and Peat;
 - Chapter 12 - Climate Change and Greenhouse Gases;
 - Chapter 13 - Traffic and Transport;
 - Chapter 14 - Noise and Vibration;
 - Chapter 15 - Socio-Economics, Tourism, Recreation and Land Use;
 - Chapter 16 - Aviation, Radar and Telecommunications;
 - Chapter 17 - Other Environmental Topics;
 - Chapter 18 - Cumulative Effects; and
 - Chapter 19 – Mitigation Schedule.
- ES Volume 3: Figures; and
- ES Volume 4: Appendices.



References

¹ Department for Energy Security and Net Zero, 2017. The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (SI 2017/572). London: The Stationery Office. Available at: <https://www.legislation.gov.uk/ukxi/2017/572/contents> (Accessed: June 2026)

² Ministry of Housing, Communities and Local Government, 2024. Planning Act 2008: Pre-application stage for Nationally Significant Infrastructure Projects. London: GOV.UK. Available at: <https://www.gov.uk/guidance/planning-act-2008-pre-application-stage-for-nationally-significant-infrastructure-projects> (Accessed: June 2026)

³ Department for Energy Security and Net Zero, 2025. The Infrastructure Planning (Onshore Wind and Solar Generation) Order 2025 (SI 2025/694). London: The Stationery Office. Available at: <https://www.legislation.gov.uk/ukxi/2025/694/made> (Accessed: June 2026)

⁴ Planning Inspectorate (2026) Advice Note 7: Environmental Impact Assessment. June 2026. Bristol: Planning Inspectorate. Available at: <https://www.gov.uk/government/collections/planning-inspectorate-advice-notes> (Accessed: August 2026).

⁵ Institute of Sustainability and Environmental Professionals, 2026. EIA Quality Mark. Available at: <https://www.isepglobal.org/corporate-programmes/eia-quality-mark/> (Accessed: June 2026)

⁶ UK Government, 2016. The Air Navigation Order 2016 (SI 2016/765), Article 222. London: The Stationery Office. Available at: <https://www.legislation.gov.uk/ukxi/2016/765/article/222> (Accessed: June 2026)

⁷ HM Government (2008) Climate Change Act 2008. London: The Stationery Office. Available at: <https://www.legislation.gov.uk/ukpga/2008/27/contents> (Accessed: 26 September 2026).

⁸ HM Government (2019) The Climate Change Act 2008 (2050 Target Amendment) Order 2019. SI 2019/1056. London: The Stationery Office. Available at: <https://www.legislation.gov.uk/ukxi/2019/1056/contents/made> (Accessed: 26 September 2026).

⁹ Climate Change Committee (2020) The Sixth Carbon Budget: The UK's Path to Net Zero. London: Climate Change Committee. Available at: <https://www.theccc.org.uk/wp-content/uploads/2020/12/The-Sixth-Carbon-Budget-The-UKs-path-to-Net-Zero.pdf> (Accessed: 26 September 2026).

¹⁰ Department for Energy Security and Net Zero, 2024. Clean Power 2030 Action Plan: A new era of clean electricity. London: Department for Energy Security and Net Zero.

¹¹ UNFCCC (2015) The Paris Agreement. Available at: <https://unfccc.int/process-and-meetings/the-paris-agreement> (Accessed: June 2026)



ERM

¹² IPCC (2018) Special Report on Warming. Available at: <https://www.ipcc.ch/sr15/> (Accessed: August 2026)

¹³ UN (2025) Emissions Gap Report 2025: Off Target. Available at: <https://www.unep.org/resources/emissions-gap-report-2025> (Accessed: August 2026)

¹⁴ Department for Environment, Food and Rural Affairs (2017) The Conservation of Habitats and Species Regulations 2017. SI 2017/1012. London: The Stationery Office. Available at: <https://www.legislation.gov.uk/uksi/2017/1012/contents/made> (Accessed: September 2026).

¹⁵ UK Government (2025) Planning and Infrastructure Act 2025. Available at: Planning and Infrastructure Act 2025 (Accessed: August 2026)

¹⁶ UK Government (2025) The Infrastructure Planning (Onshore Wind and Solar Generation) Order 2025. Available at: <https://www.legislation.gov.uk/uksi/2025/694/made> (Accessed: August 2026)

¹⁷ UK Government (2026) Overarching National Policy Statement for Energy EN-1. Available at: <https://assets.publishing.service.gov.uk/media/695d1015f41883f4e50ed9ab/overarching-national-policy-statement-for-energy-en-1-web-accessible.pdf> (accessed: August 2026)

¹⁸ 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: August 2026)

¹⁹ UK Government (2026) National Policy Statement for Electricity Networks Infrastructure EN-5. Available at:

https://assets.publishing.service.gov.uk/media/64252f852fa848000cec0f53/NPS_EN-5.pdf (Accessed: August 2026)

²⁰ UK Government (2026) National Planning Policy Framework. Available at: <https://www.gov.uk/guidance/national-planning-policy-framework> (Accessed: August 2026)

²¹ UK Government (2026) Planning Practice Guidance. Available at: <https://www.gov.uk/government/collections/planning-practice-guidance> (Accessed: August 2026)

²² Ministry of Housing, Communities and Local Government (2026) National Infrastructure Planning Guidance Portal. Available at: <https://www.gov.uk/government/collections/national-infrastructure-planning-guidance-portal>. Available at: <https://www.gov.uk/government/collections/national-infrastructure-planning-guidance-portal>. (Accessed: August 2026)

²³ East Cambridgeshire District Council (2015) East Cambridgeshire Local Plan 2015 (as amended 2023). Ely: East Cambridgeshire District Council. Available at: <https://www.eastcambs.gov.uk/sites/default/files/2024-10/Local%20Plan%20adopted%2019%20October%202023%20-%20final%20with%20cover.pdf> (Accessed: September 2026).



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- ²⁴ West Suffolk Council (2025) West Suffolk Local Plan 2024–2041. Bury St Edmunds: West Suffolk Council. Available at: https://www.westsuffolk.gov.uk/planning/Planning_Policies/local_plans/upload/West-Suffolk-Local-Plan-2024-2041-July-2025.pdf (Accessed: September 2026).
- ²⁵ Borough Council of King's Lynn and West Norfolk (2025) King's Lynn and West Norfolk Local Plan 2021–2040. Adopted 27 March 2025. Available at: https://www.west-norfolk.gov.uk/download/downloads/id/9463/local_plan_2021-2040_-_july_2025.pdf (Accessed: September 2026).
- ²⁶ Planning Inspectorate (2025) Nationally Significant Infrastructure Projects: Advice Note Twenty-Six: Good Design. Bristol: The Planning Inspectorate. Available at: <https://www.gov.uk/government/publications/nationally-significant-infrastructure-projects-advice-note-twenty-six-good-design> (Accessed: August 2026)
- ²⁷ Planning Inspectorate (2026) Pre-Application Advice on Environmental Impact Assessment. Bristol: Planning Inspectorate. Available at: <https://www.gov.uk/government/organisations/planning-inspectorate> (Accessed: August 2026)
- ²⁸ Planning Inspectorate, 2026. Nationally Significant Infrastructure Projects – Advice Note Seven: Environmental Impact Assessment: process, preliminary environmental information and environmental statements. London: GOV.UK. Available at: <https://www.gov.uk/government/publications/nationally-significant-infrastructure-projects-advice-note-seven-environmental-impact-assessment-process-preliminary-environmental-information-and-env> (Accessed: August 2026)
- ²⁹ Planning Inspectorate, 2026. Nationally Significant Infrastructure Projects – Advice Note Seven: Environmental Impact Assessment: process, preliminary environmental information and environmental statements. London: GOV.UK. Available at: <https://www.gov.uk/government/publications/nationally-significant-infrastructure-projects-advice-note-seven-environmental-impact-assessment-process-preliminary-environmental-information-and-env> (Accessed: June 2026)
- ³⁰ IEMA (2024) Implementing the Mitigation Hierarchy from Concept to Construction. Available at: <https://www.iema.net/media/oone2qce/iema-mitigation-in-eia-guidance-final.pdf> (Accessed: August 2026)
- ³¹ NatureScot guidance for onshore wind farms, 2025. Available at: <https://www.nature.scot/doc/recommended-bird-survey-methods-inform-impact-assessment-onshore-windfarms>.
- ³² NatureScot (2025) Recommended bird survey methods to inform impact assessment of onshore wind farms. Inverness: NatureScot. Available at: <https://www.nature.scot/doc/recommended-bird-survey-methods-inform-impact-assessment-onshore-windfarms>. (Accessed: August 2026)
- ³³ NatureScot (2024) Guidance on Using an Updated Collision Risk Model to Assess Bird Collision Risk at Onshore Wind Farms. Inverness: NatureScot. Available at:



ERM

<https://www.nature.scot/doc/guidance-using-updated-collision-risk-model-assess-bird-collision-risk-onshore-wind-farms> (Accessed: September 2026)

³⁴ Guidelines for Landscape and Visual Impact Assessment 3rd Edition, (Landscape Institute and the Institute of Environmental Assessment), 2013 (Accessed: September 2026)

³⁵ Using LANDMAP in Landscape and Visual Impact Assessment GN46, (NRW), 2025. Available at: <https://naturalresources.wales/guidance-and-advice/business-sectors/planning-and-development/evidence-to-inform-development-planning/using-landmap-in-landscape-and-visual-impact-assessments-gn46/?lang=en>. (Accessed: September 2026)

³⁶ An Approach to Landscape Character Assessment, The Countryside Agency and Scottish Natural Heritage, 2002, (updated by Natural England in 2014) (Accessed: September 2026)

³⁷ National Character Area 46: The Fens (Natural England), 2013. Available at: <https://publications.naturalengland.org.uk/publication/6229624>. (Accessed: September 2026)

³⁸ National Character Area 85: The Brecks (Natural England), 2015. Available at: <https://publications.naturalengland.org.uk/publication/4282581>. (Accessed: September 2026)

³⁹ National Character Area 87: East Anglian Chalk (Natural England), 2014. Available at: <https://publications.naturalengland.org.uk/publication/6417815967891456> (Accessed: September 2026)

⁴⁰ East of England Landscape Typology (Natural England), 2011. Available at: <http://landscape-east.org.uk/east-england-landscape-typology> (Accessed: September 2026)

⁴¹ King's Lynn & West Norfolk Landscape Character Assessment (Chris Blandford Associates), 2007. Available at: https://www.west-norfolk.gov.uk/downloads/download/77/landscape_character_assessment (Accessed: September 2026)

⁴² Breckland District Council Landscape Character Assessment (Land Use Consultants), 2007. Available at: <https://nsip-documents.planninginspectorate.gov.uk/published-documents/EN010079-002545-DL3%20-%20Norfolk%20Vanguard%20Limited%20-%20ExA%3B%20ISH%3B%2010.D3.1F%202.1%20Landscape%20Character%20Assessment%20Breckland.pdf> (Accessed: September 2026)

⁴³ West Suffolk Landscape Character Assessment (Sheilsflynn), 2022. Available at: https://westsuffolk.inconsult.uk/gf2.ti/-/1243586/135572805.1/PDF/-/West%20Suffolk%20LCA%20Main%20Report_April%202022.pdf (Accessed: September 2026)

⁴⁴ Environmentally Sensitive Areas (England), (Natural England), 2023. Available at: <https://naturalengland-defra.opendata.arcgis.com/datasets/environmentally-sensitive-areas-england/explore?location=52.502853%2C1.086983%2C10> (Accessed: September 2026)



⁴⁵ European Site Conservation Objectives for Breckland SPA (UK9009201) (Natural England), 2014. Available at: <https://publications.naturalengland.org.uk/publication/4572292419944448> (Accessed: September 2026)

⁴⁶ Breckland Designated Special Area of Conservation (SAC), JNCC, 2015. Available at: <https://jncc.gov.uk/jncc-assets/SAC-N2K/UK0019865.pdf> (Accessed: September 2026)

⁴⁷ Breckland Forest Site of Special Scientific Interest (SSSI), Natural England, 2026. Available at: <https://www.planning.data.gov.uk/entity/14504034> (Accessed: September 2026)

⁴⁸ West Suffolk Local Plan 2024-2041, West Suffolk Council, 2025. Available at: https://www.westsuffolk.gov.uk/planning/Planning_Policies/local_plans/upload/West-Suffolk-Local-Plan-2024-2041-July-2025.pdf (Accessed: September 2026)

⁴⁹ Residential Visual Amenity Assessment (RVAA) Technical Guidance Note 2/19, Landscape Institute (2019). Available at: <https://landscapewpstorage01.blob.core.windows.net/www-landscapeinstitute-org/2019/03/tgn-02-2019-rvaa.pdf> (Accessed: September 2026)

⁵⁰ Technical Guidance Note 2/19 Residential Visual Amenity Assessment (RVAA) (Landscape Institute), 2019. Available at: <https://landscapewpstorage01.blob.core.windows.net/www-landscapeinstitute-org/2019/03/tgn-02-2019-rvaa.pdf> (Accessed: September 2026)

⁵¹ Department of Energy and Climate Change, 2011. Update of UK Shadow Flicker Evidence Base. London: DECC.

⁵² Environment Agency (2026) River modelling: technical standards and assessment. (Accessed: September 2026).

⁵³ Cranfield University (2024) Soilscales England and Wales: 1:250,000 Simplified Soils Dataset [Dataset]. Cranfield: Cranfield University, National Soil Resources Institute. Available at: <https://www.arcgis.com/home/item.html?id=ab736aab3f9b4ea49807977f917df90b> (Accessed: September 2026).

⁵⁴ Environment Agency (2026) Catchment Data Explorer [Dataset and mapping portal]. Environment Agency. (Accessed: September 2026).

⁵⁵ Met Office (2026) UK Climate Averages . Exeter: Met Office. Available at: <https://www.metoffice.gov.uk/research/climate/maps-and-data/location-specific-long-term-averages> (Accessed: September 2026).

⁵⁶ British Geological Survey (2026a) GeoIndex Onshore: Borehole Records [Dataset and online mapping resource]. Keyworth: British Geological Survey. Available at: <https://www.bgs.ac.uk/map-viewers/geoindex-onshore/> (Accessed: September 2026).

⁵⁷ British Geological Survey (2026b) BGS Geology Viewer [Online mapping resource]. Keyworth: British Geological Survey. Available at: <https://www.bgs.ac.uk/map-viewers/bgs-geology-viewer/> (Accessed: September 2026).

⁵⁸ Cranfield University (2026) National Soil Map of England and Wales (NATMAP) [Dataset]. Cranfield: Cranfield University, National Soil Resources Institute. Available at: <https://portal.landis.org.uk/> (Accessed: September 2026).



-
- ⁵⁹ Department for Environment, Food and Rural Affairs (2026) MAGIC: Multi-Agency Geographic Information for the Countryside [Online mapping resource]. London: Department for Environment, Food and Rural Affairs. Available at: <https://magic.defra.gov.uk/> (Accessed: September 2026).
- ⁶⁰ Environment Agency (2026a) River Basin Management Plans and Catchment Data Explorer [Dataset and mapping portal]. Environment Agency. (Accessed: September 2026).
- ⁶¹ Environment Agency (2017) Groundwater Vulnerability Maps [Dataset]. Bristol: Environment Agency. Available at: <https://www.data.gov.uk/dataset/42d7d021-538c-46e2-abbb-644e01c63551/groundwater-vulnerability-maps-2017-on-magic> (Accessed: 26 September 2026).
- ⁶² Environment Agency (2026c) Aquifer Designation Maps (Bedrock and Superficial Deposits) [Dataset]. Environment Agency. (Accessed: September 2026).
- ⁶³ Environment Agency (2026c) Flood Map for Planning: Flood Zones [Dataset and online mapping portal]. Bristol: Environment Agency. Available at: <https://flood-map-for-planning.service.gov.uk/> (Accessed: September 2026).
- ⁶⁴ Environment Agency (2026d) Drinking Water Safeguard Zones [Dataset]. Bristol: Environment Agency. Available at: <https://magic.defra.gov.uk/> (Accessed: September 2026).
- ⁶⁵ Joint Nature Conservation Committee (2026) Geological Conservation Review Sites [Online database]. Peterborough: Joint Nature Conservation Committee. Available at: <https://jncc.gov.uk/our-work/gcr-sites/> (Accessed: 26 September 2026).
- ⁶⁶ National Biodiversity Network Trust (2026) NBN Atlas. Available at: <https://nbnatlas.org/> (Accessed: 28 September 2026).
- ⁶⁷ Natural England (2025) England Peat Map: Final Report. Natural England Research Report NERR149. York: Natural England. Available at: <https://publications.naturalengland.org.uk/publication/5075614867128320> (Accessed: 26 September 2026).
- ⁶⁸ Department for Environment, Food and Rural Affairs (2026) MAGIC: Multi-Agency Geographic Information for the Countryside [Online mapping resource]. London: Department for Environment, Food and Rural Affairs. Available at: <https://magic.defra.gov.uk/> (Accessed: 26 September 2026).
- ⁶⁹ Zetica Ltd (2026) Unexploded Bomb Risk Maps [Online mapping resource]. Witney: Zetica Ltd. Available at: <https://zeticauxo.com/guidance/risk-maps/> (Accessed: 26 September 2026).
- ⁷⁰ Scottish Government, Scottish Natural Heritage and Scottish Environment Protection Agency (2017) Peatland Survey: Guidance on Developments on Peatland. Edinburgh: Scottish Government. Available at: <https://www.gov.scot/publications/peatland-survey-guidance/> (Accessed: 26 September 2026).
- ⁷¹ Department for Energy Security and Net Zero (DESNZ) (2025) UK local authority and regional greenhouse gas emissions statistics. London: Department for Energy Security and Net



Zero. Available at: <https://www.gov.uk/government/collections/uk-local-authority-and-regional-greenhouse-gas-emissions-national-statistics> (Accessed: September 2026).

⁷² Met Office (2019) UK Climate Projections 2018 (UKCP18). Exeter: Met Office. Available at: <https://www.metoffice.gov.uk/research/approach/collaboration/ukcp> (Accessed: September 2026).

⁷³ Climate Change Committee (2020) The Sixth Carbon Budget: The UK's Path to Net Zero. London: Climate Change Committee. Available at: <https://www.theccc.org.uk/publication/sixth-carbon-budget/> (Accessed: September 2026).

⁷⁴ Climate Change Committee (2025) Progress in reducing emissions in the UK: 2025 Report to Parliament. London: Climate Change Committee. Available at: <https://www.theccc.org.uk> (Accessed: September 2026)

⁷⁵ Scottish Government (2025) Carbon Calculator for Wind Farms. Edinburgh: Scottish Government. Available at: <https://www.gov.scot/publications/carbon-calculator/> (Accessed: September 2026).

⁷⁶ UK Government, 2008. Climate Change Act 2008 (c.27). London: The Stationery Office. Available at: <https://www.legislation.gov.uk/ukpga/2008/27/contents> (Accessed: August 2026)

⁷⁷ IPCC, 2021. Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge: Cambridge University Press. Available at: <https://www.ipcc.ch/report/ar6/wg1/> (Accessed: August 2026).

⁷⁸ Climate Change Committee, 2025. The Seventh Carbon Budget: Advice to the UK Government. London: Climate Change Committee. Available at: <https://www.theccc.org.uk/publication/the-seventh-carbon-budget/> (Accessed: August 2026).

⁷⁹ BSI, 2014. BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites. Part 1: Noise. London: BSI. (Accessed: August 2026).

⁸⁰ BSI, 2014. BS 5228-2:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites. Part 2: Vibration. London: BSI. (Accessed: August 2026).

⁸¹ BSI, 2019. BS 4142:2014+A1:2019 Methods for rating and assessing industrial and commercial sound. London: BSI. (Accessed: August 2026).

⁸² DESNZ, 2024. Assessment and Rating of Wind Turbine Noise: Guidance for Local Authorities and Consultants (ARWTN). London: DESNZ. (Accessed: August 2026).

⁸³ National Highways (2020) LA 111 Noise and Vibration (Revision 2). Design Manual for Roads and Bridges (DMRB). Available at: <https://www.standardsforhighways.co.uk/dmrp/search/cc8cfcf7-c235-4052-8d32-d5398796b364> (Accessed: September 2026)

⁸⁴ ONS (2026), Annual Population Survey (APS), 2025. (Accessed: August 2026).

⁸⁵ ONS (2025), Subregional productivity: labour productivity indices by local authority district, 2023. (Accessed: August 2026).

⁸⁶ ONS (2026), Annual Survey of Hours and Earnings (ASHE), 2025. (Accessed: August 2026).



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⁸⁷ ONS (2026), Business Register and Employment Survey (BRES), 2024. (Accessed: August 2026).

⁸⁸ ONS (2026), Population Estimates, 2024. (Accessed: August 2026).

⁸⁹ ONS (2026), Population Estimates, 2024. (Accessed: August 2026).

⁹⁰ ONS (2022), Census, 2021. (Accessed: August 2026).

⁹¹ ONS (2025), Index of Multiple Deprivation (IMD), 2025. (Accessed: August 2026).

⁹² Department for Environment, Food and Rural Affairs (Defra), 2025. Predictive Agricultural Land Classification (ALC) Map. Available at:

<https://environment.data.gov.uk/dataset/a817d96f-271d-487b-89ad-48d271f931aa> (Accessed: August 2026).

⁹³ Civil Aviation Authority (CAA) (2016) CAP 764: Policy and Guidelines on Wind Turbines. 6th edn. Gatwick: Civil Aviation Authority. (Accessed: August 2026).

⁹⁴ Defra (ongoing) Air Quality Management Areas (AQMAs) – Interactive Maps. Available online at: <https://uk-air.defra.gov.uk/aqma/maps/>. (Accessed: August 2026)

⁹⁵ Institute of Air Quality Management (IAQM) (2024) Guidance on the Assessment of Dust from Demolition and Construction. London: IAQM. (Accessed: August 2026).

⁹⁶ Department for Environment, Food and Rural Affairs (DEFRA) (1967) Forestry Act 1967 (as amended). London: HMSO. Available at: legislation.gov.uk (Accessed: September 2026).

⁹⁷ Forestry Commission (2023) The UK Forestry Standard: The Government's Approach to Sustainable Forestry. Edinburgh: Forestry Commission. Available at: gov.uk (Accessed: September 2026).

⁹⁸ European Union (2014) Directive 2014/52/EU. Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32014L0052>. (Accessed: August 2026)

⁹⁹ Planning Inspectorate (2025) Nationally Significant Infrastructure Projects: Advice on Cumulative Effects Assessment. Bristol: The Planning Inspectorate. Available at: <https://www.gov.uk/government/publications/nationally-significant-infrastructure-projects-advice-on-cumulative-effects-assessment> (Accessed: August 2026).