



**West
Oxfordshire**
ENERGY PARK

Planning Inspectorate Reference: EN0110047

Environmental Impact Assessment EIA Scoping Report
September 2026



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GLOSSARY

TERM	DESCRIPTION
Additionality	The extent to which an economic benefit, such as employment or investment, would occur as a result of a development and would not otherwise have occurred.
Agricultural Land Classification (ALC)	A method for assessing the quality of farmland to enable informed choices to be made about its future use within the planning system.
Air Quality Management Area (AQMA)	An AQMA is a designated area where monitored or modelled pollution levels exceed, or are likely to exceed, national air-quality objectives, requiring the local authority to prepare and implement an action plan to reduce emissions.
Air Quality Objective (AQO)	AQOs are the legal concentration limits for key pollutants (such as NO ₂ , PM ₁₀ and PM _{2.5}) set by the UK Government to protect public health, and they form the benchmark used in monitoring, AQMAs and planning-related air-quality assessments.
Air Traffic Control Tower (ATCT)	A tower at an airfield that controls the movement of aircraft at that specific airfield.
Alternating Current (AC)	An electric current which periodically reverses its direction of flow and changes magnitude in a cyclical pattern. The standard format used for power grids and household outlets.
Annual Exceedance Probability (AEP)	A probability-based measure used in flood risk management to describe the likelihood of a flood occurring in a single year.
Annual Average Daily Traffic (AADT)	AADT is the average number of vehicles passing a specific road point per day, calculated across an entire year to smooth out seasonal and weekly variations.
Anti-Reflective Coating (ARC)	A coating which helps reduce the reflective properties of solar panels.
Automatic Traffic Counter (ATC)	A traffic survey technique to collect speed and traffic volume data over a 7-day period.
Azimuthal Field of View (AFOV)	Extent of the pilots horizontal field of view measured in degrees left and right from directly in front of the cockpit.
Background noise	The noise level rarely fallen below in any given location over any given time period, often classed according to daytime, evening or night-time periods (also referred as baseline noise level)
Baseline	The baseline conditions are the conditions that would exist in the absence of any proposed

	development either (a) at the time that construction is expected to start, for impacts arising from construction or (b) at the time that the Development is expected to open to traffic, for impacts arising from its operation.
Battery Energy Storage System (BESS)	Technology that stores electrical energy for later use.
Best and Most Versatile (BMV)	Refers to agricultural land which is classified as Grade 1, 2 and 3.
Biodiversity Net Gain (BNG)	An approach to development and/or land management that aims to leave the natural environment in a measurably better state than it was beforehand.
British Horse Society (BHS)	UK's largest equestrian charity and group that focus' on the welfare of horses and people who ride/look after horses.
British Standards Institution (BSI)	The UK's national standards body, responsible for developing and publishing standards and guidance across a range of sectors, including sustainability and environmental management.
Civil Aviation Authority (CAA)	UK's independent aerospace regulator, ensuring safety of aviation and people.
Combined Local Authority District area	A study area comprising West Oxfordshire, Vale of White Horse, Swindon and Cotswold local authority districts, used where effects may extend across administrative boundaries.
Climate Change Committee (CCC)	The UK Government's independent statutory adviser on climate change, established under the Climate Change Act 2008 to advise on emissions targets and report on progress towards reducing greenhouse gas emissions and adapting to climate change.
Climate Change Risk Assessment (CCRA)	The UK Government's assessment of the risks and opportunities arising from climate change, published every five years under the Climate Change Act 2008.
Cotswold District Council (CDC)	An adjacent local authority to the Site's local authority.
Construction Industry Training Board	The industry training board for the UK construction sector, which provides labour-market intelligence, skills research and training support.
Construction Logistics and Community Safety (CLOCS)	A national safety initiative for construction vehicles and logistics
Closed-Circuit Television (CCTV)	A closed-circuit surveillance system which transmits its signal to a specific location.
Construction Environmental Management Plan (CEMP)	A document setting out the roles and responsibilities, control measures, training and briefing procedures, risk assessments, and

	monitoring systems to be employed during planning and construction of the works for all relevant environmental topic areas.
Carbon Dioxide (CO ₂)	One of the seven greenhouse gases covered under the Kyoto Protocol.
Construction Traffic Management Plan (CTMP)	A document setting out the roles and responsibilities, control measures, risk assessments, mitigation and monitoring systems in relation to traffic and transport to be employed during construction of the proposed development.
Construction Design Management (CDM) Regulations	UK laws that set the standard for managing health, safety and welfare on construction projects.
Control of Major Accident Hazards (COMAH)	A set of safety regulations in the UK designed to prevent and limit the impact of major industrial accidents involving dangerous substances.
Cumulative effects	Environmental effects that result from the incremental impact of an action when added to other past, present or reasonably foreseeable actions. Each impact by itself may not be significant but can become a significant effect when combined with other impacts.
Cumulative Effects Assessment (CEA)	Assessment of the cumulative effects of a development. This includes cumulative effects with other developments in the vicinity and in-combination effects where multiple different environmental effects arise on a single receptor.
Decommissioning Environmental Management Plan (DEMP)	A site-specific framework which details how environmental impacts, legal compliance and waste management will be controlled during the Decommissioning Phase of a development.
Department for Business, Energy and Industrial Strategy (DBEIS)	A UK Government ministerial department which existed from July 2016 to February 2023, at which point it was split into three separate bodies, including the Department for Energy Security and Net Zero.
Department for Energy Security and Net Zero (DESNZ)	A UK Government ministerial department, created in February 2023, which manages energy security, works to lower consumer energy bills, and leads the transition to net-zero carbon emissions.
Department for Environment, Food & Rural Affairs (Defra)	Defra is the UK government department responsible for environmental protection, air quality, climate policy, agriculture, water, and rural affairs.
Department for Transport (DfT)	A UK Government ministerial department responsible for the English transport network and non-devolved transport matters across Scotland, Wales, and Northern Ireland
Department of Energy and Climate Change (DECC)	A former ministerial department for the UK, established to bring together energy policy and climate change mitigation.

Development Consent Order (DCO)	A statutory order granting development consent for a Nationally Significant Infrastructure Project under the Planning Act 2008.
Development Consent Order (DCO) Site Boundary	The boundary of the Proposed Development for the purpose of EIA Scoping.
Direct Current (DC)	An electric current which flows continuously and consistently in one direction with fixed positive and negative polarity. Commonly produced by sources such as batteries and solar photovoltaic cells.
Direct, indirect and induced employment	Direct employment comprises jobs created on or directly delivering a development. Indirect employment comprises jobs supported through the development's supply chain. Induced employment comprises jobs supported by expenditure of direct and indirect workers and businesses in the wider economy.
Displacement	The extent to which the benefits of a development in one area or business occur at the expense of activity, employment or investment elsewhere.
Electromagnetic Fields (EMF)	A physical field produced by electrically charged objects that exerts a force on other charged objects in its vicinity.
Energy Networks Association (ENA)	The industry body that represents companies operating the electricity and gas transmission and distribution networks in the UK and Ireland.
Environment Agency (EA)	A public body in England that protects and improves the environment.
Environmental Health Officer (EHO)	EHO is a local-authority professional responsible for public-health protection across areas such as air quality, noise, contaminated land, food safety and housing standards.
Environmental Impact Assessment (EIA)	A process by which information about environmental effects of a proposed development is collected, assessed and used to inform decision-making. For certain projects, EIA is a statutory requirement.
Environmental permit	Permits are needed to carry out a wide range of specified activities lawfully under the Environmental Permitting (England and Wales) Regulations 2016.
Environmental Protection UK (EPUK)	EPUK is a national charity that provides expert guidance, policy advice and advocacy on air quality, noise and land contamination to support better environmental standards across the UK
Environmental Statement (ES)	A document produced in accordance with the EIA Directive as transported into UK law by the EIA Regulations to report the results of an EIA.
European Protected Species Mitigation Licence (EPSL)	European Protected Species (such as bats) receive full protection under the Conservation of Species and Habitat Regulations 2010. A European

	Protected Species Licence (EPSL) permits otherwise prohibited action under the above legislation.
European Union (EU)	A political and economic union of European countries whose legislation and policy have influenced environmental and climate regulation in the UK.
Extended Phase 1 habitat survey	A classification system used to record semi-natural vegetation, notable/protected habitats, and habitats with the potential to support notable/protected species. Each habitat type/feature is defined by way of a brief description and is allocated a specific name, an alpha-numeric code, and unique mapping colour.
Exolum fuel pipeline	A large underground network of pipes in the UK used to transport liquid fuels (e.g. aviation fuels, diesel, petrol) safely and quickly. Originally built during World War II to supply fuel to military airfields.
Farm Business Tenancy (FBT)	A legal agreement under which agricultural land and/or buildings are let to a tenant for the purposes of operating a farm business.
Federal Aviation Authority (FAA)	United States federal government agency that regulates civil aviation within the United States.
Fire and Rescue Service (FRS)	A network of statutory public organisations tasked with tackling fires and protecting life and property in the event of fires in their given areas.
Fixed South Facing	A PV Panel mounting structure option where panels are arranged in rows running from east to west and face south at a fixed tilt. This is the most common PV Panel mounting structure used within existing UK solar farms.
Flood risk	The exposure, vulnerability and hazard associated with flooding.
Flood Risk Assessment (FRA)	A technical evaluation which identifies potential flooding hazards to a specific property or development site and the effects they may have.
Flood zone	Zones referring to the probability of river and sea flooding, ignoring the presence of defences. Flood Zone 3 designates land that could be affected by a 1 in 100 year (1% chance) flood event. Flood Zone 2 designates land that could be affected by a major flood (1 in 1000, or 0.1% chance). Flood Zone 1 designates land that is very unlikely to experience flooding (<0.1%).
Full-Time Equivalent (FTE)	A measure of employment or staffing that converts part-time working hours into the equivalent number of full-time posts.

General Practitioner (GP)	A doctor providing primary healthcare services within the community, usually through a GP practice.
Greenhouse Gas (GHG)	Any gas in the atmosphere that contributes to the greenhouse effect.
Glint and Glare	Glint can be produced as a direct reflection of the sun from a reflective surface and can be described as a momentary flash. Glare is significantly less intense in comparison to glint and can be described as a continuous source of bright light, relative to diffused light.
Grid Connection Infrastructure	Underground Cabling that transfers energy between the Main Substation and the National Grid Substation.
Habitat Regulations Assessment (HRA)	A formal assessment of the implications of any new plans or projects that may be capable of affecting the designated interest features of European Sites before deciding whether to undertake, permit or authorise such a plan or project.
Health and Safety Executive (HSE)	Great Britain's national regulator and independent watchdog for workplace health, safety and welfare.
Health deprivation and disability domain	One of the domains within the Index of Multiple Deprivation. It measures the risk of premature death and impairment of quality of life through poor physical or mental health and disability.
Health Impact Assessment (HIA)	A structured process used to identify and assess the potential effects of a proposal on the health and wellbeing of individuals and communities, including how effects may be distributed between population groups.
Heavy Duty Vehicles (HDV)	Vehicle with a gross weight of more than 3.5 tonnes.
Heavy Goods Vehicle (HGV)	Goods vehicle with a gross weight of more than 3.5 tonnes.
Heritage assets	The historic environment assets such as archaeological remains, historic buildings and historic landscapes which have archaeological, architectural, artistic or historic value.
His Majesty's (HM)	Refers to the UK Government and associated public bodies acting on behalf of the Crown, as referenced in government legislation, policy and guidance relevant to the Proposed Development.
His Majesty's Stationery Office (HMSO)	The official publisher of UK legislation, statutory instruments and government publications that may be referenced within the Environmental Statement and supporting assessments.
Historic setting	The surroundings in which a heritage asset is experienced, taking into account evidence of the past in the present landscape.

Homes and Communities Agency (HCA)	A former public body which supported housing and regeneration in England. Its Additionality Guide provides a recognised framework for estimating the net economic effects of development.
Horizontal Field of View (HFOV)	Extent of the pilot's horizontal field of view measured in degrees left and right from directly in front of the cockpit.
Hydrofluorocarbons (HFCs)	A group of synthetic fluorinated greenhouse gases covered under the Kyoto Protocol.
Illustrative Viewpoint	A viewpoint chosen specifically to demonstrate a particular effect or specific issues.
In-Combination Climate Change Impact (ICCI)	The combined effect of climate change and a development on environmental receptors, considering how climate change may influence the magnitude or significance of identified effects.
Index of Multiple Deprivation (IMD)	The official measure of relative deprivation in England. It ranks small areas and local authorities using a range of domains, including income, employment, health, education, crime, housing and living environment.
Induced effects	Effects arising from additional spending in the economy by workers or businesses supported directly or indirectly by a development.
Institute of Air Quality Management (IAQM)	The IAQM is the UK's professional body for air-quality practitioners, providing authoritative guidance, standards and expertise to support high-quality air-quality assessment and management.
Institute of Environmental Management and Assessment (IEMA)	A membership superseded by the ISEP.
Institute of Sustainability and Environmental Professionals (ISEP)	A global membership body that sets the standard for anyone wanting sustainable change that delivers for the environment, society, and the economy.
Intergovernmental Panel on Climate Change (IPCC)	The United Nations body responsible for assessing the science related to climate change, including climate trends, impacts, adaptation and mitigation options.
International Commission of Non-Ionizing Radiation Protection (ICNIRP)	An independent, non-profit scientific organisation what studies the health effects of non-ionizing radiation and sets international safety guidelines to protect humans and the environment.
Inverter	Infrastructure that converts the direct current (DC) electricity collected by the PV panels into alternating current (AC), which allows the electricity generated to be exported to the national electricity transmission network.
Labour Catchment Area (LCA)	A 60-minute travel time to the Site, comprising the LAD of West Oxfordshire, Vale of White Horse, Swindon, Cotswold, Oxford and Cheltenham.

Landscape and Ecological Management Plan (LEMP)	A document setting out the management, mitigation and monitoring of landscaping and ecology during the operation of the Proposed Development.
Landscape and Visual Impact Assessment (LVIA)	A process that identifies the effects of new developments on views and on the landscape, supported by the Guidelines for Landscape and Visual Impact Assessment (GLVIA3).
Landscape Character Area (LCA)	The discrete geographical areas that represent a unique landscape type, each of which has an individual character and identity, although certain generic characteristics are shared with other areas of the same type. The English territory is classified in landscape character areas at both national and local level.
Landscape Character Type	Distinct types of landscape that are relatively homogeneous in character.
Landscape value	The relative value that is attached to different landscapes by society. A landscape may be valued by different stakeholders for a whole variety of reasons.
Leakage	The proportion of the benefits of a development that occur outside the defined assessment area, for example where jobs are taken by people living outside the local area.
Local Air Quality Management Technical Guidance 2022 (LAQM.TG22)	LAQM.TG22 is the UK's technical guidance for Local Air Quality Management.
Lowest Observed Adverse Effect Level (LOAEL)	Thresholds relative to noise as defined in NPSE and NPPG guidance.
Light Duty Vehicle (LDV)	Vehicle with a gross weight of less than 3.5 tonnes.
Light Goods Vehicle (LGV)	Commercial motor vehicles that include vans, pick-up trucks, and other vehicles of a similar size.
Listed building	A building or structure designated under Section 69 of the Planning (Listed Building and Conservation Areas) Act 1990 as being of "special architectural or historic interest".
Local Authority District (LAD)	A district-level local authority administrative area. West Oxfordshire is the LAD in which the Site is located.
Local Nature Recovery Strategy (LNRS)	An official local plan, required by law under the Environment Act 2021, which maps important wildlife habitats, sets local priorities for restoring nature, and guides environmental funding and land-use planning.
Local planning authority (LPA)	The public authority whose duty it is to carry out specific planning functions for a particular area.
Local Road Network	Local roads controlled by the Local Highway Authority.

Local Wildlife Site (LWS)	A designated area of land recognised for its high nature conservation value.
Lower-layer Super Output Area (LSOA)	A small statistical geography used for the publication of census and other official statistics. LSOAs generally contain around 1,000 to 3,000 residents.
Magnitude	The scale, size or degree of change (impact) to the environment from an action upon it.
Main River	A watercourse formally designated by the Environment Agency because of its role in regional drainage and flood risk.
Main Substation	A substation comprising electrical infrastructure such as the transformers, switchgear and metering equipment required to facilitate the export of electricity from the Proposed Development to the National Grid Substation.
Major Accidents and Disasters (MAD)	Relates to the evaluation of high-consequence, low-likelihood events that could cause server harm to human health or the environment.
Methane (CH ₄)	One of the seven greenhouse gases covered under the Kyoto Protocol.
Micrograms per cubic metre (µg/m ³)	µg/m ³ is the standard unit used to express the concentration of an air pollutant in the atmosphere.
Million Tonnes of Carbon Dioxide Equivalent (MtCO ₂ e)	A unit used to express greenhouse gas emissions, representing one million tonnes of carbon dioxide equivalent.
Mineral Safeguarding Area (MSA)	An area defined by the local mineral planning authority, to safeguard mineral resources for future use.
Mineral Resource Assessment (MRA)	A technical evaluation which assesses the quality and quantity of potential mineral resources. As well as the feasibility and economic viability of extraction.
Minerals and Waste Local Plan (MWLP)	A document prepared by the local mineral planning authority, outlining planning strategies and policies relating to minerals and waste.
Ministry of Housing, Communities and Local Government (MHCLG)	The UK Government department responsible for national planning policy, housing, local government and communities.
Mitigation	The action of reducing the severity and magnitude of change (impact) to the environment. Measures to avoid, reduce, remedy or compensate for significant adverse effects.
Multiplier effect	Additional economic activity generated when spending associated with a development circulates through the local and wider economy.
National Electricity Transmission System (NETS)	The high-voltage electricity transmission network serving Great Britain.

National Energy System Operator (NESO)	A public corporation, formed by the UK Government in October 2024, which plans and operates Great Britain's electricity and gas networks.
National Grid Electricity Transmission (NGET)	The owner and operator of the high-voltage power network in England and Wales. A subsidiary of National Grid plc.
National Heritage List for England (NHLE)	The official, up to date register of all nationally protected historic buildings and sites in England.
National Health Service (NHS)	The publicly funded healthcare system for the United Kingdom.
National Highways	A primary public road network owned and managed by a country's national government to connect major cities, states, and economic hubs.
National Highways Design Manual for Roads and Bridges (DMRB)	DMRB is the UK's national standards for designing, assessing and maintaining trunk roads and motorways.
National Planning Policy Framework (NPPF)	Sets out the Government's policies for plan-making and making decisions on development proposals in England and how these are expected to be applied.
National Planning practice Guidance (NPPG)	Produced by the Government, this provides more detailed information on the relevance of noise to the planning process and on defining effect thresholds.
National Policy Statement (NPS)	Produced by the Government, these comprise objectives for the development of nationally significant infrastructure in a particular sector and state.
Nationally Significant Infrastructure Project (NSIP)	As defined by the Planning Act 2008, these are large-scale developments in England and Wales that are deemed crucial to the country's economics or social needs.
Nationally Determined Contribution (NDC)	A country's commitment under the Paris Agreement outlining planned actions to reduce greenhouse gas emissions and adapt to climate change.
Native species	Species that have become part of an ecosystem through natural processes and have not been introduced outside their range by human activity.
Nitrate Vulnerable Zone (NVZ)	An area of land designated as being at risk from agricultural nitrate pollution.
Nitrogen Dioxide (NO ₂)	One of the seven greenhouse gases covered under the Kyoto Protocol.
Nitrogen Trifluoride (NF ₃)	One of the seven greenhouse gases covered under the Kyoto Protocol.
Nitrous Oxide (N ₂ O)	One of the seven greenhouse gases covered under the Kyoto Protocol.
Noise Policy Statement for England (NPSE)	Produced by the Government, these set out general planning guidance on noise and introduces the principles of adverse noise effects.
Noise Sensitive Receptors (NSR)	Receptors sensitive to noise effects considered in the noise assessment.

Non-Technical Summary (NTS)	A summarised version of an Environmental Statement, presenting the key information and findings in a non-technical format for members of the public.
Non-road Mobile Machinery (NRMM)	NRMM refers to construction and industrial equipment with engines that operate off-road.
Office for National Statistics (ONS)	The UK's national statistical institute, responsible for collecting, analysing and publishing official statistics.
Operational Environmental Management Plan (OEMP)	A live, site-specific site document which sets out operational rules derived from environmental commitments and mitigation measures established through the EIA process.
Operational Phase	The period within which the Proposed Development is operational and may require maintenance activities, including ad hoc equipment replacement, following the Construction Phase.
Ordinary Watercourse	Any watercourse that is not a designated Main River. The category covers smaller streams, brooks, ditches, drains, culverts and dykes
Outline Construction Environmental Management Plan (OCEMP)	A management plan which sets out measures for the Construction Phase of a development to control and mitigate impacts on the environment. Later succeeded by a full Construction Environmental Management Plan.
Outline Construction Traffic Management Plan (OCTMP)	A management plan which sets out the core framework to control vehicle movements, reduce local congestion and protect public safety during building works. Later succeeded by a full Construction Traffic Management Plan.
Outline Decommissioning Environmental Management Plan (ODEMP)	A management plan which sets out baseline mitigation commitments for the Decommissioning Phase of a development. Later succeeded by a full Decommissioning Environmental Management Plan.
Outline Landscape and Ecological Management Plan (OLEMP)	A management plan which sets out how a development site's natural assets, green spaces and wildlife habitats will be managed and protected over the lifetime of the development. Later succeeded by a full Landscape and Ecological Management Plan.
Outline Operational Environmental Management Plan (OOEMP)	A management plan which sets out a framework for controlling day-to-day environmental risks, mitigation measures and monitoring activities during a development's Operational Phase. Later succeeded by a full Operation Environmental Management Plan.
Overhead line (OHL) Connection Infrastructure	Cabling that transfers energy between the National Grid Substation and the National Electricity Transmission System.

Particulate Matter (PM10 and PM2.5)	Particulate matter with an aerodynamic diameter less than 10 micrometres and 2.5 micrometres.
Publicly Available Specification (PAS)	A sponsored standard developed by the BSI to provide guidance, requirements or good practice on specific topics, often used ahead of the development of a full British Standard.
Perfluorocarbons (PFCs)	A group of synthetic fluorinated greenhouse gases covered under the Kyoto Protocol.
Photovoltaic (PV)	Technology that converts solar radiation directly into electricity using semiconductor materials.
Photovoltaic (PV) Array	A collection of multiple photovoltaic panels, electrically connected to generate electricity from sunlight.
Photovoltaic (PV) Panels	Comprised of cells, these structures convert solar irradiance to electrical energy.
Planning Practice Guidance (PPG)	UK Governments detailed online guidance for the planning system in England.
Potential effect	The predicted consequential change that may occur upon the environment as a result of a development, in the absence of mitigation.
Power Conversion Unit (PCU)	A Power Conversion Unit comprises an inverter, a transformer, and switchgear, which can be grouped together or distributed throughout a site.
Primary Care Network (PCN)	A group of GP practices and other local health and care providers working together to provide and coordinate primary healthcare services for a defined population.
Protected characteristics	Characteristics protected from discrimination under the Equality Act 2010: age; disability; gender reassignment; marriage and civil partnership; pregnancy and maternity; race; religion or belief; sex; and sexual orientation.
Public Health England (PHE)	A former executive agency of the Department of Health and Social Care responsible for public-health protection and improvement in England. Its functions have since transferred principally to the UK Health Security Agency and the Office for Health Improvement and Disparities.
Public Right of Way (PRoW)	A right to cross private land that is granted to everyone.
Ramsar	Wetlands of international importance designated under the Ramsar Convention.
Receptor	A defined individual environmental feature usually associated with population, fauna and flora that have potential to be impacted by a development.
Regulated Qualifications Framework (RQF)	The framework used in England to classify qualifications by level. RQF Level 4 and above includes qualifications such as higher

	apprenticeships, foundation degrees and undergraduate degrees.
Repowering	Replacement of all infrastructure within the Proposed Development in a single, whole-site event during the Operational (and maintenance) Phase.
Representative Concentration Pathway (RCP)	A greenhouse gas concentration trajectory adopted by the IPCC for climate modelling and future climate projections.
Representative Viewpoint	A viewpoint selected to represent the experience of different types of visual receptors.
Residual effect	The predicted consequential change on the environment from the impacts of a development, after mitigation has been taken into account.
Scoping	The process of identifying the issues to be addressed by an environmental impact assessment process. It is a method of ensuring that an assessment focuses on the important issues and avoids those that are considered unlikely to be significant. This process is documented in a Scoping report, which in turn is used to request a formal Scoping Opinion.
Screening	Procedure used to determine whether a proposed project is likely to have significant effects on the environment, and consequently whether a formal EIA will be required.
Secretary of State (SoS)	A senior cabinet minister who leads a major government department. The Secretary of State for Housing, Communities and Local Government holds overall responsibility for national planning policy and major planning decisions in England.
Sensitivity	Receptor or resource environmental value.
Significance	A measure of the importance or gravity of the environmental effect, defined by significance criteria specific to the environmental topic.
Significant Observed Adverse Effect Level (SOAEL)	Thresholds relative to noise as defined in NPSE and NPPG guidance.
Single Axis Trackers	A PV Panel mounting structure option where PV Panels are attached to a motorised table that can move in relation to the sun. This allows for optimal power generation throughout the day.
Site	The area of land within the DCO Site Boundary.
Site of Nature Conservation Importance (SNCI)	Sites that contain features of substantive nature conservation value at a local level.
Site of Special Scientific Interest (SSSI)	A site of national importance due to its wildlife or geological value that is protected by the Wildlife and Countryside Act 1981 (as amended).
Social infrastructure	Facilities and services that support the day-to-day wellbeing of communities, such as schools,

	healthcare facilities, community buildings, recreational facilities and Public Rights of Way.
Soil Management Plan (SMP)	A management plan which sets out the measures to protect soil resources from impact during the Construction, Operation and Decommissioning Phases of the development.
Solar Glare Hazard Analysis Tool (SGHAT)	A tool specifically mentioned in FAA guidance as the software that should be used when assessing Glint and Glare impacts.
Sound	Physically: a regular and ordered oscillation of air molecules that travels away from the source of vibration and creates fluctuating positive and negative acoustic pressure above and below atmospheric pressure. Subjectively: the sensation of hearing excited by the acoustic oscillations described above.
Special Area of Conservation (SAC)	A site designated under the Habitats Directive due to its international value for certain habitats and species of conservation importance (those listed on Annex I and II of the Directive).
Special Protection Area (SPA)	A site designated under Council Directive 2009/147/EC on the conservation of wild birds (the 'Birds Directive') due to its international importance for birds.
Specific Viewpoint	A promoted viewpoint within the landscape.
Source Protection Zone (ZPZ)	Zones defined by the EA around groundwater abstraction points, which show the level of risk to a groundwater source from contamination.
Strategic Road Network (SRN)	Major roads controlled by National Highways
Substation	Substations comprise the electrical infrastructure required to facilitate the export of electricity from a site to the National Grid.
Sulphur Hexafluoride (SF6)	One of the seven greenhouse gases covered under the Kyoto Protocol.
Supplementary Planning Guidance (SPG)	Planning guidance that provides additional detail on the implementation of local planning policies. It is a material consideration in planning decisions but does not form part of the statutory development plan.
Switchgear	The combination of electrical disconnecter switches, fuses, or circuit breakers used to control, protect, and isolate electrical equipment.
Temporary worker accommodation	Short-term accommodation used by workers who are unable to commute daily from their usual residence to a construction or other work site.
Tone	The concentration of acoustic energy into a very narrow frequency range.

Tonnes of Carbon Dioxide Equivalent (tCO ₂ e)	A metric used to compare emissions from different greenhouse gases based on their global warming potential, expressed as the equivalent amount of carbon dioxide.
Trackout	The transport of dust and dirt from the construction / demolition site onto the public road network, where it may be deposited and then re-suspended by vehicles using the network.
Transformer	A device that converts AC current into higher voltages.
Travel Plan	A management document prepared to encourage staff to travel sustainably.
Trip End Model Presentation Program (TEMPRO)	Trip End Model Presentation Program (TEMPRO)
United Kingdom (UK)	The sovereign state comprising England, Scotland, Wales and Northern Ireland, within which the Proposed Development is located and assessed.
UK Climate Projections 2018 (UKCP18)	The UK Government's most comprehensive set of climate projections providing information on potential future climate conditions across the UK.
UK Climate Risk Indicators (UKCRI)	A framework of indicators developed to monitor and assess climate-related risks and adaptation progress across the UK.
United Nations Framework Convention on Climate Change (UNFCCC)	An international environmental treaty established to address climate change through global cooperation and emissions reduction commitments.
Vale of White Horse District Council (VWHDC)	An adjacent local authority to the Site's local authority.
Vertical Field of View (VFOV)	Pilot's vertical field of view measured in degrees from directly in front of the cockpit
Visitor economy	Economic activity generated by visitors, including spending on accommodation, food and drink, retail, attractions, transport and related services.
Visual amenity	The overall pleasantness of the views people enjoy of their surroundings.
Visualisation Type 3 Photomontage / Photowire	Offer an appropriate level of detail and accuracy for EIA and non-EIA projects, provide a reasonable level of locational and photographic accuracy but do not need to be accompanied by verification data.
Waste Electrical and Electronic Equipment (WEEE)	Electrical or electronic equipment that has become waste, including its components, sub-assemblies and consumable parts.
Water Framework Directive (WFD)	EU water legislation that came into force in 2000, with the overarching objective to get all water bodies in Europe to attain Good or High Ecological Status. River Basin Management Plans have been created which set out measures and potential mitigation to ensure that water bodies in England and Wales achieve 'Good Ecological Status'.

West Oxfordshire District Council (WODC)	The local authority within which the Site is located.
West Oxfordshire Energy Park (WOEP)	The Proposed Development.
World Business Council for Sustainable Development (WBCSD)	A global organisation of businesses working to advance sustainable development and climate action.
World Health Organization (WHO)	The United Nations specialised agency responsible for international public health.
World Resources Institute (WRI)	A global research organisation that develops environmental and sustainability frameworks, including the Greenhouse Gas Protocol.
Zone of Influence (Zol)	Area within the Study Area that has the potential to cause impacts.
Zone of theoretical visibility (ZTV)	These model the areas of land within which a development will be theoretically visible based on 'bare earth' terrain, that is without taking account of intervening physical features such as existing vegetation and built development.

1. INTRODUCTION

1.1 Overview

- 1.1.1 This Environmental Impact Assessment (EIA) Scoping Report (hereafter known as the 'EIA Scoping Report') has been prepared by LDA Design Limited on behalf of West Oxfordshire Energy Park Limited (the 'Applicant'), a subsidiary of Low Carbon Limited, to formally request an Environmental Impact Assessment (EIA) Scoping Opinion for a solar photovoltaic (PV) electricity generating station, as well as associated development including a Battery Energy Storage System (BESS), Ancillary Infrastructure, a Main Substation and Grid Connection Infrastructure, hereafter known as 'the Proposed Development'. The Proposed Development would allow for the generation and export of over 100 megawatts (MW) Alternating Current (AC) of renewable energy.
- 1.1.2 The Proposed Development, known as 'West Oxfordshire Energy Park' (WOEP), would contribute to the reduction of carbon emissions and reliance on traditional fossil fuels by providing a renewable energy source to assist with the UK's energy transition. The Proposed Development also seeks to bring economic, community and environmental benefits to West Oxfordshire.
- 1.1.3 As the Proposed Development would have a generating capacity in excess of 100MW, it is considered to be a Nationally Significant Infrastructure Project (NSIP) under the Planning Act 2008 and therefore requires a Development Consent Order (DCO) [Ref 1-1].
- 1.1.4 Whilst a grid connection offer is held by the Applicant, the exact point of connection is yet to be confirmed. For the purposes of defining the scope of the Proposed Development and undertaking a meaningful EIA, the Applicant has adopted a reasonable working assumption that the point of connection and the National Grid Substation would be located within or immediately adjacent to the DCO Site boundary. This represents the connection solution that is currently capable of being described with appropriate specificity for the purposes of scoping, assessment, and mitigation.
- 1.1.5 The connection solution provides a realistic and proportionate basis on which to scope the assessment of the Proposed Development at this stage, but it is also acknowledged that the final location of the National Grid Substation remains subject to a separate optioneering and consenting process undertaken by National Grid.
- 1.1.6 Should the connection solution and National Grid Substation location change, the Applicant acknowledges that further consideration and, where necessary, further scoping and/or environmental assessment, may be required. This will therefore be kept under review as further information becomes available.

- 1.1.7 This EIA Scoping Report has been prepared in accordance with Regulation 10(1) of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 [Ref 1-2] (the 'EIA Regulations'). In line with the requirements of Regulation 10(3) of the EIA Regulations, this request contains the following information to assist the Planning Inspectorate, as the relevant authority, in adopting a Scoping Opinion:
- A plan sufficient to identify the land (**Figure 1-1**)
 - A description of the Proposed Development, including its location and technical capacity (Chapters 2 and 3)
 - An explanation of the likely significant effects of the Proposed Development on the environment (Chapters 6-16); and
 - Such other information or representations as the person making the request may wish to provide or make.
- 1.1.8 This EIA Scoping Report has been prepared to provide an overview of the likely significant environmental effects that have been considered in scoping the EIA for the Proposed Development. It sets out the intended scope and methodologies for the assessments of the likely significant environmental effects to be reported in the Environmental Statement (ES), which will accompany the DCO application. The EIA Scoping Report also provides the justification and rationale for scoping out environmental topics or receptors where it is considered that significant effects are unlikely to arise as a result of the Proposed Development.
- 1.1.9 The EIA Scoping Report has been prepared with reference to the Planning Inspectorate Advice Page, Nationally Significant Infrastructure Projects: Pre-Application Advice on Environmental Impact Assessment [Ref 1-3], which contains guidance on EIA Scoping, as well as the NSIP Technical Advice Page for Scoping Solar Development [Ref 1-4].

1.2 EIA Consultant Team

- 1.2.1 The EIA consultants who have contributed to the preparation of this EIA Scoping Report are set out in **Table 1-1**.

Table 1-1 Consultant Team

EIA SCOPING REPORT	ORGANISATION
Planning	DWD
EIA Coordination	LDA Design
Landscape and Visual Amenity	
Arboriculture	Barton Hyett
Biodiversity and Ecology	BSG Ecology
Air Quality	Hoare Lea
Noise and Vibration	
Water Environment	Raincloud

EIA SCOPING REPORT	ORGANISATION
Cultural Heritage	Cotswold Archaeology
Glint and Glare	Neo Environmental
Agricultural Land and Soils	Roberts Environmental
Traffic and Transport	Velocity
Waste	
Socio-economics	Volterra
Climate Change	AECOM
Ground Conditions	Aqua Terra Consulting

1.3 The Applicant

- 1.3.1 The Applicant is West Oxfordshire Energy Park Limited, which is a subsidiary of Low Carbon Ltd (“Low Carbon”); a privately-owned renewable energy company.
- 1.3.2 Founded in 2011, Low Carbon is committed to making a positive and significant impact on climate change by investing in large-scale renewable energy projects across a range of energy technologies including utility scale solar, onshore wind and battery storage. Deploying capital at scale into renewables, it invests across the full life cycle from concept through to development, construction, and operation (and maintenance).
- 1.3.3 To date, Low Carbon has deployed more than £1 billion into building renewable infrastructure with more than 1 Gigawatt (GW) of assets either in construction or operation and a multi-GW proprietary pipeline of renewables currently being developed. Since becoming an Independent Power Producer (IPP), more than 450 GWh of renewable energy has been produced from assets owned and operated by Low Carbon – the equivalent of powering more than 200,000 homes with clean electricity and around 150,000 tCO₂e avoided annually.
- 1.3.4 Low Carbon has been active in large-scale solar energy since its formation in 2011. With an established track record in the UK, it also has operations across Europe.

1.4 Legislative Context and the Need for EIA

- 1.4.1 As the Proposed Development constitutes an onshore generating station in England with a generating capacity exceeding 100MW, it is defined as an NSIP under Section 14(1)(a) and 15(2) of the Planning Act 2008.
- 1.4.2 The EIA Regulations provide the legislative framework that specifies which developments are required to undergo an EIA. NSIP projects are classified as either ‘Schedule 1 development’ or ‘Schedule 2 development’. Developments listed within Schedule 1 are automatically subject to EIA, while developments listed in Schedule 2 are only subject to EIA if they are considered “*likely to have*

significant effects on the environment by virtue of factors such as its nature, size or location". The criteria that this judgement is based upon are set out in Schedule 3 of the EIA Regulations.

- 1.4.3 The Proposed Development falls under Schedule 2, paragraph 3(a) of the EIA Regulations because it constitutes an *"industrial installation for the production of electricity, steam and hot water..."*
- 1.4.4 Due to the Proposed Development's nature, size and location, the Applicant considers that it has the potential to have significant effects on the environment and therefore constitutes EIA Development. In accordance with Regulation 8(1)(b) of the EIA Regulations, the Applicant hereby provides notice that it will provide an ES in support of the DCO Application.
- 1.4.5 The Localism Act 2011 [Ref 1-5] abolished the Infrastructure Planning Commission (IPC), transferring decisions to the Secretary of State (SoS) and the Planning Inspectorate is responsible for administering the process on behalf of the SoS. The SoS will appoint an Examining Authority from the Planning Inspectorate, who will examine the DCO Application for the Proposed Development and then make a recommendation to the SoS, who will in turn make the decision on whether to grant or refuse the DCO for the Proposed Development.
- 1.4.6 In accordance with Section 104(2) of the Planning Act 2008, the SoS is required to have regard to "any National Policy Statement (NPS) which has effect in relation to development of the description to which the application relates" amongst other matters, when deciding whether to grant a DCO. The Applicant considers that the Overarching NPS for Energy (EN-1) [Ref 1-6], NPS for Renewable Energy Infrastructure (EN-3) [Ref 1-7] and NPS for Electricity Networks Infrastructure (EN-5) [Ref 1-8] are the national policy statements which are relevant for the Proposed Development's DCO Application.
- 1.4.7 The EIA approach adopted takes account of the NPS documents which have effect, as well as national and local planning policy relevant to decision making. The broad national and local planning policy context is set out below, along with a summary provided of the relevant considerations for each technical assessment within Chapters 6 to 16 of this EIA Scoping Report.
- 1.4.8 The National Planning Policy Framework (NPPF), updated in August 2026 [Ref 1-9], sets out the Government's national planning policies for England. Paragraph 13 of the NPPF sets out that it *"does not contain specific policies for nationally significant infrastructure projects. These are determined in accordance with the Planning Act 2008 (as amended) and relevant national policy statements for major infrastructure, as well as any other matters that are relevant (which may include this Framework)."*
- 1.4.9 Paragraph 13 further states that *"National policy statements may, where relevant, be a material consideration in preparing plans and making decisions on planning applications."* The EIA for the Proposed Development will therefore

have regard to the relevant policies of the NPPF as part of the overall framework of national policy.

- 1.4.10 Whilst the NPSs are the primary consideration in deciding applications for NSIPs, policies in Local Development Plans are also important and relevant matters and can influence the content of local impact reports (which the host Local Planning Authority (LPA) produces following submission of DCO Applications), and which the SoS must have regard to in its decision making in accordance with Section 104(2)(b) of the Planning Act 2008.
- 1.4.11 The Proposed Development is located within the administrative areas of West Oxfordshire District Council and Oxfordshire County Council. The planning policy context for the Proposed Development comprises the statutory Development Plan and other material considerations. The Development Plan includes:
- West Oxfordshire District Council Local Plan 2031 [Ref 1-10];
 - Oxfordshire County Council Minerals and Waste Local Plan Part 1: Core Strategy (September 2017) [Ref 1-11]; and
 - Saved Policies from the Oxfordshire Minerals and Waste Local Plan (1996) [Ref 1-12Ref 11-1].
- 1.4.12 Selective other material considerations include:
- West Oxfordshire District Council Emerging Local Plan 2043 [Ref 1-13];
 - West Oxfordshire District Council Climate Change Strategy 2025-2030 [Ref 1-14];
 - West Oxfordshire District Council Nature Recovery Plan 2024-2030 [Ref 1-15];
 - Oxfordshire County Council Local Transport and Connectivity Plan 2022-2050 [Ref 1-16];
 - Oxfordshire County Council Climate Action Framework 2026-2030 [Ref 1-17]; and
 - Oxfordshire County Council Minerals and Waste Local Plan Part 1 Core Strategy (2017) [Ref 1-11].
- 1.4.13 This EIA Scoping Report describes the national and local planning policies relevant to the assessment with a summary provided for each environmental topic. The purpose of this EIA Scoping Report is not to assess the Proposed Development against planning policy; this will be undertaken and set out in a Planning Statement, which will include analysis of policy compliance of the Proposed Development with NPS and material considerations for all relevant topics, whether they are scoped out of the EIA process or otherwise, and where that policy compliance is evidenced within the DCO application. The Planning Statement will be a separate document that will be submitted as part of the DCO Application. The purpose of considering the above-mentioned planning policies at the scoping phase of the EIA is twofold:

- To identify policy that could influence the sensitivity of receptors (and therefore the significance of effects) and any requirements for mitigation; and
- To identify planning policy that could influence the methodology of the EIA. For example, a planning policy may require assessment of a particular impact or use of a particular methodology.

- 1.4.14 A summary of national and local planning policy relevant to each technical assessment is provided for each topic within Chapters 6 to 16 of this EIA Scoping Report.
- 1.4.15 Other policies and guidance documents which are likely to be important and relevant to the SoS decision and are considerations for the EIA technical assessments include:
- The 25-Year Environment Plan [Ref 1-18], originally published in 2018, which set out the Government's 25-year plan to improve the environment;
 - The Environmental Improvement Plan 2023 [Ref 1-19] acts as the first revision and update of the 25 Year Environment Plan, setting out how goals for improving the environment will be delivered, as well as interim targets to measure progress;
 - The Energy White Paper [Ref 1-20], published in December 2020, sets out how the UK will meet net zero emissions by 2050. It identifies the Government's aim for a fully decarbonised, reliable and low-cost power system; and
 - The Clean Power 2030 Action Plan [Ref 1-21], published in December 2024, sets out how the Government will work with the renewable energy sector to achieve clean energy targets by 2030.
- 1.4.16 The UK has a legally binding target to achieve net zero greenhouse gas emissions by 2050 under the Climate Change Act 2008 (as amended in 2019) [Ref 1-22]. To fight climate change and support energy security, the UK has set the target of clean power by 2030, which requires tripling our current supply of solar power. Beyond 2030 the government has set the sixth carbon budget [Ref 1-23] at 965 MtCO₂e for 2033-37, representing a ~76% reduction on 1990 levels. This is in line with the level advised by the Committee on Climate Change and the first carbon budget set on the trajectory to net zero by 2050.
- 1.4.17 Locally, Oxfordshire County Council Oxfordshire Energy Strategy [Ref 1-24], and Pathways to a Zero Carbon Oxfordshire report (2021) [Ref 1-25], set out a requirement for a four-fold increase in installed PV capacity in Oxfordshire by 2030 and 13-fold by 2050. Both envisage a significant increase in ground mounted solar farms, along with other methods such as installations on buildings. The Proposed Development will make a significant contribution to both the national and local energy and carbon reduction targets.

1.5 Purpose of this EIA Scoping Report

- 1.5.1 The aim of the EIA process is to ensure that the Proposed Development has due regard for the environment, minimises adverse environmental effects, and takes advantage of opportunities for environmental enhancement.
- 1.5.2 Whilst every Environmental Statement (ES) should provide a full factual description of the development, the emphasis of Schedule 4 of the EIA Regulations is on the "significant" environmental effects to which a development is likely to give rise to, be they direct or indirect, secondary, cumulative, transboundary, short, medium or long term, permanent or temporary and positive or negative.
- 1.5.3 The process of identifying the issues to consider within the ES and establishing the scope of the assessment is known as 'scoping'. Although scoping is not a mandatory requirement under the EIA Regulations, it is recognised as a useful preliminary procedure that helps to identify the main effects that a proposed development is likely to have on the environment.
- 1.5.4 This EIA Scoping Report has been prepared on behalf of the Applicant to assist the Planning Inspectorate in preparing a Scoping Opinion under the EIA Regulations, thereby setting out the scope of the information that is to be contained in the ES. The report provides information on the Site location, the Proposed Development, the likely significant effects on the environment, and any other such information as is relevant, including the proposed approach to assessment, in specific accordance with Regulation 10(3) of the EIA Regulations.
- 1.5.5 Overall, and in line with best practice, this scoping exercise aims to achieve the following objectives:
- Establish the availability of existing baseline data;
 - Define a survey and assessment framework from which a comprehensive EIA spanning those environmental topics which are likely to experience significant environmental effects can be undertaken; and
 - Invite statutory and non-statutory consultees to comment on the proposed EIA, in terms of:
 - The potential significant environmental effects which require assessment;
 - The assessment methodology for each environmental topic proposed to be scoped into the EIA process;
 - Sources of information;
 - Issues of perceived concern;
 - Any other areas which should be addressed in the assessment.

1.6 Approach to Scoping

- 1.6.1 The approach to establishing the proposed scope for the EIA has been informed by two key sources of information, namely the Solar Scoping Table included as part of the Planning Inspectorate Technical Advice Page for Scoping Solar NSIP Development [Ref 1-4] and an in-depth review of Environmental Statements for other recent NSIP solar developments. The ways in which these information sources have shaped this EIA Scoping Report are outlined below.

Technical Advice for Scoping Solar NSIP Development

- 1.6.2 The purpose of this technical advice note, last updated in August 2026, is to outline information that may be used to support in scoping common matters out of EIAs for solar NSIP developments. Where it is proposed that such matters are scoped out of the forthcoming ES, care has been taken to ensure that the relevant information is presented within this EIA Scoping Report. Further detail on where the EIA Scoping Report has incorporated information stemming from this technical advice note is presented at **Appendix 1-1**.

Advice on Early Engagement

- 1.6.3 As per the updated Planning Inspectorate pre-application guidance note published in July 2026 [Ref 1-26], Applicants are encouraged to undertake early stakeholder engagement to identify potential environmental effects at an early stage of project development. The outcomes of this engagement can inform the design process and support the identification of appropriate measures to avoid, reduce or mitigate adverse effects where necessary.
- 1.6.4 This guidance demonstrates that the suggested early engagement would also assist in determining the key environmental topics that are relevant to the Proposed Development and those that may be appropriately scoped out of the assessment.

1.7 Structure of the EIA Scoping Report

- 1.7.1 The EIA Scoping Report is structured as follows:
- Chapter 2: A description of the Site and context;
 - Chapter 3: A description of the Proposed Development based upon current planning and design work, along with the anticipated construction process and timescales as is known at this stage;
 - Chapter 4: Overview of the EIA Process, Methodology and the manner in which the information will be provided and presented within the Environmental Statement
 - Chapter 5: Cumulative Effects Assessment;
 - Chapter 6-14: Environmental topics which are to be scoped into the EIA as standalone chapters.

- Chapter 15-16: Environmental topics which are to be scoped out of the EIA as standalone chapters.
- Chapter 17: Summary

1.8 ISEP Quality Mark

- 1.8.1 LDA Design has prepared this EIA Scoping Report on behalf of the Applicant. LDA Design is a member of the Institute of Sustainability and Environmental Professionals (ISEP) EIA Quality Mark, which evidences its commitment to excellence in EIA activities.



1.9 References

- Ref 1-1 Planning Act 2008, 2008
- Ref 1-2 The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017, 2017 No. 572. (as amended)
- Ref 1-3 Planning Inspectorate (2026), Nationally Significant Infrastructure Projects: Pre-Application Advice on Environmental Impact Assessment.
- Ref 1-4 Planning Inspectorate (2025). Nationally Significant Infrastructure Projects: Technical Advice Page for Scoping Solar Development.
- Ref 1-5 The Localism Act (2011)
- Ref 1-6 Department of Energy Security and Net Zero (DESNZ) (2025), Overarching National Policy Statement for Energy (EN-1).
- Ref 1-7 DESNZ (2025), National Policy Statement for Renewable Energy Infrastructure (EN-3).
- Ref 1-8 DESNZ (2025), National Policy Statement for Electricity Networks Infrastructure (EN-5).
- Ref 1-9 Ministry of Housing, Communities and Local Government (MHCLG) (2026), National Planning Policy Framework (NPPF).
- Ref 1-10 West Oxfordshire District Council (WODC) (2018), West Oxfordshire Local Plan 2031.
- Ref 1-11 OCC (2017). Oxfordshire Minerals and Waste Local Plan: Part 1 – Core Strategy.
- Ref 1-12 OCC (2017). Saved Policies of the Minerals and Waste Local Plan 1996 Updated following adoption of the Minerals and Waste Local Plan: Part 1 – Core Strategy on 12 September 2017.
- Ref 1-13 WODC (2026), emerging Local Plan 2043.
- Ref 1-14 WODC (2025), West Oxfordshire Climate Change Strategy 2025-2030.
- Ref 1-15 WODC (2024), West Oxfordshire District Council Nature Recovery Plan 2024-2030.
- Ref 1-16 Oxfordshire County Council (OCC) (2022), Local Transport and Connectivity Plan 2022-2050.
- Ref 1-17 OCC (2026), Oxfordshire Climate Action Framework 2026-2030.
- Ref 1-18 HM Government (2018), A Green Future: Our 25 Year Plan to Improve the Environment.
- Ref 1-19 HM Government (2023), Environmental Improvement Plan 2023.
- Ref 1-20 DESNZ and Department for Business, Energy and Industrial Strategy (DBEIS) (2020), Energy White Paper: Powering Our Net Zero Future.
- Ref 1-21 UK Government (2024), Clean Power 2030 Action Plan: A New Era of Clean Electricity.
- Ref 1-22 Climate Change Act 2008.

- Ref 1-23 The Carbon Budget Order 2021.
- Ref 1-24 OCC (2016). Oxfordshire County Council Energy Strategy, 2015-2020.
- Ref 1-25 Environmental Change Institute (2021). Pathways to a zero carbon Oxfordshire.
- Ref 1-26 Ministry of Housing, Communities and Local Government (2026). Planning Act 2008: Guidance on preparing an application: Part 1 – Pre-application steps

2. SITE CONTEXT AND DESCRIPTION

2.1 Introduction

- 2.1.1 The area likely to be encompassed by the Development Consent Order (DCO) Site Boundary (hereafter referred to as ‘the Site’), as illustrated in **Figure 1-1**, is centred on the approximate Ordnance Survey (OS) grid reference SP 23950 01883. The Site represents the maximum extent of land that may be required to facilitate the construction, operation, maintenance, and eventual decommissioning of the Proposed Development.
- 2.1.2 The DCO Site Boundary remains subject to refinement as the design evolves in response to environmental considerations, technical requirements, and stakeholder consultation feedback. However, at this stage, the boundary defines the anticipated maximum extent of both temporary and permanent land take associated with the Proposed Development.
- 2.1.3 The Site in its entirety encompasses approximately 978.9ha of land across two main areas. To ensure consistency throughout the EIA Scoping Report and the wider EIA process, the Site has been subdivided into a series of numbered fields. A field numbering plan is provided at **Figure 2-1**. The smaller area of the Site to the north incorporates Fields 1-10 and the larger Site area to the south incorporates all other fields.
- 2.1.4 For the purposes of this EIA Scoping Report, all electrical connections are anticipated to be delivered via underground cabling within the DCO Site Boundary. It is also anticipated that the northern land parcel incorporating Fields 1-10 would be used for mitigation and enhancement purposes only, as would Fields 68, 71 and parts of Field 84, 94 and 99 where Scheduled Monuments have been designated and Field 75 which lies within Langton Conservation Area, as set out in **Figure 2-2**.

2.2 Site Context

- 2.2.1 The Site occupies a largely agricultural and gently undulating landscape north of the River Thames, extending between Eastleach to the north and Kelmscott to the south and broadly defined by the River Leach to the west and Broadwell Brook to the east. Smaller streams cut across the Site, running roughly north-west to south-east and feeding into the River Thames to the south. Settlement pattern across the Site in the form of individual properties/farmsteads is generally dispersed.
- 2.2.2 The Site is predominately arable land with a mix of semi-improved and improved grassland and fields of a medium-to-large scale bounded by hedgerows. Within the northern area of the Site, woodland in the form of small, rectilinear mixed plantations are more prevalent and this, combined with the

mature hedgerows, creates a strong sense of enclosure. To the south, woodlands are not a characteristic feature though there are small tree clumps evident. Whilst the Site contains few priority habitats, limited to a single Ancient and Semi-Natural Woodland and patches of deciduous woodland, the Site's hedgerows and streams are likely to be important habitat refuges and corridors.

- 2.2.3 Isolated farm buildings and other dwellings are located on the land parcels that form the Site, however these are excluded from the DCO Site Boundary. A disused railway line, now used for recreational purposes, is also present on Site.
- 2.2.4 A 400kV overhead power line (OHL) and associated pylons traverse the Site in a north-west to south-east orientation.
- 2.2.5 Several environmental receptors have been identified within and in the vicinity of the DCO Site Boundary. Additional information in relation to these receptors has been provided below and shown on **Figure 2-3: Environmental Constraints**. The Site's immediate surroundings are characterised by a settlement pattern of rural, historical villages and scattered properties. The nearest settlements are Langford, found immediately north of the Site, and Little Faringdon, found immediately west of the Site. Also in proximity to the Site are: Broughton Poggs, found approximately 140m north-east; Kelmscott, found approximately 380m south; and Lechlade, found approximately 810m west. The settlements are separated by land that is largely agricultural in nature.

Roads

- 2.2.6 The Site can be accessed from a number of existing roads and single-track lanes that connect the nearby historical settlements and scattered farms. The A361 traverses the Site in a south-west to north-east orientation, connecting Lechlade with Burford and the A40 to the north. The Site is bounded to the south by Langley Lane, which runs from St. John's Priory, a residential park home estate east of Lechlade, to the A4095 to the east. Other roads that traverse the Site include Lechlade Road, Lower Farm Cottages, Little Faringdon, and several unnamed lanes.
- 2.2.7 The nearest Strategic Road Network (SRN) route is the A34, approximately 22km east of the Site, which can be accessed via either the A40 or the A420.

Public Rights of Way (PRoW) and Trails

- 2.2.8 The Site is intersected by 22 Public Rights of Way (PRoW) that connect the nearby historic settlements to one another as well as to the surrounding areas. PRoW 144/12a/10, located within the east of the Site, forms part of the D'Arcy Dalton Way long-distance walking route, which connects to the Thames Path approximately 1km to the south of the Site.

Airfields

- 2.2.9 No airfields are located immediately adjacent to the Site.
- 2.2.10 RAF Brize Norton is located approximately 2.6km north-east of the Site at its nearest extent and RAF Fairford is located approximately 6km to the south-west.

Rivers and Lakes

- 2.2.11 The Site is intersected by two Statutory Main Rivers, Broadwell Brook and Langford Brook. Both of these watercourses cross the Site in a north-west to south-east direction, eventually connecting to Radcot Cut, also a Statutory Main River, which is found approximately 1km south of the Site. Little Clanfield Brook, found immediately south of the DCO Site boundary, connects Broadwell Brook with Kelmscot Brook, which then flows into Radcot Cut. The River Thames, located approximately 1.1km south of the Site, runs roughly in parallel with Radcot Cut. Little Clanfield Brook, Kelmscot Brook, and the River Thames are all classified as Statutory Main Rivers.
- 2.2.12 Several Ordinary Watercourses are present on Site, including tributaries of the identified Statutory Main Rivers and a pond located within the Site's southern extent.

Historic Environment

- 2.2.13 There is a long history of human activity in the area, and there is evidence of prehistoric, roman, and later phases of settlement and ritual found locally in the archaeological record. In addition to the historic patterns created by fields and routes, the area in and around the Site includes several features of historic value and interest. The villages of Filkins, Broughton Poggs, and Langford, which lie adjacent to the Site, are designated as Conservation Areas. They contain many Listed Buildings, the majority of which are vernacular in character and reflect the historical status of agriculture as the primary source of employment locally in the past. However, grander structures are occasionally present, such as the Grade I Listed Church of St. Matthew, Langford (National Heritage List for England (NHLE) reference: 1053385), which has a tower and sculpture dating to the late-Saxon period.
- 2.2.14 Further settlements within the wider surroundings are protected by Conservation Area status. These include the villages of Kencot, Alvescot, Radcot, Kelmscott, Buscot, and Lechlade, Southrop, and Eastleach. All of these settlements include clusters of Listed Buildings, many of which comprise mills, barns, farms, and cottages. Of particular note is the Grade I Listed Kelmscott Manor (NHLE: 1199373), which is a tourist destination located approximately 1km south of the Site. Kelmscott Manor is set within a Grade II Registered Park and Garden (NHLE: 1001420).

- 2.2.15 Within the Site lie three Scheduled Monuments, namely Enclosures 1500m SE of Little Faringdon (NHLE: 1006316), Enclosures and Trackways (NHLE: 1006327), and Interrupted Ditch System (NHLE: 1006340). Furthermore, several further Scheduled Monuments are present in close proximity to the Site, including a Settlement 700m NE of Lechlade (NHLE: 1006315), located approximately 30m south of the western extent of the Site, and Ring Ditches (NHLE: 1006339), located adjacent to the south-eastern extent of the Site. Within the wider surroundings, a number of additional Scheduled Monuments are found.

Landscape

- 2.2.16 The Site is not located within a National Landscape or a National Park. However, Cotswold National Landscape is located approximately 190m west of the northern extent of the Site.
- 2.2.17 One area of Ancient Woodland, Broughton Copse, is located within the DCO Site boundary.

Ecology and Biodiversity

- 2.2.18 The Site occupies a largely agricultural landscape, with semi-improved and improved grassland and fields that are bounded by hedgerows. Woodland is most prevalent to the north of the Site, although there are small tree clumps to the south.
- 2.2.19 The Oxfordshire County Council Local Nature Recovery Strategy (LNRS) identifies the majority of the Site as falling within the 'LNRS Outside Urban Halo'. It also highlights areas of the Site where a variety of different actions are expected to make the biggest difference for nature conservation [Ref 2-1].

Statutory Designated Sites

- 2.2.20 There are no sites designated for nature conservation at an international level (Ramsar sites, Special Protection Areas, Special Areas of Conservation) within 10km of the Site.
- 2.2.21 14 nationally designated sites for nature conservation are located within 10km of the Site. These are:
- Cotswold Water Park Site of Special Scientific Interest (SSSI) – 270m west;
 - Grafton Lock Meadow SSSI – 1.4km south-east;
 - Alvescot Meadows SSSI – 2.5km north-east;
 - Westwell Gorse SSSI – 5.1km north;
 - Whelford Meadow SSSI – 5.8km west;
 - Wicklesham and Coxwell Pits SSSI – 6.6km south-east
 - Chimney Meadows National Nature Reserve (NNR) - 8km east;
 - Chimney Meadows SSSI – 8km east;
 - Worsham Lane SSSI – 8.2km north-east;

- Buckland Warren SSSI – 8.2km south-east;
- Taynton Quarries SSSI – 8.4km north;
- Shellingford Crossroads Quarry SSSI – 9.3km south-east
- Tuckmill Meadows SSSI – 9.5km south;
- Fernham Meadows SSSI – 9.9km south-east.

Locally Designated Sites

- 2.2.22 There are five locally designated sites within 2km of the Site, including three Local Wildlife Sites (LWS), a Conservation Target Area (CTA) and a Conservation Road Verge.
- 2.2.23 No further locally designated sites for nature conservation are found within 2km of the Site.

Water Resources

- 2.2.24 Flood risk and drainage designations are shown on **Figure 2-3**.
- 2.2.25 The majority of the Site is located within Flood Zone 1 (Low Risk). Areas of the Site immediately surrounding Langford Brook and Broadwell Brook are located within Flood Zone 2-3 (Medium-High Risk).
- 2.2.26 The majority of the Site has a Very Low risk of surface water flooding, although there are small areas of Low-High surface water flood risk across the southern and central land parcels, including along watercourses and within an area found to the south of Broadwell Mill.
- 2.2.27 The majority of the Site is located within the Upper Thames Drinking Water Safeguard Zone (surface water). Approximately the south-eastern half of the Site is underlain by Unproductive Aquifer (bedrock), whereas the north-western half is underlain by Secondary A and Principal Aquifer (bedrock). The superficial drift is largely classified Secondary A Aquifer around watercourses, and Unproductive Aquifer elsewhere. There are also small areas of the Site where the superficial drift is classified as Secondary (Undifferentiated).

Air Quality

- 2.2.28 The Site is not located within an Air Quality Management Area (AQMA). The closest AQMA is the City of Oxford AQMA (declared for nitrogen dioxide), located approximately 22km east of the Site.

Agricultural Land

- 2.2.29 A site-specific Agricultural Land Classification (ALC) survey has been conducted for the Proposed Development. The survey determined that only 12.1% of the land surveyed comprised Best and Most Versatile (BMV) land, i.e. land classified as Grade 1, 2 or 3a, as set out in **Table 2-1**.

- 2.2.30 The survey covered 924ha of the Site, although it excluded areas of approximately 45.6ha of land designated as Scheduled Monuments.
- 2.2.31 Approximately 40.8ha of land located within the south-east of the Site has yet to be surveyed due to ground conditions associated with extended hot, dry weather conditions delaying survey efforts. The ALC survey for this for this additional area of land will commence in October 2026.
- 2.2.32 The results of the ALC survey undertaken to date are presented below. These results are discussed and analysed in further detail within **Chapter 10: Soils and Agriculture**.

Table 2-1 ALC Classification

ALC Grade	Area (ha)	Percentage
Grade 1	5.3	0.54%
Grade 2	8.2	0.84%
Subgrade 3a	98.3	10.04%
Subgrade 3b	522.2	53.35%
Grade 4	189.0	20.45%
Grade 5	18.0	1.95%
Non-Agricultural	37.5	4.06%
Non-access (Scheduled Monument)	45.6*	4.94%
Total Site Area Surveyed to Date	924	100%
* Areas excluded from assessment.		

- 2.2.33 The results of the site-specific survey are in contrast to the Predictive Agricultural Land Classification (ALC) Map for England [Ref 2-2], which records the Site as predominantly Grades 2, 3a, and 3b land, with the majority falling within 2 and 3a, with a small area of land within the southernmost extent of the Site classified as Grade 1. The surrounding area is similarly classified as Grades 2, 3a and 3b, with land confined to the nearby settlements classified as Urban within the Predictive Mapping.

Ground Conditions

- 2.2.34 The bedrock geology of the Site is characterised by the following formations:
- Oxford Clay Formation and West Walton Formation (Undifferentiated) – Mudstone;
 - Kellaways Sand Member – Sandstone and siltstone, interbedded;
 - Kellaways Clay Member – Mudstone;

- Cornbrash Formation – Limestone;
- Forest Marble Formation – Mudstone;
- Forest Marble Formation – Limestone;
- White Limestone Formation – Limestone.

2.2.35 The superficial geology of the Site is characterised by the following:

- Summertown – Radley Sand and Gravel Member – Sand and gravel;
- Northmoor Sand and Gravel Member, Upper Facet – Sand and gravel;
- Head – Clay, silt, sand and gravel;
- Alluvium – Clay, silt, sand and gravel.

2.2.36 The bedrock underlying the southern land parcels is classified as Unproductive Aquifer, whilst the northern land parcels are largely underlain by Secondary A Aquifer with a small area of Principal Aquifer at the northernmost extent. The superficial drift is largely Secondary A within the south of the Site, and Unproductive within the north of the Site with areas of Secondary A Aquifer around watercourses.

2.2.37 The Site is located within two Nitrate Vulnerable Zones (NVZs), Great Brook (Shill Brook to Thames) NVZ (surface water) and Upper Thames Gravels NVZ (groundwater). The majority of the Site is located within the Upper Thames Drinking Water Safeguard Zone (surface water).

2.3 References

- Ref 2-1 Oxfordshire County Council (2023). Local Nature Recovery Strategy (LNRS).
- Ref 2-2 Defra (2026). Predictive Agricultural Land Classification Map for England.

3. THE PROPOSED DEVELOPMENT

3.1 Introduction

- 3.1.1 As Solar Photovoltaic (PV) panels and Battery Energy Storage Systems (BESS) are rapidly evolving technologies, and as several technical parameters have yet to be finalised, a degree of design flexibility is required. It is consequently proposed that the Rochdale Envelope approach will be applied, which enables technical assessments to assess an 'envelope' within which the works will take place. The Planning Inspectorate advice page on Nationally Significant Infrastructure Projects: Pre-Application Advice on Environmental Impact Assessment [Ref 1-3] provides guidance regarding the degree of flexibility that is considered appropriate within a DCO application under the Planning Act 2008, as well as on how the 'Rochdale Envelope' should be applied to ensure a robust assessment of the likely significant effects of the Proposed Development.
- 3.1.2 In accordance with the 'Rochdale Envelope' approach, the EIA and DCO application will be based on maximum and, so far as appropriate, minimum parameters or limits of deviation. A concerted effort will be made to ensure that these parameters are as limited as possible, in order for the focus to remain on 'likely significant effects' rather than those that are not realistic and are hence deemed unlikely. Each relevant assessment will use the defined parameters to ascertain the reasonable worst-case basis of assessment.
- 3.1.3 The Proposed Development comprises the construction, operation (including maintenance), and decommissioning of a Solar PV electricity generating station, as well as associated development including BESS, ancillary infrastructure, a Main Substation and Grid Connection Infrastructure. The Proposed Development would allow for the generation and export of over 100 megawatts (MW) Alternating Current (AC) of renewable energy.
- 3.1.4 It is assumed that the Proposed Development would connect into the National Electricity Transmission System (NETS) overhead line that passes through the Site via a new National Grid Substation to be located within or immediately adjacent to the Site.
- 3.1.5 The National Grid Substation and OHL Connection Infrastructure do not form part of the Proposed Development and would be consented separately by National Grid Electricity Transmission (NGET). Potential effects associated with these would be considered through the assessment of cumulative effects.

3.2 Overview of the Proposed Development Infrastructure

3.2.1 The Proposed Development comprises the following principal components, further details of which are set out in the below subsections.

- PV Panels;
- Solar PV Mounting Structures;
- Low Voltage (LV), Medium Voltage (MV), and High Voltage (HV) switchgear, protection and control equipment;
- Power Conversion Units (PCUs);
- Collector Substations;
- Main Substation;
- BESS;
- Underground cabling;
- Ancillary Infrastructure (e.g. combiner boxes, weather stations);
- Fencing and security measures;
- Access Tracks; and
- Biodiversity and landscaping enhancements.

3.2.2 During the Construction Phase, one or more temporary construction compound(s) would be established within the Site as well as temporary roadways to facilitate access to all land within the Site.

3.2.3 In areas around the PV Arrays and on other land within the DCO Site Boundary, appropriate landscaping, biodiversity enhancements, and habitat management would be undertaken.

3.2.4 **Table 3-1** sets out the parameters that have been used by each of the technical topics in the EIA Scoping Report to set out the proposed approach and methodology for further assessment.

3.2.5 As the design evolves in response to the environmental assessment and consultation processes (which run in parallel), the maximum or minimum parameters may be further developed from those set out in this EIA Scoping Report to deliver the best environmental outcomes for the Proposed Development. The maximum or minimum parameters used for the ES will be set out in a Design Principles, Parameters and Commitments Document submitted with the DCO Application and secured in the DCO.

Table 3-1 Design Parameters Used for EIA Scoping

PROPOSED DEVELOPMENT COMPONENT	PARAMETER TYPE	APPLICABLE DESIGN PARAMETER / DESIGN COMMITMENT
Solar PV Panels	Solar PV panel type	Monofacial or bifacial panels
	Solar PV panel colour	The solar panels will be either dark grey, blue or black

PROPOSED DEVELOPMENT COMPONENT	PARAMETER TYPE	APPLICABLE DESIGN PARAMETER / DESIGN COMMITMENT
Solar PV Mounting Structures	Material	Anodised aluminium or steel framework supported on mounting posts.
	Installation	The standard is for driven piles to be used for installation, though alternatives may be required in the event of specific ground conditions or other constraints being encountered.
	Maximum pile embedment depth	The depth will depend on ground conditions but would typically be 1.0-3.0m depth. Tracker systems typically require deeper depth of pile between 3.0m and 4.5m. Depth will be determined during detailed design. Assumed maximum pile embedment depths: 4.5m
Single Axis Tracker Arrays (Option A)	Indicative orientation	Solar PV Panels would have a tilt angle of + / - 60 degrees from horizontal.
	Minimum height of the lowest part of the Solar PV Panel above ground level (AGL)	0.6m AGL when at maximum tilt, up to 0.8m where grazing may be considered.
	Maximum height of Solar PV Panels AGL	Solar PV Panels would have a maximum height of 4.5m AGL at maximum tilt.
	Separation distance between rows	Solar PV Panels would be positioned in rows with a separation distance of 2.0m to 8.0m at the closest point.
Fixed South Facing Arrays (Option B)	Indicative orientation	Solar PV Panels would have a fixed tilt angle of 10 degrees to 45 degrees from horizontal
	Minimum height of the lowest part of the Solar PV Panel AGL	0.6m AGL when at maximum tilt, up to 0.8m where grazing may be considered.

PROPOSED DEVELOPMENT COMPONENT	PARAMETER TYPE	APPLICABLE DESIGN PARAMETER / DESIGN COMMITMENT
	Maximum height of Solar PV Panels AGL	Solar PV Panels would have a maximum height of 4.0m AGL.
	Separation distance between rows	Solar PV panels would be positioned in rows with a separation distance of 2.0m to 12.0m.
Power Conversion Units (PCUs)	Maximum dimensions	16.0m (L) by 3.5m (W) by 3.5m (H). PCUs include transformers, switchgear and – where applicable – centralised inverters.
Other outdoor electrical equipment (e.g. standalone DC combiner boxes, string inverters, TX or switchgear stations)	Maximum dimensions	Individual items of equipment would have a maximum height of 3.5m and a maximum footprint of 40m ² .
Solar PV Sites Perimeter Fencing	Type	Fencing around Solar PV Panels would be wooden post and metal wire stock fencing.
	Installation	Directly driven into the ground using a standard post driver to a maximum depth of 1.5m below ground level.
	Height	Maximum height of 3m.
Security System	Type	The security system would comprise Closed-Circuit Television (CCTV) towers located around the perimeter of the Solar PV Sites.
	Mounting	CCTV cameras would be mounted on posts around the full perimeter, with a maximum height of 5.0m.
Collector Substation	Maximum compound area	1.5ha
	Maximum equipment height	Up to 9.0m to the top of busbars, with lightning arrestors at 12.0m.
	Compound perimeter	A maximum of 4.0m security fencing around the compound.

PROPOSED DEVELOPMENT COMPONENT	PARAMETER TYPE	APPLICABLE DESIGN PARAMETER / DESIGN COMMITMENT
		This is likely to be metal palisade fencing.
BESS Compound	Maximum compound size	14.0ha
	Maximum equipment parameter	Maximum dimensions of 16.0m (L) by 3.5m (W) by 4.5m (H).
	Compound perimeter	The BESS is likely to be surrounded by metal palisade fencing at a maximum height of 4.0m.
	Associated Civil Infrastructure	Equipment/building foundations are expected to be ground bearing reinforced concrete slab and/or pile foundations. There is also expected to be hardstanding areas/roads comprised of concrete/tarmac, welfare facilities, and flood mitigation/drainage measures.
Access	Access Tracks	Access Tracks are expected to follow the alignment of the existing agricultural tracks, where reasonably possible. New internal Access Tracks would be made of compacted stone and would typically be up to a maximum width of 8.0m wide. Access Tracks to the substation(s) and BESS may have a maximum width of 8.0m may be constructed of compacted stone or paved.
	Typical Trench Dimensions	Individual cable Trenches are expected to have a width of 1.0m to 2.5m and a depth of 0.9m to 2.5m, although dimensions may vary at specific crossing locations as dictated by the final design. Additional protection would be provided if the minimum cover depth was breached.

PROPOSED DEVELOPMENT COMPONENT	PARAMETER TYPE	APPLICABLE DESIGN PARAMETER / DESIGN COMMITMENT
		Trench widths may be increased where multiple cables are buried in parallel.
Underground Cabling	Proposed Crossing Methodologies	Open cut or trenchless techniques (e.g. Horizontal Directional Drilling, Thrust Bore, Auger Boring, or similar).
	Trenchless Crossings	Minimum clearance would be 3.0m below a feature (unless otherwise agreed with relevant asset owners). Maximum dimensions for Launchlaunch/reception pit compounds would be 50.0m x 50.0m for minor HDD crossings, and 100.0m x 100.0m for major crossings.
	Cable Joint Bays	Buried concrete joint bays would typically be every 500.0m to 1.0km.
	Working Corridors	Working corridors would be 25.0m to 35.0m for 33kV corridors, and 30.0m to 45.0m for 132kV corridors range between 25m to 45m wide depending on cable voltage and number of buried circuits.
	Maximum Compound Area	4ha
Main Substation	Maximum Equipment Height	15.0m for the main electrical equipment, with lightning arrestors at 20.0m.
	Compound perimeter	The Main Substation compound would be enclosed by security fencing, likely to be metal palisade or similar, at a maximum height of 4.0m.
	Associated Civil Infrastructure	Equipment/building foundations are expected to be ground bearing reinforced concrete slab and/or pile foundations. There is

PROPOSED DEVELOPMENT COMPONENT	PARAMETER TYPE	APPLICABLE DESIGN PARAMETER / DESIGN COMMITMENT
		also expected to be hardstanding areas/roads comprised of concrete/tarmac, welfare facilities, and flood mitigation/drainage measures.

PV Panels

- 3.2.6 Solar PV Panels convert sunlight into electrical current (as Direct Current (DC)). Individual panels consist of a series of PV cells beneath a layer of toughened glass, and the panels used may be monofacial or bifacial. PV technologies are developing rapidly and different generation capacity panels may be available at the time of construction.
- 3.2.7 Each panel could have an approximate DC generating capacity of between 400 and 900 watts (W) or more, depending on advances in technology at the time of construction. The panels would be fixed to a mounting structure in groups known as 'strings'. Various factors inform the number and arrangement of panel in each string, and it is likely some flexibility will be required to accommodate future technology developments. The colour of the PV Panels will be dark grey, blue or black.



Plate 3-1 Example of Solar PV Panels (Source: Low Carbon)

Panel Mounting Structures

3.2.8 There are various types of Solar PV Mounting Structures, which are typically comprised of anodised aluminium or galvanised steel framework supported on mounting posts. While fixed south facing mounts are historically the most common for solar PV facilities in the United Kingdom (UK), the ongoing technological advances and economic considerations make other options increasingly more feasible. The options under consideration are:

- Fixed South Facing; and
- Single Axis Trackers.

3.2.9 Each string of panels would be mounted on a metal rack, known as a frame. The frames are usually supported by galvanised steel piles typically driven 1.0m or up to 3.0m into the ground depending on local geology, with tracker systems typically requiring deeper depth of pile between 3.0m and 4.5m. These depths will be confirmed at the detailed design stage.



Plate 3-2 Example of Solar PV Mounting Structures (Source: Low Carbon)

3.2.10 Each of the mounting options currently under consideration is described in the paragraphs below. The dimensions presented are indicative at this stage, as the final elevations of the racks would be influenced by various design factors such as local topography, flood risk, inter-row shading and maintenance considerations. Where different designs could materially influence environmental effects, the relevant technical chapters of this EIA Scoping

Report consider the reasonable worst-case scenario and the potential scoping implications associated with this option.

Fixed South Facing Arrays

- 3.2.11 The configuration where south-facing panels are arranged in rows running from east to west at a fixed tilt is commonly seen on existing UK solar farms. These panels are then arranged into strings of approximately 30 panels which are fixed to the mounting system.
- 3.2.12 The indicative fixed south facing system parameters can be found in **Table 3-1**.

Single Axis Trackers

- 3.2.13 A tracker system involves attaching the PV panels to a motorised table that can move in relation to the sun. This allows for optimal power generation throughout the day. These panels are then arranged into strings of varied length which are fixed to the mounting system.
- 3.2.14 There are different types of tracking systems available and, if chosen, the Proposed Development would utilise a single-axis tracker system, which tilts the solar panel around a horizontal north-south axis thus tracking the sun's movement from east to west. The panels begin the day facing east (where the sun rises) and move into a horizontal position during the middle of the day, transitioning into west facing in the evening (where the sun sets). This enables the delivery of a better electricity generation during the year.
- 3.2.15 The indicative tracker system parameters (subject to detailed design) can be found in **Table 3-1**.

Power Conversion Units

- 3.2.16 A Power Conversion Unit (PCU) typically comprises an inverter, a transformer, and switchgear, which can either be housed within a container or grouped together as isolated pieces of equipment. The PCUs would be distributed throughout the Site.



Plate 3-3 Example of a Power Conversion Unit housed within a container (Source: Low Carbon)

Inverters

- 3.2.17 It is currently expected that either string or central inverters would be used. Inverters convert the DC electricity collected by the Solar PV Panels into alternating current (AC), which allows the electricity generated to be exported to the national electricity transmission network. Inverters are sized to deal with the level of voltage and current, which is output from the strings of Solar PV Panels.
- 3.2.18 String inverters would be situated on the rear of the Solar PV Mounting Structures or, in the case of Single Axis Tracker (SAT) configuration which follow the sun throughout the day, mounted behind each row of panels.
- 3.2.19 Should centralised inverters be used, these would be grouped with the transformers and switchgear as part of the PCU.

Transformers

- 3.2.20 LV/MV transformers control the voltage of the electricity generated across the Proposed Development before it reaches the Main Substation. The transformers can be located inside containers, which are typically externally finished in keeping with the prevailing surrounding environment, often utilising a green painted finish or may be sited as a standalone structure.

Switchgear

- 3.2.21 Switchgear is the combination of electrical disconnecter switches, fuses or circuit breakers used to control, protect, and isolate electrical equipment. Switchgear is used both to de-energise equipment to allow work to be done and to clear faults downstream. Similarly, switchgear is generally located within or adjacent to the transformer housing.

Underground Cabling

- 3.2.22 LV on-site cabling will connect the Solar PV Panels and BESS to inverters, and the inverters to the transformers on-site. The dimension of the trenches would vary depending on the number of ducts they contain but could typically be around 1.0m-2.5m in width and 0.9m-2.5 m in depth. The underground cable is likely to be installed using open cut or trenchless techniques. Trenchless crossings would necessitate a minimum clearance of 3.0m below a relevant feature, unless agreed otherwise with the relevant asset owners. Launch and reception pits are expected to measure 50.0m by 50.0m for minor trenchless crossings, and 100.0m by 100.0m for major crossings.
- 3.2.23 Higher rated cables (likely 33 kV) are to be installed between the transformers and the switchgear and from switchgear to the Main Substation. The working corridors are expected to measure 25.0m-35.0m for 33kV working corridors, and 30.0m-45.0m for 132kV working corridors. Buried concrete joint bays are expected to be situated every 500m to 1.0km.
- 3.2.24 Data/fibre optic cables would also be installed, typically alongside electrical cables to allow for monitoring during operation (and maintenance), such as the collection of solar data from pyranometers.

Substations

Collector Substation

- 3.2.25 The use of a Collector Substation is being considered which would have a maximum compound size of 1.5ha, though the requirement for and location of these is subject to further design evolution. The maximum height of electrical infrastructure would be 9.0m. Lightning arrestors would be 12.0m in height. The compound would be surrounded by security fencing, likely metal palisade, with a maximum height of 4.0m.

- 3.2.26 Within the Collector Substation compound there would be control room/switchroom buildings. Operation (and maintenance) data for the whole plant would be controlled and monitored from the central control room, and there would also be central CCTV and security control of the whole plant, including access gates to fenced areas. Associated civil infrastructure would include equipment/building foundations comprising ground bearing reinforced concrete slab and or/pile foundations, areas of hardstanding and roads, reinforced concrete blast walls, welfare facilities, and flood mitigation/drainage measures.

Main Substation

- 3.2.27 The Main Substation would consist of electrical infrastructure such as the transformers, switchgear and metering equipment required to facilitate the export of electricity from the Proposed Development to the National Grid (but excluding the elements contained within the National Grid Substation). The Main Substation is expected to operate at 400kV and would be located within the Site. The Main Substation would be surrounded by security fencing.
- 3.2.28 Within the Main Substation compound there would be control room/switchroom buildings. Operation (and maintenance) data for the whole plant would be controlled and monitored from the central control room, and there would also be central CCTV and security control of the whole plant, including access gates to fenced areas. Associated civil infrastructure would include equipment/building foundations comprising ground bearing reinforced concrete slab and or/pile foundations, areas of hardstanding and roads, reinforced concrete blast walls, welfare facilities, and flood mitigation/drainage measures.

National Grid Substation and OHL Connection Infrastructure

- 3.2.29 While the National Grid Substation (400kV) does not form part of the Proposed Development, for the purposes of cumulative assessment, the following assumptions have been made. The National Grid Substation would consist of electrical infrastructure such as busbars, overhead down lines, and circuit breakers. Whilst this is not included within the scope of the Proposed Development, it is expected to be sited within a compound measuring 200m by 150m, and the main electrical equipment is expected to have a maximum height of 20m with lighting arrestors at 25m. The National Grid Substation would be surrounded by security fencing, likely metal palisade, with a maximum height of 4m.
- 3.2.30 Within the National Grid Substation compound there would be control room/switchroom buildings, the sizes of which would be confirmed at detailed design. Operation (and maintenance) data for the whole plant would be controlled and monitored from the central control room, and there would also be central CCTV and security control of the whole plant, including access gates to fenced areas.

Battery Energy Storage System (BESS)

- 3.2.31 The Proposed Development would include an associated BESS at one or more locations within the Site. The battery-based electricity storage will allow the storage of energy generated by the Solar PV Panels at times of low demand and release energy to the grid at times when demand is high or when solar irradiance is lower, known as load shifting. The BESS will also have the ability to import power from the grid directly to allow the BESS system to participate in relevant energy markets.
- 3.2.32 The parameters regarding the number of individual battery storage containers will be confirmed within the ES.
- 3.2.33 The BESS may comprise one or more compounds located within the Site, depending on the final design. The containers would be located on areas of hardstanding and would be surrounded by security fencing.
- 3.2.34 Associated civil infrastructure would include equipment/building foundations comprising ground bearing reinforced concrete slab and or/pile foundations, areas of hardstanding and roads, reinforced concrete blast walls, welfare facilities, and flood mitigation/drainage measures.
- 3.2.35 In addition, the Proposed Development would require a small amount of electricity to serve on-site loads (e.g. lighting and control equipment), which would be met through a combination of on-site generation or transmission system, a separate bespoke low voltage (LV) connection, and/or emergency back-up generators.



Plate 3-4 Example of BESS units grouped within a compound (Source: Low Carbon)

Fencing and Security

- 3.2.36 A security fence would enclose the operation (and maintenance) areas of the Site, including the Main Substation and BESS area. Perimeter fencing around Solar PV Arrays would comprise wooden post and metal wire stock fencing, driven into the ground.
- 3.2.37 Security fencing associated with the Main Substation and Collector Substation, and other electrical infrastructure would be metal palisade fencing. PRowWs that cross the Site would be preserved, where possible, with a fence installed on both sides with an appropriate offset to the PRowW and possibly screening measures such as vegetation. Clearances above ground, or the inclusion of mammal gates would be included to permit the passage of wildlife.
- 3.2.38 Pole mounted CCTV systems, infrared cameras, and motion sensors are also likely to be deployed around the perimeter of the operation (and maintenance) areas of the Site or at high areas such as PCUs, Main Substation and Collector Substation. The CCTV systems would be aligned to face along the fence and therefore would not encroach on any private land.
- 3.2.39 To comply with relevant standards, if transformers are not enclosed in a container, they would be surrounded by a security fence.



Plate 3-5 Example of metal wire stock fencing (Source: Low Carbon)

Lighting Requirements

- 3.2.40 No lighting is proposed within PV Array areas.
- 3.2.41 It is likely that lighting will be required around the Main and Collector Substations and other pieces of critical infrastructure. There will be no permanent lighting during the hours of darkness. This lighting could involve combination of switch activated lighting (manually activated whilst operatives working in the area during periods of darkness) and security lighting (motion detection). Lighting may be affixed to buildings / structures or mounted on dedicated columns (up to 10m high). Temporary task specific lighting may also be used in case of emergency works.
- 3.2.42 Operational lighting would be directed to within the DCO Site Boundary and would include features designed to reduce light spill beyond the areas required to be lit.

Access Tracks

- 3.2.43 It is anticipated that on-site Access Tracks would follow the alignment of the existing agricultural tracks, where reasonably practicable. New internal Access Tracks are likely to be up to 8.0m wide, where passing bays are provided. The Access Tracks are likely to be constructed of compacted stone and permeable. Visibility splays may be required. Where drainage is required, a ditch or a swale may be located downhill of the internal access track to control any potential for surface water run-off.
- 3.2.44 For Access Tracks to the Main Substation and BESS Compound, these could be constructed of a more permanent road surface, such as concrete or macadam.

Surface Water Drainage

- 3.2.45 The detailed operation (and maintenance) drainage design will be carried out pre-construction with the objective of ensuring that drainage of the land to the present level is maintained. The drainage strategy would be designed to accommodate the proposed infrastructure (e.g. Access tracks, Underground Cabling and structure foundations), including potential impacts during construction. Where construction activities interact with or disrupt existing land drainage systems, appropriate new or replacement drainage infrastructure would be installed to maintain effective drainage across the Site.
- 3.2.46 The design of new drainage systems will be based on the Flood Risk Assessment (FRA) and hydrological assessment to be undertaken and provided in the ES. Infiltration drainage design will be in accordance with relevant industry standards and infrastructure would be placed a minimum of 8m from the top of the watercourse bank, increasing to 10m where watercourses are found to support riparian mammals (except where crossings or other essential infrastructure must be located closer).

Biodiversity and Landscaping

- 3.2.47 The existing hedgerows, woodland, ditches, ponds and field margins would be retained where reasonably possible within the layout of the solar arrays, with the exception of small breaks and/or crossings required for new Access Tracks, security fencing and cable connection routes. Any breaks or crossings would be designed to use existing agricultural gateways/tracks between the fields where reasonably possible, and the width of any new breaks will be kept to a minimum.
- 3.2.48 The Proposed Development would involve embedded mitigation measures such as field boundary enhancement and planting of seed mixes within the Site. Planting of hedges and small trees would also be used to provide screening where suitable. Minimum offsets from solar infrastructure and ecological features would be incorporated within the design.
- 3.2.49 The enhancements and planting would increase biodiversity throughout the landscape and contribute to the Proposed Development achieving Biodiversity Net Gain (BNG) in line with the requirements of the Environment Act 2021, the National Planning Policy Framework (NPPF) and local planning policy. The requirement for Mandatory BNG for NSIPs will be introduced in November 2026. The Proposed Development design will aim to achieve BNG levels greater than the minimum 10% required by the Environment Act 2021.

3.3 Construction Programme and Activities

Construction Programme

- 3.3.1 It is anticipated that the Proposed Development will be constructed over a continuous period rather than being phased. There is the potential for the BESS to be constructed later, depending on the connection date from National Energy System Operator (NESO). At the time of preparing this EIA Scoping Report, confirmation of the connection date is anticipated by Q1 2027. Once confirmed, this may result in refinement of the indicative construction programme, including the sequencing and duration of BESS works. This will allow the ES to assess a more accurate construction timescale based on the confirmed grid connection arrangements.
- 3.3.2 A reasonable worst-case scenario for the construction programme will be assessed and presented in the ES.
- 3.3.3 Subject to being granted consent and following a final investment decision, the earliest construction could start is likely Q1 2031, and is anticipated to require an estimated 24-48 months. The ES will provide further details of the construction activities, their anticipated duration, and indicative programme of each phase of construction work.

Indicative Construction Activities

3.3.4 The types of construction activities that are likely to be required include (non-exhaustive and not necessarily in order):

- Proposed Development preparation to include:
 - Import of construction materials, plant, and equipment to site;
 - The establishment of construction compound(s); fencing and security measures;
 - Upgrading of existing access tracks and highways;
 - Construction of new Access Tracks, including new and existing access points / bell mouths and highways connections;
 - The upgrade or construction of crossing points (bridges/culverts) over drainage ditches and other watercourses as required;
 - Preparation for advanced planting or other environmental mitigation; and
 - Marking out the location of the infrastructure.
- Site construction to include:
 - Import of components to site;
 - Construction of foundations;
 - Temporary construction site compounds;
 - Erection of Solar PV Mounting Structures;
 - Mounting of Solar PV Panels;
 - Installation of electric cabling;
 - Installation of transformers;
 - Installation of BESS units;
 - Construction of Main Substation compound;
 - Construction of Collector Substation compound; and
 - Construction of buildings, car parking and other infrastructure.
- Cable installation Underground Cabling):
 - The establishment of mobilisation areas and running tracks;
 - Stripping of topsoil in sections;
 - Trenching in sections;
 - Appropriate storage and capping of soil;
 - Appropriate construction drainage with pumping where necessary;
 - Sectionalised approach of duct installation;
 - Excavation and installation of jointing pits;
 - Cable joint installation;
 - Cable pulling;
 - Implementation of crossing methodologies for watercourses, infrastructure (including roads and rail), and sensitive habitats (e.g. Horizontal Directional Drilling, cable bridging, etc.);
 - Import of components to the Proposed Development;
 - Temporary haul routes for construction vehicles;
 - Testing and commissioning; and

- Proposed Development reinstatement with habitat and ecological enhancement.

Construction Site Access

- 3.3.5 It is anticipated that the main construction access point to the Site would be from the A361. Swept path analysis will be undertaken to determine if land take or road widening is required. It is anticipated that abnormal loads would be required for the transformers and potentially cable drums.
- 3.3.6 Provisional construction site accesses are discussed in **Chapter 12: Transport and Access**. All construction access will be confirmed as the Proposed Development design progresses and in consultation with the relevant authorities.
- 3.3.7 Based on the preliminary construction material and equipment requirements, it is anticipated that there could be approximately 64 HGV deliveries (128 movements per day) during the peak construction period, based on the most rapid build out. This number is indicative, excludes construction staff transportation and ancillary construction traffic, and is subject to refinement. A reasonable worst-case scenario will be assessed in the ES.
- 3.3.8 HGVs will use the local road network to access the DCO Site. Many of the roads around the Site are currently accessible to farm machinery and agriculture-related HGVs. The need for road upgrades, widening, and new road construction, for example for abnormal loads or to facilitate visibility splays at site access / egress points, will be determined as the Proposed Development design develops and will be assessed as appropriate.
- 3.3.9 An Outline Construction Traffic Management Plan (OCTMP) will be developed and submitted with the DCO Application.

Construction Staff

- 3.3.10 It is currently estimated that up to a peak of 400 staff per day would work on the Proposed Development during the construction period. This includes construction of the Main Substation, Grid Connection Infrastructure, and establishment of the Solar PV Arrays and BESS compounds. There would be noticeably fewer workers outside peak activities which would be an average of 100 staff per day.

Construction Environmental Management

- 3.3.11 An Outline Construction Environmental Management Plan (OCEMP) will accompany the DCO Application which will describe the mitigation measures and best practice guidance to be employed during the Construction Phase. The OCEMP will form the framework for a detailed CEMP that will be agreed with the Local Planning Authorities prior to construction.

- 3.3.12 The aim of the CEMP is to reduce impacts and promote best practice such as those listed below:
- Use of land for temporary laydown areas, accommodation etc;
 - Construction traffic (including parking and access requirements) and changes to access and temporary road or footpath closure (if required);
 - Noise and vibration;
 - Utilities diversion;
 - Dust generation and mitigation measures;
 - Ecological mitigation;
 - Water pollution prevention measures; and
 - Waste generation.
- 3.3.13 The detailed CEMP would be produced by the appointed construction contractor following grant of the DCO and prior to the start of construction (for example, as part of a requirement attached to the DCO) and will identify the procedures to be adhered to and managed by the Principal Contractor throughout construction.

Site Reinstatement and Habitat Creation

- 3.3.14 Following construction, a programme of site reinstatement and habitat creation would commence. An Outline Landscape and Ecological Management Plan (OLEMP) would be submitted alongside the DCO Application. The OLEMP would set out the principles for how the land would be managed throughout the operation (and maintenance) phase, following completion of construction. The OLEMP would be considered a live document which would be regularly refined (where required), a detailed Landscape and Ecological Management Plan (LEMP) would be further developed once the DCO has been granted.

3.4 Operation and Maintenance Activities

- 3.4.1 During the operation (and maintenance) phase, activity on-site would be minimal and would be restricted to vegetation management, equipment maintenance and servicing, replacement of any components that fail, periodic inspections, and monitoring to allow for the continued effective operation (and maintenance) of the Proposed Development. Replacement of on-site infrastructure is anticipated to comprise of faulty/damaged PV panels, inverters and BESS once during the operational lifetime of the Proposed Development. Repowering of the whole site is not included within the scope of the Proposed Development.
- 3.4.2 Site access will be determined as the Proposed Development design progresses and in consultation with the relevant highways authorities.
- 3.4.3 It is anticipated that there would be approximately 10 to 20 full-time workers employed on-site carrying out maintenance and upkeep during the routine operation (and maintenance) phase. This is indicative and, depending on the

nature and complexity of any maintenance activity, could require more workers and equipment.

- 3.4.4 An Outline Operational Environmental Management Plan (OOEMP) will accompany the DCO Application, which will describe the framework of operation (and maintenance) mitigation measures as identified in the ES to be followed, and carried forward to a detailed Operational Environmental Management Plan (OEMP) prior to operation.

3.5 Decommissioning

- 3.5.1 The design life of the Proposed Development is expected to be 40 years. It is expected that throughout this period, faulty or damaged PV panels and other components would be replaced as part of the normal maintenance.
- 3.5.2 When the operation (and maintenance) phase ends, the Site would be decommissioned. All PV panels, Solar PV Mounting Structures, inverters, transformers, switchgear, BESS, buildings, and fencing would be removed from the Site and recycled or disposed of in accordance with good practice and market conditions at that time in accordance with a Site Waste Management. It is anticipated that foundations / piles would be removed or cut back down to 1.2m below ground level, as appropriate.
- 3.5.3 The mode of cable decommissioning for Underground Cabling would be dependent upon government policy and best practice at that time. Currently, the most environmentally acceptable option for underground cabling in environmentally sensitive locations is generally considered to be leaving the cables in situ (particularly deeper cables), as this avoids disturbance to overlying land and habitats. Alternatively, the cables can be removed by opening up the ground at regular intervals and pulling the cable through to the extraction point, avoiding the need to open up the entire length of the cable route.
- 3.5.4 The effects of decommissioning are usually similar to, or of a lesser magnitude than, construction effects and will be considered in the relevant sections of the ES. The specific method of decommissioning the Proposed Development at the end of its operational life is uncertain at present as the engineering approaches to decommissioning would evolve over the operational life of the Proposed Development. Assumptions will therefore be made where appropriate and the impact assessment would be based on the worst-case parameters for each technical topic.
- 3.5.5 Decommissioning is expected to take approximately 24-36 months and could be undertaken in phases. On completion of decommissioning, the Site would be reinstated and handed back to the landowners (subject to the terms of any legal agreements reached with them). Areas of habitat planting that do not need to be removed may be left in situ.
- 3.5.6 An Outline Decommissioning Environmental Management Plan (ODEMP) will be prepared as part of the EIA and will set out the general principles to be

followed in the decommissioning of the Proposed Development. A detailed Decommissioning Environmental Management Plan (DEMP) will be prepared and consulted upon with the relevant authorities at the time of decommissioning, in advance of the commencement of decommissioning works, and would include timescales and transportation methods.

- 3.5.7 Decommissioning would be undertaken safely and with regard to the environmental legislation at the time of decommissioning, including relevant waste legislation.

3.6 Project Outcomes, Design Principles, Parameters and Commitments

- 3.6.1 A series of Project Outcomes, Design Principles, Parameters and Commitments are being developed for the Proposed Development as part of an iterative process based on environmental assessments and consultation with key stakeholders.

3.7 Commitments Register

- 3.7.1 A Commitments Register has been prepared in order to set out the measures that are required to mitigate environmental effects and which will be secured and implemented through the DCO. This can be found at **Appendix 3-1**.
- 3.7.2 The Commitments Register will be kept as a live document throughout the evolution of Proposed Development, being updated as necessary as the EIA progresses. It will be submitted with the DCO Application and updated as necessary during the Examination. It can then be used during the post-DCO consent phase as a tool to demonstrate compliance with commitments

4. EIA METHODOLOGY

4.1 The EIA Process

- 4.1.1 The EIA process will be undertaken in accordance with the EIA Regulations, guidance produced by the Planning Inspectorate and Institute of Sustainability and Environmental Professionals (ISEP), and other environmental topic-specific guidance. The ES will set out details on the methodology and approach, along with the overall conclusions of the EIA process.
- 4.1.2 In general terms, the main stages in the EIA are as follows:
- Data Review – collation and review of available data;
 - Baseline Surveys – undertake baseline surveys and monitoring;
 - Scoping – identification of likely significant issues to determine the scope of the EIA;
 - Assessment and Iteration – assess the likely significant effects of the Proposed Development, identify and evaluate alternatives, provide feedback to the project design team, incorporate any necessary mitigation measures and assess residual effects;
 - Preparation of the final ES and Non-Technical Summary (NTS).
- 4.1.3 The assessment process is designed to produce an environmentally sensitive development by considering and assessing the effects of the Proposed Development against existing environmental baseline conditions. To date, the EIA team has undertaken a review of both the environmental sensitivities within and surrounding the Site and the preliminary concept design to identify any potential environmental effects. Where the baseline environment has been informed by Site visits and environmental surveys, these have been detailed in the relevant topic-specific chapters of this EIA Scoping Report.
- 4.1.4 Development parameters will be determined and fixed for the purposes of the EIA through an iterative approach, taking into account baseline environmental information, the evolving design and any associated technical requirements.
- 4.1.5 The EIA will assess the construction, operation (and maintenance) and Decommissioning Phases of the Proposed Development.

4.2 Consultation

- 4.2.1 Consultation with stakeholders and public bodies will be undertaken throughout the EIA process to gather feedback on the emerging Proposed Development proposals, baseline survey methodologies, results and assessment methodology. Consultation with statutory consultees and stakeholders has already commenced in order to help inform the content of this EIA Scoping

Report. Further detail on stakeholders who have already been consulted can be found within the individual technical chapters (6-16) of this document.

4.3 Assessment Methodology

Assessment Scenarios

- 4.3.1 In order to ensure the EIA is robust in considering the likely significant effects of the Proposed Development, appropriate assessment scenarios and years have been identified and discussed below.
- 4.3.2 Construction is expected to commence in 2031 and the peak construction year for the purpose of the EIA is anticipated to be during 2032. This is based on the assumption that the Proposed Development would be built out rapidly (over approximately 24 to 48 months) which is a worst case from a traffic generation point of view as the trip numbers would be compressed into a shorter duration. This would therefore also be the worst case in terms of potential effects on drivers, pedestrians, cyclists and traffic-related air quality and noise effects.
- 4.3.3 The peak construction assessment year will be reviewed as the anticipated construction programme is considered in more detail during the design development. A detailed justification for the reasonable worst-case scenario that is assessed will be provided in the ES.
- 4.3.4 The current date of connection for the Proposed Development is 2034 to 2035, with an aspiration for the Proposed Development to start operating sooner where possible. The proposed operation (and maintenance) assessment year for the purpose of the EIA is 2034.
- 4.3.5 A future year of 2049 will also be considered for specific technical topics, including landscape and visual amenity, to take account of the maturation of landscape mitigation planting (i.e. 15 years after the operation (and maintenance) assessment year). This is advised by the Landscape Institute Guidelines, which are discussed further in **Chapter 7: Landscape and Visual** of this EIA Scoping Report.
- 4.3.6 The decommissioning assessment year for the purpose of the EIA is 2074, based on the design life of the Proposed Development, recognising that the operation (and maintenance) life may extend beyond this date.

Determining Baseline

Existing Baseline

- 4.3.7 An important step in the EIA process is to establish the baseline environmental conditions against which to assess the effects of the Proposed Development, as well as helping to recognise appropriate mitigation to minimise adverse effects that may be identified. Information relating to the existing environmental baseline will be collected through field and desktop study, including:

- Online / digital resources;
- Data searches, e.g. Local Biological Record Centres, Historic Environment record, etc.;
- Baseline site surveys; and
- Available environmental information submitted in support of other planning applications for development in the vicinity.

4.3.8 For each environmental topic chapter, the methods of baseline data collection will be discussed with relevant consultees and stakeholders.

Future Baseline

4.3.9 The ES will include a description of the future baseline, i.e. the baseline conditions in the absence of the Proposed Development, as far as natural changes from the baseline can be established. This will include reference to any consented developments that are anticipated to be constructed and form part of the future baseline.

4.3.10 The ES will include within each of the environmental topics a description of the existing baseline and the future baseline.

4.3.11 The potential likely significant effects arising from each phase of the Proposed Development will be assessed against the following baseline(s):

- Construction Phase – current and future baseline.
- Operational (and maintenance) Phase – future baseline.
- Decommissioning Phase – future baseline.

Prediction of Likely Effects

4.3.12 When undertaking an EIA, environmental effects are classified as either permanent or temporary, as appropriate to the effect in question. Permanent effects are those which are irreversible (e.g. permanent land take), or which will last for the foreseeable future (e.g. noise from generated road traffic). The duration of temporary or reversible effects differs for each environmental topic depending on their own methodologies but can broadly be defined as:

- Short-term;
- Medium-term; and
- Long-term.

4.3.13 In assessing the significance of potential effects identified through the EIA process, consideration has been given to whether effects are:

- Adverse: effects that have a negative influence on the environment;
- Beneficial: effects that have a positive influence on the environment;
- Direct: effects that are caused by activities which are an integral part of the Proposed Development;

- Indirect: effects that are due to activities that are not part of the Proposed Development but result as a consequence of it, either through activities induced by or associated with the Proposed Development;
- Residual: effects that remain after the positive influence of mitigation and / or enhancement measures are taken into account;
- Cumulative: combined effects of the Proposed Development with other committed developments;
- In-combination: synergistic effects between different types of effects on the same receptors.

Determining Significance

- 4.3.14 The EIA will identify the likely 'significance' of environmental effects (beneficial or adverse) arising from three Phases (Construction, Operation (and maintenance), and Decommissioning) of the Proposed Development. The significance of residual effects will be determined by reference to the criteria set out for each environmental topic. The approach to assessing and assigning significance to an environmental effect is derived from a variety of sources including, in particular, the NPSs, NPPF, legislative requirements, topic-specific guidance, standards and codes of practice, the EIA Regulations, advice from statutory consultees and other stakeholders, and the expert judgement of the team undertaking the EIA.
- 4.3.15 The likely effect that the Proposed Development may have on identified environmental receptors will be influenced by a combination of the sensitivity (or importance) of the receptor and the predicted magnitude of change from the baseline conditions.
- 4.3.16 Assignment of environmental sensitivity of a receptor will generally depend on its vulnerability, recoverability and value / importance of the receptor. The environmental sensitivity (or importance) will be determined using the following categories:
- High – high importance and rarity, international level and very limited potential for substitution;
 - Medium – high or medium importance and rarity, regional level and limited potential for substitution;
 - Low – low or medium importance and rarity and local level; and
 - Negligible – very low importance or rarity and local level.
- 4.3.17 Where other categories of sensitivity have been used, this will be set out in the individual environmental topic assessment.
- 4.3.18 The categorisation of the magnitude of impact will take into account the following factors:
- Extent;
 - Duration;
 - Frequency; and

- Reversibility.

4.3.19 Impacts will be defined as either beneficial or adverse. As a guide, magnitude of impact will generally be assigned using the categories below. Further details of the topic-specific methodologies adopted for the EIA will be defined within the methodology section of each topic chapter:

- High:
 - Adverse: Loss of a resource and/or quality and integrity of a receptor; severe damage to key characteristics, features or elements; and
 - Beneficial: Large scale or major improvement of receptor quality; extensive restoration or enhancement, major improvement of attribute quality.
- Medium:
 - Adverse: Loss of resource, but not adversely affecting integrity; partial loss of and/or damage to key characteristics, features or elements; and
 - Beneficial: Benefit to or addition of key characteristics, features or elements. An improvement to attribute quality.
- Low:
 - Adverse: Some measurable change in attributes, quality or vulnerability, minor loss of or alteration to one (possibly more) key characteristics, features or elements; and
 - Beneficial: Minor benefit to or addition of one (possibly more) key characteristics, features or elements, some beneficial impact on attribute or reduced risk of a negative impact occurring.
- Negligible:
 - Adverse: Very minor loss or detrimental alteration to one or more characteristics, features or elements
 - Beneficial: Very minor benefit to or positive addition of one or more characteristics, features or elements; and
 - No change: No loss or alteration to characteristics, features or elements, no observable impact in either direction.

4.3.20 The overall significance of the effect will be assigned by the interaction of both sensitivity of the receptor and magnitude of impact. The level of significance will be determined in each of the environmental topic assessments and will consider relevant topic-specific legislation, planning policy and guidance.

4.3.21 Professional judgement will be used to assign the most appropriate option where the matrix offers more than one level of significance. The topic assessments will adopt this general approach to assigning significance, unless stated in the individual topic chapters.

4.4 Cumulative Effects Assessment

4.4.1 The Cumulative Effects Assessment (CEA) will be undertaken in accordance with the Planning Inspectorate Advice on Cumulative Effects Assessment for Nationally Significant Infrastructure Projects (September 2024, updated August 2026) [Ref 4-1] and will consider two types of cumulative effects:

- In-combination effects – the inter-relationship between individual development effects, for example, noise, dust and visual on one particular receptor; and
- Cumulative effects – multiple existing and/or approved and/or reasonably foreseeable developments generating additive effects which together have an increased effect on the same receptors. The full scope of development considered within the assessment of cumulative effects is set out within **Chapter 5: Cumulative Effects Assessment**.

In-combination effects

4.4.2 A chapter will be presented within the ES that provides a summary of effect interactions between topics, setting out the inter-relationship arising as a result of direct effects from other environmental topics.

4.4.3 The ES will set out a table demonstrating where multiple effects from the Proposed Development would combine to affect sensitive receptors, and explaining what mitigation measures are proposed, and how such mitigation may have an in-combination effect across several topics.

Cumulative effects

4.4.4 Each topic chapter within the ES will set out how the particular topic area has considered and assessed the cumulative effects arising as a result of other existing or proposed development that will be set out in the long and short lists for the EIA.

4.4.5 The approach to the CEA is set out in **Chapter 5** of this EIA Scoping Report.

4.4.6 No transboundary effects are anticipated to arise from the Proposed Development, but if any are identified they will be considered in accordance with the Planning Inspectorate Advice '*Nationally Significant Infrastructure Projects: Advice on Transboundary Impacts and Process*' [Ref 4-2].

4.5 Assessment Timeframes

Construction Phase Effects

4.5.1 For the purposes of this assessment, construction effects are defined as those arising from impact sources that commence and conclude within the Construction Phase of the Proposed Development and do not persist beyond

the completion of construction activities. Such effects include, but are not limited to, construction traffic, noise and vibration associated with construction works, dust generation, site runoff, mud deposition on roads, the risk of fuel or oil spills, and the visual presence of construction plant and machinery on site.

- 4.5.2 The duration of construction-related effects will vary depending on the nature of the activity. For example, impacts associated with the establishment of construction compounds are expected to be relatively short-term when considered against the overall construction programme, whereas effects arising from the construction of energy infrastructure and associated landscaping works are likely to continue throughout much or all of the construction period.
- 4.5.3 By their nature, the majority of construction effects are anticipated to be temporary and reversible, ceasing upon completion of the relevant construction activities.

Operation and Maintenance Phase Effects

- 4.5.4 For the purposes of the operation and maintenance assessment, these effects are defined as those which, although they may originate during the Construction Phase, are permanent in nature, persist for a substantial period beyond construction or decommissioning, or arise as a prolonged cumulative consequence of construction or decommissioning activities. These effects encompass those associated with the physical presence of the energy infrastructure, as well as its operation, use, and ongoing maintenance.
- 4.5.5 The timescales associated with these long-term or enduring effects are set out below:
- Short term – endures for up to 12 months after construction or decommissioning;
 - Medium term – endures for 1-5 years;
 - Long term – endures for more than 5 years;
 - Reversible long term effects – long term effects, which endure throughout the lifetime of the Proposed Development, but which cease once the Proposed Development has been decommissioned (operation (and maintenance) effects will fall into this category); and
 - Permanent effects – effects which cannot be reversed following decommissioning (e.g. where buried archaeology is permanently removed during construction).
- 4.5.6 Environmental management and mitigation measures for the operation (and maintenance) phase of the Proposed Development would be planned, implemented and delivered through an Operation Environmental Management Plan (OEMP), secured through a Requirement in the DCO. An OEMP will be prepared as part of the DCO Application which will set out the general principles to be followed during the operation of the Proposed Development. The Outline Operational Environmental Management Plan (OOEMP) would be developed into a detailed OEMP following the grant of the DCO.

Decommissioning Phase Effects

- 4.5.7 For the purposes of this assessment, decommissioning effects are defined as those arising from impact sources that commence and conclude within the Decommissioning Phase and do not persist beyond the completion of decommissioning activities. Such effects may include, but are not limited to, decommissioning-related traffic, noise and vibration, dust generation, site runoff, mud deposition on roads, the risk of fuel or oil spills, and the visual presence of plant and machinery associated with decommissioning works.
- 4.5.8 In general, the effects associated with the Decommissioning Phase are expected to be similar in nature to those experienced during construction. However, they are likely to be of shorter duration and, in some instances, lower intensity. As is the case during the Construction Phase, the duration of individual decommissioning effects will vary depending on the nature and extent of the activities being undertaken, with certain effects persisting for longer periods than others during the overall decommissioning programme.

4.6 Mitigation Development

- 4.6.1 Regulation 14(2) of the EIA Regulations requires that, where significant effects are identified, *“a description of any features of the proposed development, or measures envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects in the environment”* should be included in the ES.
- 4.6.2 Environmental effects remaining after mitigation measures have been incorporated are termed residual effects and these will be fully described in the ES.
- 4.6.3 Mitigation measures are developed as part of an iterative process and therefore will be developed throughout the EIA process in response to the findings of the initial assessments.
- 4.6.4 Mitigation measures can take many forms, and they are broadly classified according to the below categories:

Embedded Mitigation

- 4.6.5 Measures will be identified in order to avoid, reduce and, if possible, offset significant adverse effects identified during the EIA process. Where possible, these measures will be incorporated into the form or design of the Proposed Development. Often referred to as primary mitigation, this type of mitigation can best be described as modifications to the design of the Proposed Development made during the pre-application / design phase that are an inherent part of the Proposed Development and do not require additional action to be taken. Examples include the application of a stand-off distance between a receptor and a part of the Proposed Development.

Applied Mitigation

- 4.6.6 Often referred to as tertiary mitigation, this type of mitigation can best be described as good practice and industry standard measures which are, by their nature, well understood, and for which there is a high degree of confidence as to their effectiveness.
- 4.6.7 Applied mitigation also includes compliance with other regimes set out in law, such as the Water Framework Directive (WFD) and Protected Species protection.
- 4.6.8 The ES will assess effects with embedded and applied measures in place.
- 4.6.9 Such measures relevant to the Construction Phase will be described within an Outline Construction Environmental Management Plan (OCEMP), and within each technical chapter. For the Operational (and maintenance) Phase, such measures will be represented through control measures as part of the DCO such as an Outline Operational Environmental Management Plan (OOEMP).

Additional Mitigation

- 4.6.10 Where significant adverse effects are identified after considering embedded and applied measures, 'additional mitigation measures' will be proposed. These will be taken into account in the assessment of residual effects. In these instances, further mitigation will be proposed to further avoid or reduce the identified adverse environmental effects. These additional measures will be set out within each of the technical chapters of the ES, and may include bespoke and/or site-specific measures. Where required, these additional measures will be set out within the OCEMP.
- 4.6.11 Proposals for mitigation will follow a hierarchical approach - avoid, prevent, reduce, offset. Where beneficial effects and or opportunities for enhancement and betterment are identified, measures to maximise these will also be considered as the design develops.
- 4.6.12 A summary of all mitigation measures and how they will be secured, either inherently through the Proposed Development design, or through control documents, or requirements within the DCO, are set out in the Commitments Register, which will be kept under review as the Proposed Development progresses.

4.7 Monitoring

- 4.7.1 The EIA Regulations require *"the monitoring of any significant adverse effects on the environment of the proposed development"*. The ES will specify which effects, if any, will require monitoring (secondary mitigation).

4.8 Rochdale Envelope

- 4.8.1 EIA is the iterative process in which the assessment of environmental impacts is undertaken in parallel with the design process of the Project. The design and layout of the Proposed Development will evolve in response to the identification of specific constraints and opportunities. The comments made in response to this EIA Scoping Report and the statutory consultation process will also influence the final design and layout of the Proposed Development.
- 4.8.2 The Planning Inspectorate advice on Nationally Significant Infrastructure Projects [Ref 1-3], published in July 2026 addresses the degree of flexibility that would be considered appropriate to deal with uncertainties associated with applications for development consent.
- 4.8.3 In order to maintain flexibility in the design and layout, the Proposed Development will adopt the Rochdale Envelope approach by specifying parameter ranges which will be defined in the Project Description chapter of the ES. These parameters will be considered in detail by technical authors in the ES to ensure the reasonable worst-case effects of the Proposed Development are assessed for each potential receptor.

4.9 Consideration of Alternatives

- 4.9.1 It is necessary to set out in the ES the reasonable alternatives for the Proposed Development that were considered, and the reasons for selecting the chosen design and location, in accordance with paragraph 2 of Schedule 4 to the EIA Regulations:

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

- 4.9.2 Regulation 14(2)(d) of the EIA Regulations also requires that the ES should include:

"A description of the reasonable alternatives studied by the applicant, which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the development on the environment".

- 4.9.3 NPS EN-1 confirms that while there is no general requirement to consider alternatives or to establish whether a development represents the best option, *"where there is a policy or legal requirement to consider alternatives, the applicant should describe the alternatives considered in compliance with these requirements"* (Paragraph 4.3.17 of NPS EN-1).

- 4.9.4 NPS EN-1 at 4.3.22 states that *“the consideration of alternatives in order to comply with policy requirements should be carried out in a proportionate manner”* and *“only alternatives that can meet the objectives of the proposed development need to be considered”*.
- 4.9.5 The consideration of alternatives will likely involve the analysis of different layouts for the Proposed Development, scales, technologies adopted, design parameters, the location of supporting infrastructure and Site selection process. The ES will include a description of the alternatives relevant to the Proposed Development that have been considered, as well as the justification for selecting the chosen option.
- 4.9.6 The design and layout of the Proposed Development will be further developed and evolved throughout the design and consultation processes and following technical and environmental surveys. The ES will provide a detailed account of the refinement and design process, identifying how alternatives were considered in selecting the preferred option.
- 4.9.7 A ‘no development’ alternative would not deliver the additional electricity generation capacity associated with the Proposed Development and will therefore not be considered further and is not considered to represent a reasonable alternative for the purposes of the ES.

4.10 Environmental Statement

- 4.10.1 In accordance with Regulation 14(3) of and Schedule 4 to the EIA Regulations, the EIA process will be documented in an ES that will describe the Proposed Development, give full details of the EIA methodology and any technical methodologies and data used in support of the assessment; detail any mitigation and enhancement measures that have been employed; present the assessment of likely significant environmental effects; and provide a schedule of proposed mitigation and monitoring arrangements. Furthermore, the ES will present the residual effects, as well as an assessment of the cumulative effects and impact interactions, in relation to the topics set out below.

Proposed Scope of the Environmental Statement

- 4.10.2 The following topics are those for which potential significant environmental effects have been identified. As such, these topics will form standalone chapters within the ES.
- Cultural Heritage;
 - Landscape and Visual;
 - Ecology and Biodiversity;
 - Water Environment;
 - Soils and Agriculture;
 - Noise and Vibration;
 - Traffic and Transport;
 - Socio-economics;

- Climate Change.

4.10.3 Where significant effects are considered unlikely, entire topics and/or effects associated with particular environmental topics are proposed to be 'scoped out'. Consequently, it is proposed that the following topics are scoped out of the ES in their entirety or that a proportionate approach to their assessment is undertaken through, for example, the provision of a supporting management plan or technical assessment. These topics include:

- Air Quality – it is proposed that Air Quality is scoped out of the ES. A standalone Air Quality Plume Assessment will be undertaken to inform the Outline Battery Safety Management Plan (OBSMP).
- Electromagnetic Fields (EMF) – a high-level separate EMF Assessment will be undertaken. It will be appended to the ES, and its findings will be summarised in the Other Environmental Matters chapter.
- Glint and Glare – a site-specific Glint and Glare Assessment will be undertaken. It will be appended to the ES, and its findings will be summarised in the Other Environmental Matters chapter.
- Health – a proportionate approach will be undertaken whereby impacts to human health will be considered within relevant topic chapters.
- Waste – proportionate information on waste would be presented within the Other Environmental Matters chapter of the ES and the relevant environmental management plans accompanying it. The requirement for a Site Waste Management Plan (SWMP) will be set out within the OCEMP.
- Risk of Major Accidents and Disasters – A proportionate approach will be undertaken. In order to clearly direct the reader to the assessments of Major Accidents and Disasters within the ES, the Other Environmental Matters ES chapter will include a section that highlights which technical chapters consider the risk of Major Accidents and Disasters.
- Ground Conditions – a site-specific Preliminary Risk Assessment report and Minerals Safeguarding Assessment will be undertaken. It will be appended to the ES, and its findings will be summarised in the Other Environmental Matters chapter.
- Utilities and Telecommunications – it is proposed that Air Quality is scoped out of the ES. Risks would be mitigated through the design of the Proposed Development and good practice construction methodologies.

4.10.4 Where topics are considered within the ES, but not subject to a standalone chapter, a summary table will be included to signpost the chapters, appendices and/or management plans where these matters are addressed.

4.10.5 The following companion documents will also accompany the ES:

- Biodiversity Net Gain Assessment report; and
- Habitat Regulations Screening Report.

Structure of the Environmental Statement

- 4.10.6 Subject to responses from statutory consultees on this EIA Scoping Report, the ES will consist of the following Volumes:

Volume I: Main ES Text and Supporting Drawings

- 4.10.7 Volume I comprises the main ES text and supporting drawings and will include the following:

- A description of the Proposed Development, including:
 - A description of the location of the Proposed Development;
 - A description of the physical characteristics of the whole development;
 - A description of the main characteristics of the Operational Phase of the Proposed Development;
 - An estimate of expected residues and emissions.
- A description of the reasonable alternatives, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects;
- A description of the environmental baseline and an outline of the likely evolution thereof without implementation of the Proposed Development;
- A description of the factors likely to be significantly affected by the Proposed Development;
- A description of the likely significant effects of the Proposed Development on the environment, resulting from, inter alia:
 - The construction, operation, and decommissioning of the Proposed Development;
 - The use of natural resources;
 - Creation of emissions, nuisances, and the disposal and recovery of waste;
 - The risks to human health, cultural heritage or the environment (for example due to accidents or disasters);
 - The cumulation of effects with other existing and/or approved projects;
 - The impact of the Proposed Development on climate as well as its vulnerability to climate change;
 - The technologies and substances used.
- A description of the forecasting methods or evidences used to identify and assess the significant effects on the environment;
- 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;
- A description of the expected significant adverse effects of the Proposed Development on the environment deriving from the vulnerability of the development to risks of major accidents and/or disasters;
- A reference list.

Volume II: Technical Appendices

- 4.10.8 Volume II will include all technical data required to support the assessment conclusions set out in Volume I.

Volume III: Figures

- 4.10.9 Volume III will include all figures and plans required to support the assessment conclusions set out in Volume I.

Non-Technical Summary

- 4.10.10 A Non-Technical Summary (NTS) will be prepared that will provide a brief description of the Proposed Development, a summary (using non-technical language) of the significant effects likely to arise, and mitigation measures identified to reduce those effects.

4.11 References

- Ref 4-1 Planning Inspectorate (2026). Nationally Significant Infrastructure Projects: Advice on Cumulative Effects Assessment
- Ref 4-2 Planning Inspectorate (2026). Nationally Significant Infrastructure Projects: Advice on Transboundary Impacts and Processes.

5. CUMULATIVE EFFECTS ASSESSMENT

- 5.1.1 This chapter presents the approach to the assessment of cumulative effects, which is a requirement of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 under Schedule 4, Paragraph 5(e) [Ref 5-1].
- 5.1.2 The methodology for the Cumulative Effects Assessment (CEA) is in accordance with the Planning Inspectorate Advice on Cumulative Effects Assessment for Nationally Significant Infrastructure Projects (September 2024, updated August 2026) [Ref 5-2]. The CEA will therefore adopt a four-stage approach, as set out in **Table 5-1** below.
- 5.1.3 In addition, the approach to the CEA has been informed by the requirements of the Overarching National Policy Statement for Energy (EN-1) [Ref 5-3], which recognises that the effects of nationally significant energy infrastructure may combine with those of other existing, consented and reasonably foreseeable developments. The CEA will therefore consider the potential for the Proposed Development to interact with other relevant developments and plans within the study area, in accordance with the principles set out in EN-1.

Table 5-1 Cumulative Effects Assessment Approach

CEA STAGE	KEY ACTIVITIES
Stage 1: Establish the long list of other existing and / or approved development	Define and document the Zone of Influence (Zoi) for each environmental aspect considered in the Environmental Statement (ES). Identify a long list of 'other developments' in the vicinity of the Proposed Development utilising Matrix 1 of Appendix 1 of the Planning Inspectorate advice on Cumulative Effects Assessment for Nationally Significant Infrastructure Projects. Undertake a desk-based review of available environmental information for the identified cumulative developments to inform the baseline, and keep this under review.
Stage 2: Establish a short list of other existing and / or approved development	Consider temporal scope, scale and nature of proposed developments included in the long list and apply professional judgement to establish the short list of projects to be included in the CEA, utilising Matrix 1 of Appendix 1 of the

	Planning Inspectorate advice on Cumulative Effects Assessment. Discuss and agree approach with West Oxfordshire District Council, where possible.
Stage 3: Information gathering	Information relating to each of the existing or approved developments on the short list is compiled (where available), including, but not limited to: • Proposed design and location; • Proposed programme of construction, operation and decommissioning; and • Environmental assessments that set out baseline data, and effects arising from other existing and / or approved development. Information will be summarised and presented in tabular format, utilising Matrix 1 of Appendix 2 of the Planning Inspectorate advice on Cumulative Effects Assessment.
Stage 4: Assessment	A proportionate assessment of the cumulative effects of the Proposed Development with the other existing and / or proposed developments identified in Stage 1 to 3. Identify any additional mitigation measures and set out the means of securing delivery of such measures, utilising Matrix 1 of Appendix 2 of the Planning Inspectorate advice on Cumulative Effects Assessment.

Stage 1: Establish the long list of other existing and / or approved development

- 5.1.4 Only projects located in geographical proximity to the Proposed Development require consideration as part of a CEA. Consequently, a review has been undertaken of the maximum Zones of Influence (Zol) associated with each environmental discipline, in order that the maximum overall Zol can be identified and applied within the CEA. The results of this review are presented in **Table 5-2**.

Table 5-2 Zones of Influence

ENVIRONMENTAL DISCIPLINE	MAXIMUM ZONE OF INFLUENCE
Cultural Heritage	2km from Site
Landscape and Visual	3km from Site

ENVIRONMENTAL DISCIPLINE	MAXIMUM ZONE OF INFLUENCE
Ecology and Biodiversity	10km from Site ¹
Water Environment	5km from Site
Soils and Agriculture	1km from Site boundary with consideration of Best and Most Versatile agricultural land at a County level.
Noise and Vibration	1km from Site
Transport and Access	The emerging construction access corridors between the Site and the strategic road network, the local roads serving the Site, and any locations where temporary or permanent highway works may be required to facilitate the Proposed Development
Socio-Economics	3km from Site ² plus NSIP projects within the Labour Catchment Area (LCA)
Climate Change	N/A ³
Air Quality	3km from Site
Electromagnetic Fields	Site boundary
Glint and Glare	2km from Site ⁴

5.1.5 As a result of the information presented in **Table 5-2**, only schemes located within 10km of the Site Boundary (plus NSIP schemes within the LCA) are considered within the CEA.

5.1.6 Planning Inspectorate advice on Cumulative Effects Assessment for Nationally Significant Infrastructure Projects (September 2024, updated August 2026) sets out the types of development that should be considered:

- Tier 1 (Other existing and / or approved development)
 - Under construction
 - Permitted applications under the Planning Act or other regimes but not yet implemented
 - Submitted applications under the Planning Act or other regimes but not yet determined; and
 - All refusals subject to appeal procedures not yet determined

¹ Whilst a 30km study area for International Designated Sites where the interest features are bats is applied, no designated site fitting this description is located within the stated study area. This study area has therefore been discounted.

² This Zone of Influence relates to tourism and Public Rights of Way (PRoW) effects only. The assessment of employment effects is inherently cumulative, as the future baseline accounts for other developments.

³ Not applicable, greenhouse gas emissions are not restricted to a geographical area. Effects considered in the climate assessment are inherently cumulative by drawing from projections of the future baseline and therefore it is not necessary to consider cumulative effects from specific cumulative schemes.

⁴ The Study Area takes into account ground-based receptors only. Cumulative effects are not considered to be relevant for aviation receptors as the impacts are based on the intensity of the glare rather than the quantity.

- Tier 2 (Other existing and / or approved development)
 - Projects on the Planning Inspectorate's programme of projects.
- Tier 3 (Other existing and / or approved development)
 - Projects on the Planning Inspectorate's programme of projects where a scoping report has not been submitted;
 - Identified in the relevant Development Plan and emerging Development Plans, with appropriate weight given as they near adoption, recognising that there will be limited information available on the relevant proposals; and
 - Identified in other plans and programmes, as appropriate, which set the framework for future development consents or approvals, where such development is reasonably likely to come forward.

5.1.7 A decreasing level of detail is likely to be available from Tier 1 to Tier 3.

5.1.8 For the purposes of establishing the long list the Applicant has included any cumulative projects that are classified as 'major' under the Town and Country Planning (Development Management Procedure) Order [Ref 5-4]. These are developments involving one or more of the following:

- (a) the winning and working of minerals or the use of land for mineral-working deposits;
- (b) waste development;
- (c) the provision of dwellinghouses where—
 - (i) the number of dwellinghouses to be provided is 10 or more; or
 - (ii) the development is to be carried out on a site having an area of 0.5 hectares or more and it is not known whether the development falls within sub-paragraph (c)(i);
- (d) the provision of a building or buildings where the floor space to be created by the development is 1,000 square metres or more; or
- (e) development carried out on a site having an area of 1 hectare or more.

5.1.9 The information sources used to identify schemes for consideration within the CEA include:

- Planning Inspectorate 'Find a National Infrastructure Project' portal;
- Local authority planning portals.

5.1.10 The long list of schemes for consideration within the CEA is presented at **Appendix 5-1** and on **Figures 5-1a** and **Figure 5-1b**.

5.1.11 In accordance with the Planning Inspectorate advice, the Applicant will identify which cumulative projects on the longlist are to be considered as part of the

dynamic baseline and may be considered as part of both the construction and operational (and maintenance) assessment and those which form part of the CEA.

- 5.1.12 Table 5-3 Projects Included in Dynamic Baseline **Table 5-3** sets out those projects identified to-date within **Appendix 5-1** that are currently under construction and are likely to form part of the dynamic baseline for assessment.

Table 5-3 Projects Included in Dynamic Baseline

ID (SEE THE INITIAL LONG LIST AT APPENDIX 5-1)	APPLICATION REFERENCE	DETAILS	STATUS
13	14/0091/P/OP	East Carterton (Applicant: Christ Church Oxford and Bloor Homes) – A mixed-use development comprising up to 700 homes as well as employment area, a local centre, and other uses	Partially constructed
33	S/OUT/20/0422	Land off Shrivenham Road, Highworth (Applicant: Gladman) – Erection of 250 dwellings	Construction Underway
35	S/OUT/20/0724	Redlands Park Phase 2 (Applicant: Hares Brothers) – Erection of up to 45 dwellings	Construction Underway
37	S/19/1097	Corner Copse Solar Farm (Applicant: JBM Solar Projects Ltd) – A solar farm with a capacity of 49.9MW	Construction Underway
39	P20/V0855/O	Former Rogers Concrete, Sandhill (Applicant: Obsidian Strategic RC Limited) – Mixed-use development of up to 95 dwellings	Construction Underway

- 5.1.13 The planning status of the projects identified for cumulative assessment is anticipated to change throughout the pre-application stage. The Applicant will

therefore review and finalise the status of the cumulative projects immediately prior to the commencing the preparation of the ES and will continue to monitor it throughout examination.

Stage 2: Establish a short list of other existing and/or approved development

- 5.1.14 Stage 2 of the CEA will be to review and apply criteria to the long list, in order to establish a short list of other existing and/or approved development to ensure that the cumulative assessment is proportionate, utilising Matrix 1 of Appendix 1 of the Planning Inspectorate advice on Cumulative Effects Assessment [Ref 5-2]. The criteria will ensure that only other existing and/or approved development which is likely to result in significant cumulative effects is taken forward to the assessment stage. The shortlist of existing and/or approved development will be consulted upon with statutory and non-statutory consultees during the pre-application stage of the Proposed Development.
- 5.1.15 The criteria to be used will consider the following factors:
- Temporal Scope;
 - Scale and Nature of the Development; and
 - Other factors such as, nature and capacity of the receiving environment, source-pathway-receptor approach, and professional judgment.

Stage 3: Information gathering

- 5.1.16 Environmental information will be gathered for short listed existing and/or approved development, where available, utilising Matrix 1 of Appendix 2 of the Planning Inspectorate advice on Cumulative Effects Assessment [Ref 5-2], and including details of:
- Proposed design and location;
 - Proposed programme of construction, operation and decommissioning; and
 - Environmental assessments that set out baseline data, and effects arising from other existing and / or approved development.

Stage 4: Assessment

- 5.1.17 Technical disciplines will assess the cumulative effects of the Proposed Development with the other existing and / or approved development identified in Stage 1 to 3. The assessments will explain and record any time gaps in information, consider all tiers of developments where possible, and be documented in ES.
- 5.1.18 Some assessments may inherently be cumulative in which case no additional cumulative assessment of these aspects is required. However, separate consideration regarding the interrelationship of effects on an individual Receptor may be needed.

- 5.1.19 In cases where significant cumulative effects between the Proposed Development and other existing and / or approved developments are identified, it may be necessary for proposed additional mitigation measures to be delivered either by the Applicant, or in collaboration with another developer, in which case collaboration and agreement will be sought, where possible.
- 5.1.20 The assessment of cumulative effects will be presented within a standalone chapter within the ES.

5.2 References

- Ref 5-1 The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017, 2017 No. 572. (as amended)
- Ref 5-2 Planning Inspectorate (2024, updated August 2026). Nationally Significant Infrastructure Projects: Advice on Cumulative Effects Assessment
- Ref 5-3 The Department for Energy Security & Net Zero (2023), Overarching National Policy Statement for Energy (EN-1)
- Ref 5-4 The Town and Country Planning (Development Management Procedure) (England) Order 2015

6. CULTURAL HERITAGE

6.1 Introduction

- 6.1.1 This chapter sets out the scope and methodology for the assessment of likely significant effects on cultural heritage arising from the Construction, Operation (and maintenance) and Decommissioning Phases of the Proposed Development. The cultural heritage resource comprises archaeological remains, built heritage, and the historic landscape, often collectively referred to as the historic environment.
- 6.1.2 The purpose of the assessment is to identify and characterise heritage assets, both designated and non-designated, and consider the significance of effect upon these receptors arising from the Proposed Development. The assessment also considers how identified likely significant effects will be reduced or avoided through implementation of mitigation measures.
- 6.1.3 This chapter is supported by the following figures:
- **Figure 6-1:** Designated heritage assets and Historic Landscape Characterisation (HLC)
 - **Figure 6-2:** Historic Environment Record (HER) data
 - **Figure 6-3:** Cropmark transcripts and features identified from Lidar data

6.2 Study Area

- 6.2.1 The following study areas will be utilised by the technical assessments that will inform the ES Chapter:
- Archaeological Desk-Based Assessment – 1km study area
 - Heritage Settings Assessment – 2km study area
 - Historic Landscape Assessment – The Site area
 - Aerial Photo and Lidar Assessment – The Site area
 - Geophysical Survey – The Site area
- 6.2.2 The study area for the Archaeological Desk-Based Assessment will extend to 1km from the DCO Site Boundary. This is considered sufficient to provide a reasonable understanding of the likely nature and date of archaeological resource within the Site and has been selected on the basis of previous experience and knowledge of the Upper Thames archaeological resource. Consideration of the archaeological potential of the Site will also take account of the historic environment resource of the wider Thames Valley area, to ensure the Site is understood at a landscape scale, as per the Good Practice Guide [Ref 6-2].
- 6.2.3 The study area for the Heritage Settings Assessment will extend to 2km from DCO Site Boundary. Examination will be made of the Zone of Theoretical

Visibility (ZTV). This may result in some of the designated heritage assets within the study area being removed from the assessment as a result of a lack of potential for visual impacts, although other possible impacts (such as noise or historic associations) will also be considered within this process. It is possible that designated heritage assets beyond the 2km study area will need to be included within this assessment. These may be assets which include views towards the Site, or possibly ones which have a particular attribute of setting that may be affected by the Proposed Development. Such assets will be identified through consultation with heritage stakeholders, informed by the results of the ZTV and the draft Heritage Settings Assessment.

- 6.2.4 The study area utilised for the remaining technical assessments will be defined by the boundaries of the Site itself. Agreement on the proposed study areas will be sought with heritage stakeholders.

6.3 Baseline Conditions

Proposed surveys

- 6.3.1 A number of baseline surveys are proposed to inform the EIA process, and will form technical appendices to the ES Chapter. The following surveys have commenced, and drafts of these documents have informed this scoping content:
- Archaeological Desk-Based Assessment
 - Heritage Settings Assessment
 - Historic Landscape Assessment
 - Aerial Photo and Lidar Assessment
 - Geophysical Survey – Detailed Magnetometry (ongoing)
- 6.3.2 Further surveys which are proposed to be undertaken, if required to inform the EIA process may include, but are not limited to:
- Further targeted geophysical surveys, the methodology of which will be determined following analysis of the detailed magnetometry and consultation with heritage stakeholders
 - Targeted archaeological trial trench evaluation may be undertaken within key areas of construction impact e.g. areas of hardstanding infrastructure, or defined areas of archaeological potential, to characterise the nature, extent and level of preservation of archaeological remains and inform an appropriate mitigation response.
- 6.3.3 Historic Environment Record (HER) data has been acquired (see **Figure 6-2**) and will be analysed and presented within the Archaeological Desk-Based Assessment, which will be produced in accordance with CIFA guidance [Ref 6-1]. This assessment will include a review of previous archaeological investigations within the Site and study area and may (where necessary) utilise information not yet in the public domain. Historic maps and other relevant

documents will be examined in order to reach an understanding of the archaeological potential within the Site.

- 6.3.4 A complementary study will examine the evidence for archaeological remains within the Site from historical aerial photographs and from Lidar data. This study will be undertaken by suitably qualified and experienced persons. The results of this study will be presented alongside the existing cropmark data for the Site available from National Mapping Programmes (NMP).
- 6.3.5 The Heritage Settings Assessment will identify heritage assets (both designated heritage assets and non-designated heritage assets, such as locally listed buildings) whose significance may be affected through changes in their settings resulting from the Proposed Development. For each heritage asset identified, a determination will be made regarding the significance of the asset and how setting contributes to that significance in accordance with Historic England guidance [Ref 6-13].
- 6.3.6 The Historic Landscape Assessment will consider the significance of the historic landscape within the Site (as informed by existing Historic Landscape Characterisation data [Ref 6-18]) and the potential effects of the Proposed Development.
- 6.3.7 A Geophysical Survey (detailed magnetometry) will be undertaken across the entire Site to provide further information on the potential archaeological resource. Section 42 licences have been issued by Historic England to allow for surveys to be undertaken within the Scheduled Monuments within the Site. Historic England also reviewed and approved the Written Scheme of Investigation [Ref 6-19] for the magnetometry survey of the entire Site. The results of the magnetometry survey will inform the targeted application of further geophysical survey techniques (e.g. EMI / GPR), should they be required.
- 6.3.8 Any land considered to have potential for the presence of buried archaeological remains and which will be impacted by the Proposed Development may require further archaeological investigation to an appropriate level commensurate with the perceived significance of the archaeological remains and the likely nature and extent of any impacts, as per the Good Practice Guide [Ref 6-2]. The timing, nature and extent of the programme of further archaeological investigation will be agreed through a consultation process with the Lead Archaeologist at Oxfordshire County Council and/or Historic England. Points of agreement/disagreement regarding the evaluation strategy will be discussed at the pre-application stage, and recorded in a draft Statement of Common Ground.
- 6.3.9 Following the initial drafting of the baseline surveys detailed above (see **paragraph 6.3.16.3.1**), heritage receptors considered to be potentially sensitive to the Proposed Development are as follows:

Designated heritage assets

6.3.10 The designated heritage assets within the 2km study area are depicted on **Figure 6.1**, and comprise the following:

- 17 Scheduled Monuments (**Figure 6.1, SM1 – SM17**)
- 10 Conservation Areas (**Figure 6.1, CA1 – CA10**)
- 405 Listed Buildings
- 2 Registered Park and Gardens (**Figure 6.1, RPG1 – RPG2**)

Scheduled Monuments

6.3.11 The Scheduled Monuments located within the Site (**SM1, SM2, and SM3**) relate to the archaeological remains of probable prehistoric and Roman features – most likely Bronze Age barrows, Iron Age round houses and enclosures, and Roman settlement – which form part of the densely settled Upper Thames valley landscape. However, these features have only been identified from cropmark evidence (see **Figure 6.3**), their extent is poorly defined and their interpretation remains uncertain. The ongoing geophysical survey will provide further information on the extent and character of these archaeological remains, and the results will be used to inform potential mitigation measures (such as exclusion zones and buffer zones). These Scheduled Monuments are highly sensitive receptors.

6.3.12 Scheduled Monuments beyond the Site (**SM4 – SM17**) are also likely to relate to similar prehistoric and Roman remains, primarily identified from cropmark evidence. These are also highly sensitive receptors.

Listed Buildings/ Conservation Areas / Registered Park and Gardens

6.3.13 Of the 405 Listed Buildings within the 2km study area, a large proportion are located within the ten Conservation Areas. The two Registered Park and Gardens are also located within Conservation Areas. Beyond the Conservation Areas, the Listed Buildings are primarily concentrated in smaller historic settlements not defined by Conservation Areas (e.g. Grafton and Little Faringdon) or form part of a dispersed settlement pattern characterised by isolated post-medieval farmsteads.

6.3.14 The draft Heritage Settings Assessment indicates that the majority of these designated heritage assets do not include the Site as part of their setting. However, there are a number of designated heritage assets that do include the Site as part of their setting, and will be considered in detail within the assessment.

6.3.15 In particular, the Conservation Area and Listed Buildings at Langford (**CA6**) will be a particular focus of the assessment. Part of the Conservation Area extends into the Site (Field 75), whilst large parts of the agricultural hinterland of the historic village (located beyond the Conservation Area boundary) are also located within the Site.

- 6.3.16 Elsewhere, the designated heritage assets at the historic villages of Filkins and Broughton Poggs (**CA3**) and Kelmscott (**CA8 / RPG2 / SM7**) include the Site as part of their setting. Furthermore, there are numerous Listed Buildings (both groups and isolated examples) that include the Site as part of their setting, including groups of Listed Buildings at historic settlements of Faringdon and Grafton, and the isolated Listed Buildings at Hulse Grounds Farmhouse and Edgerly Farmhouse. These will be subject to detailed settings assessment, along with any other heritage assets considered to be sensitive to the Proposed Development.
- 6.3.17 In summary, on the basis of the ongoing technical assessments the following designated heritage assets have been identified as particularly sensitive receptors and will be considered in detail:
- The three Scheduled Monuments within the Site (**SM1, SM2, and SM3**)
 - Langford Conservation Area (**CA6**) and associated Listed Buildings
 - Scheduled Monuments in the immediate vicinity of the Site (**SM4, SM5, and SM9**)
 - Filkins and Broughton Poggs Conservation Area (**CA3**) and associated Listed Buildings
 - Kelmscott Conservation Area (**CA8**), Registered Park and Garden (**RPG2**), and associated Listed Buildings
 - Groups of Listed Buildings at Little Faringdon, Grafton, and several dispersed Grade II Listed historic farmsteads

Non-designated heritage assets

- 6.3.18 HER data was obtained for the 1km study area from both the Oxfordshire and Gloucestershire HERs. The HER data for the 1km study area is presented on Figure 6.2. The Oxfordshire HER data comprised 149 monument records and 27 event records. The Gloucestershire HER data comprised 181 monument records and 32 event records.
- 6.3.19 In addition, the production of the draft technical reports (specifically the Archaeological Desk-Based Assessment and Aerial Photo and Lidar Assessment) has identified further potential non-designated heritage assets within the Site, as suggested by cropmark evidence (see **Figure 6.3**). It is anticipated that the ongoing Geophysical Survey of the Site will identify further non-designated heritage assets of archaeological interest. It is possible that these archaeological remains will be of high significance, potentially of equivalent significance to a Scheduled Monument, triggering Policy HE6 (footnote 64) of the NPPF.

Non-designated archaeological remains

- 6.3.20 The draft Archaeological Desk-Based Assessment has identified important archaeological remains within the Site (beyond the Scheduled Monuments), including cropmark complexes indicative of the remains of prehistoric, Iron Age

and Roman remains. The Site forms part of a wider archaeological landscape of considerable interest (part of the Upper Thames Valley), with evidence for Neolithic ceremonial monuments, Bronze Age funerary remains, extensive later prehistoric and Romano-British settlement and agricultural remains, and medieval agricultural use.

- 6.3.21 The draft Aerial Photo and Lidar Assessment has further enhanced the baseline understanding of the buried features within the Site. It has identified new features and extended the mapping of known features. The emerging results suggest that the funerary landscape of the late Neolithic/Early Bronze Age may potentially be under-interpreted. Although mapped, many ring ditches are included in HER records for Iron Age/Roman settlements or with other features, with potential alternative interpretations limited. Although some are undoubtedly associated with hut circles within settlements, a significant number are larger, remarkably circular, and in an unenclosed setting, all suggesting that they could be remnants of round barrows and in some instances hengiforms.
- 6.3.22 There is also potential for additional below-ground archaeological remains to survive across the Site not currently indicated by cropmarks, including isolated Palaeolithic and Mesolithic finds, and discrete archaeological features associated with later prehistoric ceremonial and settlement activity, Romano-British settlement and field systems, and medieval agricultural features.

Historic landscape features

- 6.3.23 The draft Aerial Photo and Lidar Assessment has mapped remains of an extensive medieval agricultural landscape extending across the Site, providing clear evidence of the large, communally-farmed, open fields that defined the landscape in this period. Numerous blocks of ridge and furrow cultivation strips are visible as slight earthworks, microtopography where they have been ploughed, cropmarks and even soilmarks. The cultivation blocks are separated by plough headlands (linear banks), indicating that the open fields extended over much of the Site.
- 6.3.24 Several 'important hedgerows' within the Site are identified in accordance with the criteria of the Hedgerows Regulations 1997. Areas with interconnected hedgerows that reflect the field pattern at the time of enclosure have some historic interest and thus these important hedgerows comprise non-designated heritage assets.

Historic landscape character

- 6.3.25 The historic landscape character of the Site and its vicinity will be assessed utilising the results of the existing Oxfordshire Historic Landscape Assessment [Ref 6-18]. That assessment identified six character types within the Site (see **Figure 6-1**) comprising 'Ladder Field System', 'Piecemeal Enclosure', 'Planned Enclosure', 'Reorganised Enclosure', 'Prairie/Amalgamated Enclosure', and 'Rail Transport Sites'. Whilst all of these historic landscape characters have some level of significance, with evidence of visible time depth identified across

the Site through earthworks of former plough headlands and micro-topographic remains of ridge and furrow, the majority are common within the wider landscape, well recorded on historic mapping, and are of insufficient interest to comprise non-designated heritage assets in themselves. However, the Ladder Field System and Rail Transport Sites character types are rare and as such are an important component of the historic environment, providing a legible link to the historic development of the landscape. These character types therefore hold greater heritage significance and comprise non-designated heritage assets.

6.3.26 In summary, the non-designated heritage assets that are likely to comprise sensitive receptors are as follows:

- Multiple areas of recorded and potential archaeological remains within the Site, as suggested by cropmark evidence (see **Figure 6-3**)
- Historic landscape features such as historic hedgerows, and the remains of historic agricultural practices (e.g. ridge and furrow earthworks) within the Site
- The historic landscape character (see **Figure 6.1** for Historic Landscape Characterisation)

6.4 Overview of Legislation, Policy, and Guidance

6.4.1 The below legislation, policy and guidance has been taken into consideration in order to establish the proposed approach to the assessment of cultural heritage.

Legislation

- Infrastructure Planning (Decisions) Regulations 2010 [Ref 6-3];
- Ancient Monuments and Archaeological Areas Act 1979 (amended by National Heritage Act (1983) and the National Heritage Act (2002) [Ref 6-4];
- Planning (Listed Buildings and Conservation Areas) Act (1990) [Ref 6-5]; and
- The Hedgerows Regulations 1997 [Ref 6-20].

National Planning Policy

- National Policy Statement for Energy EN-1[Ref 6-6]
- National Policy Statement for Renewable Energy Infrastructure EN-3 [Ref 6-7]
- National Policy Statement for Electricity Network Infrastructure EN-5 [Ref 6-8]
- National Planning Policy Framework (NPPF) [Ref 6-9]

Local Planning Policy

- West Oxfordshire Local Plan 2031, Policy EH9: Historic Environment [Ref 6-10]
- West Oxfordshire Local Plan 2043 Regulation 19 – Draft Local Plan, Policy CP9: Historic Environment [Ref 6-21]

- Cotswold District Local Plan 2011-2031, Policy EN1, Policy EN10, EN11, and EN12 [Ref 6-22]
- Cotswold District Local Plan 2026-2043 Regulation 19 – Draft Local Plan, Core Policy 53 – Core Policy 59 [Ref 6-23]

Relevant Industry Guidance

- Planning Policy Guidance: Historic Environment [Ref 6-11]
- Managing Significance in Decision-Taking in the Historic Environment: Historic Environment Good Practice Advice in Planning Note 2 (Historic England 2015) [Ref 6-12]
- The Setting of Heritage Assets: Historic Environment Good Practice Advice in Planning Note 3 (Historic England 2017) [Ref 6-13]
- Principles of Cultural Heritage Impact Assessment in the UK (IEMA et al 2021) [Ref 6-14]
- Standard and guidance for historic environment desk-based assessment (Chartered Institute for Archaeologists (CIfA 2020a) [Ref 6-1]
- Standard and guidance for archaeological geophysical survey (CIfA, 2020b) [Ref 6-15]
- Commercial Renewable Energy Development and the Historic Environment: Historic England Advice Note 15 (Second Edition) (Historic England 2026) [Ref 6-16]
- Planning and Archaeology Historic England Advice Note 17 (HEAN 17) (Historic England 2022) [Ref 6-17]
- Archaeology and Solar Farms: Good Practice Guide (ALGAO et al 2026) [Ref 6-2]

6.5 Assessment Methodology

- 6.5.1 The assessment will broadly follow the overarching EIA Methodology set out in **Chapter 4: EIA Methodology** of this EIA Scoping Report. This section sets out the discipline-specific assessment approach, and effect significance criteria.
- 6.5.2 The identification of heritage assets that could be affected by the Proposed Development will inform the on-going design process. This could include input into landscape design and mitigation, as well as informing the physical location of elements of the Proposed Development. This will be undertaken alongside the assessment of impacts resulting from changes within the settings of heritage assets and will be undertaken in liaison with the consultant team undertaking the assessment of effects on landscape, townscape and visual resources.
- 6.5.3 Aspects where a joint approach is proposed include establishment and review of the ZTV and also the locations and extent of viewpoints from which visualisations (e.g. photomontages, wirelines etc.) may be produced. Final selection of any viewpoint locations for the Heritage Settings Assessment will be agreed following consultation with heritage stakeholders.

Significance Criteria

The Sensitivity of Receptors

- 6.5.4 The sensitivity (referred to as 'significance' in the NPPF, but that term will not be used within the ES Chapter to avoid confusion with 'significance of effect') of a heritage receptor is derived from its heritage interest which may be archaeological, architectural, artistic or historic. This is more broadly referred to as the sensitivity of a receptor in **Chapter 4: EIA Methodology**. The sensitivity of each heritage receptor is assessed on an individual basis. The sensitivity of a receptor is defined by the sum of its heritage interests. The sensitivity (or importance) of a heritage receptor will be determined using the following categories:
- High – high importance and rarity, international level and very limited potential for substitution;
 - Medium – high or medium importance and rarity, regional level and limited potential for substitution;
 - Low – low or medium importance and rarity and local level; and
 - Negligible – very low importance or rarity and local level.
- 6.5.5 The qualitative terms used to describe receptor sensitivity will be defined separately for buried archaeology, built heritage and historic landscape. The evaluation of sensitivity will be underpinned through the use of a narrative approach, particularly with regard to the settings of heritage assets.

6.3.1The Magnitude of Impact

- 6.5.6 Having identified the sensitivity of the receptor, the next stage in the assessment is to identify the magnitude (level and degree) of impact to a receptor arising from the Proposed Development. Impacts may arise during Construction, Operation or Decommissioning Phases and can be temporary or permanent. Impacts can occur to the physical fabric of the receptor or affect its setting, and can be adverse or beneficial. Where there is no change from the baseline it is classed as No Impact. The magnitude of impact will generally be assigned using the categories below:
- High – loss of a resource and/or quality and integrity of a receptor; severe damage to key characteristics, features or elements;
 - Medium – Loss of resource, but not adversely affecting integrity; partial loss of and/or damage to key characteristics, features or elements;
 - Low – Some measurable change in attributes, quality or vulnerability, minor loss of or alteration to one (possibly more) key characteristics, features or elements; and
 - Negligible – very little change from baseline conditions. Change barely distinguishable, approximating to a 'no change' situation.

Determining Significance

- 6.5.7 The classification of an effect is determined by cross-referencing between the sensitivity of the receptor and the magnitude of impact (using the criteria provided in **Chapter 4: EIA Methodology**). The resultant level of significance can be adverse or beneficial. Major or moderate effects are considered to be significant. Minor effects are not considered to be significant.
- 6.5.8 Within the NPPF and EN-3/EN-5, impacts affecting heritage assets are considered in terms of 'harm'. There is a requirement to determine whether the level of harm amounts to 'substantial harm'. There is no direct correlation between the significance of effect as reported in this ES and the levels of harm described by the NPPF. The ES Chapter will provide a level-of-harm conclusion for each heritage receptor alongside the EIA significance, to support the application of the various planning policy requirements of the NPPF and EN-3/EN-5.
- 6.5.9 An assessment of the predicted significance of effect is made both prior to the implementation of mitigation and after the implementation of mitigation, to identify residual effects. This first highlights where mitigation may be appropriate and then demonstrates the effectiveness of mitigation and provides the framework for the assessment of significance which takes mitigation measures into consideration. In all cases, the determination of the effect upon a heritage receptor arising from the Proposed Development has been led by professional judgement.
- 6.5.10 The assessment of the likely effects on cultural heritage receptors will include the following:
- Identification of heritage assets that could be affected by the Proposed Development along with a description of the sensitivity of those assets including the contribution made by their setting;
 - Identification of the likely impacts of the Proposed Development on the heritage assets; and
 - Assessment of significance of effects, taking into account measures proposed to avoid, reduce or offset adverse effects, or to enhance existing conditions.

Assessment of Cumulative Effects

- 6.5.11 The methodology for the assessment of cumulative effects is set out within **Chapter 5: Cumulative Effects Assessment** of this Scoping Request. The developments identified as having potential to give rise to cumulative effects in conjunction with the Proposed Development will be considered within the Assessment of Cumulative Effects chapter of the ES.

Assumptions and Limitations

- 6.5.12 The baseline information is taken from sources such as the HERs and represents the current state of knowledge. Much of the information is the result of non-intrusive archaeological investigations, such as the National Mapping Programme. Given that much of the Site is undeveloped this presents a limitation which will be addressed through the undertaking of the ongoing surveys described above. The assessment scope will be reviewed when the results of the ongoing surveys are available

6.6 Potential Impacts

Construction Phase

- 6.6.1 Construction Phase activities have the potential to result in the following impacts, which will be considered in the EIA process:
- Loss of, or damage to, heritage assets as a result of construction activity (e.g. physical removal or disturbance of archaeological remains, where these are still present).
 - Impacts resulting from changes within the settings of designated and non-designated heritage assets as a result of construction activity (including light and noise).
 - Impacts resulting from changes to the wider historic landscape as a result of construction activities.

Operational Phase

- 6.6.2 Operational Phase activities have the potential to result in the following impacts, which will be considered in the EIA process:
- Beneficial impacts resulting from the cessation of ploughing activities in the vicinity of below ground archaeological remains.
 - Impacts resulting from changes within the settings of designated and non-designated heritage assets as a result of the presence of the solar farm.
 - Impacts resulting from changes to the wider historic landscape as a result of the presence of the Proposed Development.

Decommissioning Phase

- 6.6.3 Decommissioning Phase activities have the potential to result in the following impacts, which will be considered in the EIA process:
- Loss of, or damage to, heritage assets as a result of decommissioning activity (e.g. physical removal or disturbance of archaeological remains, where these are still present).

- Impacts resulting from changes (potentially positive) within the settings of designated and non-designated heritage assets during decommissioning of the solar farm.
- Impacts resulting from changes to the wider historic landscape during decommissioning of the Proposed Development.

Mitigation and Design

- 6.6.4 The Proposed Development design will seek to avoid impacts to heritage assets where practicable. This will include avoiding direct physical impacts and impacts arising from changes to the setting of designated and non-designated heritage assets through the use of embedded mitigation measures within the Proposed Development design. Such measures may include the use of buffers or exclusion zones surrounding heritage assets, adjustment of the Proposed Development layout and the use of screening or filtering vegetation. This aligns with Principle 4 of the Good Practice Guide [Ref 6-2], which emphasises that design flexibility can be utilised to protect heritage assets.
- 6.6.5 Where potential impacts on heritage assets cannot be avoided through embedded mitigation, additional mitigation measures may be required. The management of the archaeological resource will be informed by a detailed understanding of impacts and sensitivity (Principle 5 of the Good Practice Guide [Ref 6-2]), with evaluation techniques tailored to the specific Site conditions (Principle 6 of the Good Practice Guide [Ref 6-2]). The Good Practice Guide also recommends that the management of the archaeological resource is informed by high-quality non-intrusive evaluation (Principle 7) and the targeted application of trial trenching (Principle 8). These principles will be followed when devising the mitigation strategy.
- 6.6.6 Specific mitigation measures will be agreed and documented within an Outline Archaeological Management Plan. This aligns with Principle 9 of the Good Practice Guide [Ref 6-2] which recommends the production of a management plan, and favours a mitigation hierarchy that places avoidance of harm and preservation by design above the more destructive solution of investigation and recording. The identification of mitigation measures will balance archaeological sensitivity and impacts. Where archaeological investigation and recording is the preferred mitigation measure, the specification will be detailed within an Outline Written Scheme of Investigation (OWSI) produced as part of the Outline Archaeological Management Plan.
- 6.6.7 Mitigation measures relevant to cultural heritage will also be reflected in the Outline Construction Environmental Management Plan (OCEMP), Outline Operational Environmental Management Plan (OOEMP), and Outline Decommissioning Environmental Management Plan (ODEMP), prepared as part of the DCO Application for the Construction, Operation (and maintenance) and Decommissioning Phases, respectively. The plans will form the basis of the detailed CEMP, OEMP and DEMP which will be secured through a requirement in the DCO.

- 6.6.8 Mitigation measures relevant to Cultural Heritage are also included in **Appendix 3-1: Commitments Register**.

6.7 Proposed Scope

Scoped In

- 6.7.1 It is proposed that the findings of the assessment of effects on the historic environment would be presented as a topic chapter within the ES, supported by technical appendices where appropriate. The specific aspects to be scoped into the assessment are considered below, in relation to each of the three phases of the Proposed Development.

Construction

- 6.7.2 It is anticipated that potential significant effects could occur to non-designated heritage assets of archaeological interest via direct impacts during the Construction Phase. Specifically, the archaeological remains that are likely to occur within the Site (as suggested by cropmark evidence, see **Figure 6-3**) could be adversely impacted during Construction. It is during this phase that ground disturbance, including excavation and tracking of vehicles would occur. This could lead to loss of, or damage to, archaeological remains. Such effects are permanent and irreversible. Impacts to non-designated archaeological remains during the Construction Phase are therefore Scoped In.
- 6.7.3 Whilst no direct impacts to designated heritage assets within the Site (**SM1**, **SM2**, **SM3**, **CA6**) are anticipated during Construction (see 'Scoped Out' below), indirect effects resulting from changes to the setting of designated heritage assets are Scoped In. Those designated heritage assets considered to be particularly sensitive to the Proposed Development are identified at paragraph 6.3.9 onwards. Equally, changes to the setting of non-designated heritage assets (e.g. Locally Listed Buildings) during the Construction Phase are Scoped In.
- 6.7.4 Changes to the historic landscape during the Construction Phase, including the loss of historic landscape features and large-scale changes to historic landscape character, could result in significant effects. Therefore, changes to the historic landscape during Construction are Scoped In.

Operation

- 6.7.5 The implementation of Outline Archaeological Management Plan measures in relation to the Scheduled Monuments within the Site (**SM1**, **SM2**, and **SM3**) could result in significant beneficial effects. There is the potential for the proposed development to have a beneficial effect upon these archaeological remains, by taking them out of arable land use (the Scheduled Monuments have previously been on the Heritage at Risk Register because of this use but were removed in 2015/2016) and implementation of an Archaeological Management

Plan. Therefore, impacts upon designated archaeological remains during the Operation Phase are Scoped In.

- 6.7.6 Potentially significant effects during the Operation Phase of the Proposed Development could also result from changes to the setting of the heritage assets. Potentially sensitive heritage receptors have been identified above (see **paragraph 6.3.17**), based on the results of the draft Heritage Settings Assessment. Therefore, indirect effects resulting from changes to the setting of heritage assets during Operation are Scoped In.
- 6.7.7 Changes to the historic landscape during the Operation Phase, including the loss of historic landscape features and changes to historic landscape character, could result in significant effects. Therefore, changes to the historic landscape during Operation are Scoped In.

Decommissioning

- 6.7.8 Potentially significant effects during the Decommissioning Phase of the Proposed Development could result from changes to the setting of heritage assets. This includes the potential reversal of effects identified during the Construction and Operation Phase of the Proposed Development. Therefore, indirect effects resulting from changes to the setting of heritage assets during Decommissioning are Scoped In.
- 6.7.9 The same is also the case in relation to the historic landscape, which would potentially see the reversal of effects identified during the Construction and Operation Phase of the Proposed Development. Therefore, impacts to the historic landscape during the Decommissioning Phase are also Scoped In.
- 6.7.10 It is considered possible that significant effects could occur to non-designated heritage assets of archaeological interest via direct impacts during the Decommissioning Phase. This could lead to the loss of, or damage to, archaeological remains. Such effects are permanent and irreversible. Impacts to non-designated archaeological remains during the Decommissioning Phase are therefore Scoped In.

Scoped Out

Construction

- 6.7.11 There will be no direct impacts to designated heritage assets of archaeological interest during the Construction Phase of the Proposed Development. As per **Figure 2-2: Site Context**, the Scheduled Monuments are excluded from the development footprint, and an Archaeological Management Plan will be put in place to ensure that the Scheduled Monuments are protected from any physical impacts. Equally, the part of Langford Conservation Area that extends into the Site is excluded from the development footprint. Therefore, direct impacts to designated heritage assets during the Construction Phase are Scoped Out.

- 6.7.12 Whilst impacts to the setting of designated heritage assets are Scoped In, those designated heritage assets within the 2km study area that are not sensitive to the Proposed Development will be Scoped Out. These will be identified as part of Step 1 of the Heritage Settings Assessment, in accordance with Historic England guidance [Ref 6-13].

Operation

- 6.7.13 Following construction of the Proposed Development, no further groundworks are proposed during the Operational Phase that are anticipated to impact upon the archaeological resource. The resultant cessation of arable agricultural practices (e.g. ploughing) in the vicinity of archaeological remains that would occur during the Operation of the Proposed Development could result in a beneficial effect. This potential benefit is recognised by policy and guidance (EN-3, paragraph 2.10.102; ALGAO et al 2026, paragraph 2.9.2). No adverse effects on non-designated archaeological remains would occur during Operation of the Proposed Development, and such effects are Scoped Out.

Decommissioning

- 6.7.14 There will be no direct impacts to designated heritage assets of archaeological interest during the Decommissioning Phase of the Proposed Development. An Archaeological Management Plan will be put in place to ensure that the Scheduled Monuments are protected from any physical impacts. Therefore, direct impacts to designated heritage assets during the Decommissioning Phase are Scoped Out.

6.8 Consultation

- 6.8.1 Initial consultation with the Oxfordshire County Council Lead Archaeologist confirmed their preference for Historic England to advise on the archaeological resource in relation to the Proposed Development. Consultation has been undertaken with Historic England, specifically regarding the requirement for Section 42 Licences to survey the Scheduled Monuments within the Site. The Licences were granted on 28th August 2026. Historic England also advised, on the 26th August 2026, that the Written Scheme of Investigation for the ongoing Geophysical Survey of the entire Site was acceptable.
- 6.8.2 Further consultation with statutory parties will be undertaken as part of the Environmental Impact Assessment (EIA) process following the submission of this EIA Scoping Report. It is anticipated that further engagement will be undertaken with Historic England (and any heritage consultee representing Oxfordshire County Council and/or the local authorities) to discuss the results of the geophysical survey, the scope of the heritage settings assessment, the archaeological evaluation strategy, the potential impacts of the Proposed Development (once the design has been fixed), and the measures to be included within the Outline Archaeological Management Plan.

6.9 Summary of Matters Scoped In and Out

Table 6-1 Summary of Assessment Scope

ASPECT/ MATTER	CONSTRUCTION	OPERATION	DECOMMISSIONING
Direct impacts to designated archaeological remains (i.e. three Scheduled Monuments within the Site)	Scoped Out	Scoped In	Scoped Out
Direct impacts to non-designated archaeological remains	Scoped In	Scoped Out	Scoped In
Changes to the setting of heritage assets	Scoped In	Scoped In	Scoped In
Changes to the historic landscape	Scoped In	Scoped In	Scoped In

6.10 References

- Ref 6-1 Chartered Institute for Archaeologists (CIFA) 2020a Standard and Guidance for Historic Environment Desk-based Assessment
- Ref 6-2 Association of Local Government Archaeological Officers (ALGAO), Chartered Institute for Archaeologists (CIFA), FAME, Historic England, and Solar Energy UK 2026 Archaeology and Solar Farms: Good Practice Guide Advice For Developers, Archaeological Advisors, Consultants and Contractors
- Ref 6-3 The Infrastructure Planning (Decisions) Regulations 2010
- Ref 6-4 HMSO 1979 Ancient Monuments and Archaeological Areas Act 1979
- Ref 6-5 HMSO 1990 Planning (Listed Buildings and Conservation Areas) Act 1990
- Ref 6-6 Department for Energy Security and Net Zero 2025a Overarching National Policy: Statement for Energy (EN-1)
- Ref 6-7 Department for Energy Security and Net Zero 2025b National Policy Statement for Renewable Energy Infrastructure (EN-3)
- Ref 6-8 Department for Energy Security and Net Zero 2025c National Policy Statement for Electricity Networks Infrastructure (EN-5)
- Ref 6-9 Ministry of Housing, Communities and Local Government 2026 National Planning Policy Framework
- Ref 6-10 West Oxfordshire District Council 2018 West Oxfordshire Local Plan 2031 Adopted September 2018
- Ref 6-11 Ministry of Housing, Communities and Local Government Planning practice guidance (online resource accessed 2026)
- Ref 6-12 Historic England 2015 Managing Significance in Decision-Taking in the Historic Environment: Historic Environment Good Practice Advice in Planning: 2
- Ref 6-13 Historic England 2017 The Setting of Heritage Assets: Historic Environment Good Practice Advice in Planning: 3
- Ref 6-14 IEMA 2021 Principles of Cultural Heritage Impact Assessment in the UK
- Ref 6-15 Chartered Institute for Archaeologists (CIFA) 2020b Standard and guidance for archaeological geophysical survey
- Ref 6-16 Historic England 2026 Commercial Renewable Energy Development and the Historic Environment: Historic England Advice Note 15 (Second Edition)
- Ref 6-17 Historic England 2022 Planning and Archaeology: Historic England Advice Note 17
- Ref 6-18 Oxfordshire County Council 2017 Oxfordshire Historic Landscape Characterisation Project
- Ref 6-19 Magnitude Surveys 2026 Written Scheme of Investigation For a Geophysical Survey of West Oxfordshire Energy Park

- Ref 6-20 The Hedgerows Regulations 1997, Statutory Instruments
1997 No. 1160
- Ref 6-21 West Oxfordshire District Council 2026 West Oxfordshire
Local Plan 2043 Regulation 19 – Draft Local Plan
- Ref 6-22 Cotswold District Council 2018 Cotswold District Local Plan
2011-2031 (Adopted 3 August 2018)
- Ref 6-23 Cotswold District Council 2026 Cotswold District Council Local
Plan 2026-2043 (August 2026: Publication – Regulation 19
Version)

7. LANDSCAPE AND VISUAL

7.1 Introduction

- 7.1.1 This chapter sets out the proposed approach to the identification and assessment of the likely significant landscape and visual effects of the Proposed Development during Construction, Operation (and maintenance) and Decommissioning Phases, how suitable mitigation measures will be identified, and how information will be presented within the Landscape and Visual chapter of the ES.
- 7.1.2 The Landscape and Visual Impact Assessment (LVIA) will be undertaken by Chartered Members of the Landscape Institute (CMLI), with experience of energy infrastructure projects of a similar scale and complexity to the Proposed Development.
- 7.1.3 The LVIA will:
- 1) Present an overview of relevant legislation, policy and guidance.
 - 2) Describe the LVIA methodology, define key assessment terms, and set out any assumptions and limitations relevant to the assessment of landscape and visual effects.
 - 3) Summarise the outcomes of consultation with relevant stakeholders.
 - 4) Describe the measures to mitigate adverse landscape and visual effects that will be incorporated into the design and construction planning of the Proposed Development.
 - 5) Describe the landscape and visual baseline within the LVIA study area and assess the sensitivity of landscape and visual receptors to the Proposed Development.
 - 6) Assess the magnitude and significance of the residual landscape and visual effects of the Proposed Development on the receptors assessed during its Construction, Operation (and maintenance) and Decommissioning Phases.
- 7.1.4 This chapter is supported by the following figures and appendices:
- **Figure 7-1:** Landscape and Visual Study Area
 - **Figure 7-2:** Protected Landscape and PRoW
 - **Figure 7-3:** Landscape Character
 - **Figure 7-4:** Landform
 - **Figure 7-5:** Preliminary Zone of Theoretical Visibility (ZTV) and Proposed Viewpoint Locations

7.2 Study Area

- 7.2.1 The purpose of the LVIA study area is to identify the geographic area across which there is the potential for significant landscape and visual effects during the Construction, Operation (and maintenance), and Decommissioning Phases of the Proposed Development.
- 7.2.2 It is accepted practice within LVIA that the extent of the study area is defined by the potential visual envelope arising from the Proposed Development based upon Zone of Theoretical Visibility (ZTV) modelling of the proposals, desk-based study and fieldwork.
- 7.2.3 **Figure 7-1** shows the DCO Site Boundary and the proposed LVIA study area. It is assessed that a 3km study area (which is defined by a 3km offset from the DCO Site Boundary) is appropriate to cover the likely geographic extent of effects which could be significant or material to the decision-making process. This was informed by a preliminary ZTV, modelled on the maximum parameters of the proposed (operational) Photovoltaic (PV) Array area (**Figure 7-5**), as well as preliminary site visits, a review of relevant policy and guidance documents and geographic data including access routes and Protected Landscapes (**Figure 7-2**), landscape character (**Figure 7-3**), and landform (**Figure 7-4**). Reflective of the evolving design of the Proposed Development, should further iterations of the ZTV identify potential effects at greater distances, this study area may be increased.
- 7.2.4 It is assessed that beyond the proposed LVIA study area, significant landscape and visual effects are unlikely to arise as a result of the Proposed Development, due to the distance and intervening landform, built form and vegetation.
- 7.2.5 A separate study area of 100m from the proposed solar PV arrays and Main or Collector Substations infrastructure is proposed for the Residential Visual Amenity Assessment (RVAA) as outlined in **paragraph 7.3.60**.
- 7.2.6 Further ZTV modelling of the Proposed Development, site work and desk-study will be undertaken as the project progresses and the LVIA and RVAA study areas will be reviewed / refined in consultation with statutory consultees as required. A Zone of Visual Influence (ZVI) of the Proposed Development assessed in the ES LVIA will also be prepared.

7.3 Baseline Conditions

- 7.3.1 This section describes the landscape and visual baseline for the DCO Site Boundary and study area, the extents of which are shown on **Figure 7-1**.

The DCO Site Boundary

- 7.3.2 The Site is fully within West Oxfordshire District. It occupies the relatively low-lying agricultural landscape between Lechlade on Thames in the west and Carterton in the east. To the south is the lower lying River Thames corridor. The

landscape mainly comprises medium to large-scale arable fields and pastures bounded by established hedgerows. Overhead high-voltage powerlines cross the Site from the north-west to south-east.

The Study Area

- 7.3.3 The study area extends 3km from the DCO Site Boundary (**Figure 7-1**) into neighbouring local authorities – Cotswolds District to the west, Vale of White Horse District and Swindon Borough to the south. Further details regarding local landscape character are included in **paragraphs 7.3.8 to 7.3.25**.

Protected and Designated Landscapes

- 7.3.4 The Proposed Development is not located within a Protected Landscape or a landscape designated in local planning policy. The boundary of the Cotswolds National Landscape (CNL) is located approximately 0.25km west of the Site's northern land parcel and 1.4km to the north-west of the Site's southern land parcel. The Proposed Development is assessed to be within the setting of the CNL.
- 7.3.5 The LVIA will include an assessment of effects of the Proposed Development on the natural beauty and special qualities of the CNL as a result of changes within its setting.
- 7.3.6 There are several Conservation Areas located within the study area with the following approximate distances from the Site's southern land parcel:
- Langford – part of the DCO Site Boundary extends into this Conservation Area, however, it is proposed that this area is used for mitigation and enhancement only, as shown in **Figure 2-2**;
 - Filkins and Broughton Poggs – 0.08km north;
 - Kencot – 0.5km north-east;
 - Alvescot – 1.9km north-east;
 - Kelmscott – 0.3km south;
 - Radcot – 2.2km south-east;
 - Buscot – 2.1km south;
 - Lechlade – 1.0km south-west;
 - Southrop – 1.6km west; and
 - Eastleach – 1.1km west.
- 7.3.7 Effects arising on the surrounding Conservation Areas as a result of the Proposed Development will not be assessed as part of the LVIA. These will be assessed within the **Chapter 6: Cultural Heritage**. However, consideration will be given to the Conservation Area designations as part of judgements regarding landscape value and receptor sensitivity.

Landscape Baseline

7.3.8 Landscape character assessments within the study area are shown on **Figure 7-3** and summarised in **Table 7-1**.

Table 7-1 Landscape Character Assessments within LVIA study area

LEVEL	ASSESSMENT	LCT / LCA
National	Natural England National Character Areas (NCA)	NCA 107 Cotswolds
		NCA 108 Upper Thames Clay Vales
Oxfordshire County Council	Oxfordshire Wildlife and Landscape Study (2004)	LCT 1 Alluvial Lowlands LCA 1A. Kelmscott (UT/11)
		LCT 4 Estate Farmlands LCA 4D. Carterton (CW/1)
		LCT 5 Farmland Hills LCA 5D Little Faringdon Hill (UT/8)
		LCT 8 Lowland Village Farmlands LCA 8A. Langford (UT/7)
		LCT 10 River Meadowlands LCA 8M. River Leach (UT/6)
		LCT 15 Terrace Farmland LCA 15A. Buscot to Kelmscott (UT/3, UT/10)
		LCT 17 Vale Farmland LCA 17D. Langford Brook (UT/9)
Gloucestershire County Council	Gloucestershire Landscape Character Assessment (2006)	LCA 24 Dip Slope Lowland
		LCA 25 River Basin Lowland
West Oxfordshire District Council	West Oxfordshire Landscape Character Assessment (1998)	LCA 9 Shilton Downs
		LCA 10 Bampton Vale
		LCA 13 Western Thames Fringes
Vale of White Horse District Council	Landscape Character Assessment for South Oxfordshire and Vale of White Horse (2024)	LCT 7 Ridge Hilltops / LCA 7A Faringdon Ridge Hilltops
		LCT 11 Upper Vale / LCA 11A Thames Upper Vale
		LCT 12 Middle Vale / LCA 12A Thames Middle Vale
	Cotswold Water Park Integrated Landscape	LCT Dip Slope Limestone Lowland / LCA 1C Langford Lowlands

LEVEL	ASSESSMENT	LCT / LCA
Cotswold District Council	Character Assessment (2009)	LCT Cornbrash Limestone Lowlands / LCA 2C Southrop Lowlands
		LCT River Basin Clay / LCA 3C Fairford and Lechlade Settled Wetlands
Swindon Borough Council	Swindon Borough Landscape Character Assessment (2025)	LCA 12 Thames Vale
Cotswolds National Landscape	CNL Landscape Character Assessment (2002)	LCT 11 Dip Slope Lowland / LCA 11A South and Mid Cotswolds Lowlands
		LCT 12 Dip-Slope Lowland Valley/ LCA 12C Lower Leach Valley

Natural England, National Character Areas (NCAs)

- 7.3.9 As illustrated on **Figure 7-3**, the Site predominately falls within the Natural England, Upper Thames Clay Vales (NCA 108) [Ref 7-1]. NCA 108 is described as a “...*broad belt of open, gently undulating lowland farmland on predominantly Jurassic and Cretaceous clays*”. The key characteristics are the low-lying clay-based floodplains with hedged fields used mainly for livestock farming.
- 7.3.10 The northern land parcel of the Site lies within the Cotswolds (NCA 107) [Ref 7-2]. NCA 107 is described as a landscape of ‘*steep scarp crowned by a high, open wold and dip slopes cut by a series of increasingly wooded valleys*’. The key characteristics include open scarp and high wold dipping to the south-east, arable fields defined by drystone walls.
- 7.3.11 Due to the presence of more detailed assessments at the County and District levels, the NCAs would be ‘scoped-out’ and not assessed within the LVIA.

Oxfordshire Wildlife and Landscape Study (OWLS, 2004)

- 7.3.12 As illustrated on **Figure 7-3**, at the County scale of assessment, the Oxfordshire Wildlife and Landscape Study (OWLS) [Ref 7-3] defines Landscape Types (LT) across the study area. Relevant LTs/LCAs within and surrounding the Site are as follows:
- **LT 1 Alluvial Lowlands / LCA 1A. Kelmscott (UT/11)** – covering the eastern part of the Site and south-eastern part of the study area characterised by ‘*flat landscapes of lowland river valleys, associated with alluvial soils*’.
 - **LT 4 Estate Farmlands / LCA 4D. Carterton (CW/1)** – covering the northern part of the Site and study area described as ‘*a rolling agricultural*

landscape characterised by parklands and a well-ordered pattern of fields and estate plantations’.

- **LT 5 Farmland Hills / LCA 5D Little Faringdon Hill (UT/8)** – covers a smaller part to the west of the Site characterised by *‘prominent hills and ridges dominated by arable farming’*.
- **LT 8 Lowland Village Farmlands / LCA 8A. Langford (UT/7)** – covers the central part of the Site and eastern study area characterised by *‘large scale farmed landscape closely associated with village settlements’*.
- **LT 15. Terrace Farmland / LCA 8M. River Leach (UT/6)** – covers the southern part of the Site characterised as a *‘flat, open, intensively farmed landscape overlying river gravel terraces’*.
- **LT 17 Vale Farmland / LCA 17D. Langford Brook (UT/9)** – covers the centre of the Site characterised by *‘regularly shaped, arable fields enclosed by hawthorn hedges and hedgerow trees’*.

7.3.13 The OWLs LT/ LCAs within the study area and ZTV will be ‘scoped in’ to the LVIA. OWLs will form the basis for the assessment of effects on landscape character in West Oxfordshire. The WOLCA will be an important reference, to update and enhance the baseline description, inform the assessment of effects and identify design and mitigation measures.

Gloucestershire Landscape Character Assessment (2006)

7.3.14 As illustrated on **Figure 7-3**, at the County scale of assessment, the western part of the study area lies within the Gloucestershire Landscape Character Assessment (GLCA) [Ref 7-4]. The GLCA defines LCTs for the County including Cotswold District and forms the most recent assessment for the study area outside of the CNL. Relevant LCTs include:

- **LCT 24 Dip Slope Lowland** – towards the north-west of the study area the landscape is characterised by *‘gentle undulations where the Thames tributaries and their smaller interconnecting tributary valleys extend across the area’*.
- **LCT 25 River Basin Lowland** – towards the west of the study area the landscape is characterised by a *‘broad low-lying area of pastoral land interspersed with an extensive wetland environment of rivers, streams and ditches and numerous areas of open water associated with restored gravel extraction areas’*.

7.3.15 GLCA LCTs within the study area would be ‘scoped-in’ to the LVIA.

West Oxfordshire Landscape Character Assessment (1998)

7.3.16 At the District level, the West Oxfordshire Landscape Character Assessment (WOLCA) [Ref 7-5] covers the Site and eastern part of the study area. Three LCAs cover the Site and study area as follows:

- **LCA 9 Shilton Downs** – covers the northern part of the study area described as a *‘typically large-scale, open landscape of the limestone wolds’*.
- **LCA 10 Bampton Vale** – covers the central part of the study area characterised as a *‘low-lying but gently rolling clay vale landscape’*.
- **LCA 13 Western Thames Fringes** – covers the southern part of the study area characterised as *‘a very flat, low-lying landscape of the River Thames floodplain’*.

7.3.17 WOLCA will be an important reference, to update and enhance the baseline description, inform the assessment of effects and identify design and mitigation measures. WOLCA will be ‘scoped-out’ as individual landscape receptors within the LVIA although will be referred to within the baseline study.

Landscape Character Assessment for South Oxfordshire and the Vale of White Horse Districts (2024)

7.3.18 As illustrated on **Figure 7-3**, at the District scale of assessment, the southern part of the study area lies within the Landscape Character Assessment for South Oxfordshire and Vale of White Horse [Ref 7-6]. LCTs and LCAs within the study area are as follows:

- **LCT 7 Ridge Hilltops / LCA 7A Faringdon Ridge Hilltops** – covering the higher ground to the south of the study area.
- **LCT 11 Upper Vale / LCA 11A Thames Upper Vale** – covering the relatively flat and open land with large-scale open arable fields to the south of the River Thames.
- **LCT 12 Middle Vale / LCA 12A Thames Middle Vale** – covering a small part of the south-eastern study area within the floodplain to the south of the River Thames.

7.3.19 Vale of White Horse LCT’s and LCA’s within the study area would be ‘scoped-in’ to the LVIA.

Cotswold Water Park Integrated Landscape Character Assessment (2009)

7.3.20 At the sub-District level, the western part of the study area falls within the Cotswold Water Park Integrated Landscape Character Assessment (CWPIECA) [Ref 7-7]. The CWPIECA extends over the former gravel extraction pits and wetlands over a limited part of Cotswold District. Relevant LCTs/LCAs are as follows:

- **LCT Dip Slope Limestone Lowland / LCA 1C Langford Lowlands** – to the west characterised as *‘a productive landscape on undulating lowland and medium to large arable fields’*.
- **LCT Cornbrash Limestone Lowland / LCA 2C Southrop Lowlands** – to the west described as *‘a small area within the western part of the study area’*.

characterized by generally flat topography, arable cultivation and low field hedgerows’.

- **LCT River Basin Clay Vale / LCA 3C Fairford and Lechlade Settled Wetlands** – to the south-west characterised as ‘a generally flat arable landscape with panoramic views towards elevated land on the southern side of the Upper Thames River Basin Clay Vale’.

7.3.21 CWPI/LCA only covers part of the study area and overlaps with other landscape character assessments. Its LCAs will therefore be ‘scoped-out’ of the LVIA.

Cotswolds National Landscape Character Assessment (2002)

7.3.22 As illustrated on **Figure 7-3**, the CNL Landscape Character Assessment (2002) [Ref 7-8] presents a description of LCTs and LCAs within the Protected Landscape. LCTs and LCAs within the study area are as follows:

- **LCT 11 Dip Slope Lowland / LCA 11A South and Mid Cotswolds Lowlands** – covering the study area to the north-west characterised by ‘*undulating lowland with productive mixed arable and pastoral landscape across enclosed by stone walls and hedgerows with hedgerow trees*’.
- **LCT 12 Dip Slope Lowland Valley / LCA 12C Lower Leach Valley** – covering the study area to the west characterised by ‘*the River Leach valley with predominantly pastoral use within regularly enclosed fields*’.

7.3.23 LCTs/LCAs within the CNL would be ‘scoped-in’ to the LVIA.

Swindon Borough Landscape Character Assessment (2025)

7.3.24 The Swindon Borough Landscape Character Assessment (SBLCA) [Ref 7-9] extends across a small part of the south-west part of the study area, which falls within the Thames Vale landscape character area (LCA 12). LCA 12 is described as ‘*a largely open alluvial plain adjoining the River Thames with frequent ditches and willow and poplar trees present across the floodplain*’.

7.3.25 SBLCA LCAs would be ‘scoped-in’ to the LVIA as it is the only landscape character assessment covering the extent of the study area within the Borough.

Site and Study Area

The Site

7.3.26 The Site comprises two main land parcels – the larger land parcel to the west of Lechlade-on-Thames in the south, and a smaller, linear land parcel to the north.

7.3.27 The southern parcel comprises generally gently rising farmland subdivided into medium and large-scale geometric fields enclosed by hedges, tree belts, woodlands, ditches and small streams. Broadwell Brook and Langhat Ditch drains the eastern part of the southern land parcel between Langford and Little

Clanfield. Langford Brook drains the western and southern part of the southern land parcel between Little Faringdon Wood, Grafton and Kelmscott.

- 7.3.28 A dismantled railway line extends east-to-west through the centre of the southern land parcel broadly between Lower Church Farm and Calcroft Lane. The A361 passes through the northern section of the southern land parcel between Little Faringdon and Broughton Poggs.
- 7.3.29 Pylon towers and overhead transmission lines extend through the southern land parcel. A larger tract of woodland known as Furzy Knoll, Hookits Plantation and Little Faringdon Wood is located north-west of the southern land parcel. A network of PRow crosses the southern parcel including the d'Arcy Dalton Way recreational trail to the east as well other public footpaths and bridleways between Langford village and Little Faringdon Lane.
- 7.3.30 The northern land parcel comprises a narrow area of pastoral farmland and medium-to-small scale fields to the north and east of Oxleaze Farm. The pastures are subdivided by stock proof fencing, hedges and a linear woodland shelterbelt along the eastern boundary. A public footpath is located to the south-west of the northern land parcel between the lane and Oxleaze Farm.

Study Area

- 7.3.31 **Figure 7-4** shows the variation in landform across the study area. The study area is characterised by gently sloping land north of the River Thames corridor.
- 7.3.32 The southern part of the study area comprises a generally flat and visually enclosed corridor of lower lying land fringing the Thames. Large waterbodies and former gravel pits are located to the west of the Site at Lechlade-on-Thames. The landform to the north-west is more undulating and rises to land within and on the fringes of the CNL. Land use is predominantly agricultural with medium-to-large field enclosures bounded by stock-proof fencing, hedges, treebelts and woodland.
- 7.3.33 Several settlements are located within the study area. The largest is Lechlade-on-Thames. Smaller settlements include Little Faringdon, Southrop, Eastleach Turville, Filkins, Broadwell, Langford, Black Bourton, Clanfield, Buscot. Beyond these settlements are scattered farms and other individual dwellings in the wider countryside.

Visual Baseline

Preliminary Zone of Theoretical Visibility (ZTV) study

- 7.3.34 **Figure 7-5** presents a preliminary Zone of Theoretical Visibility (ZTV) study. The preliminary ZTV illustrates the extent of theoretical visibility of the Proposed Development based upon a digital LiDAR terrain data at 1m² resolution (resampled to 5m²) and a 4.5m height parameter for the proposed Solar PV areas. The preliminary ZTV does not account for the proposed Main Substation infrastructure as the location is currently unknown.

- 7.3.35 The preliminary ZTV has been used to assist with field survey and the identification of representative viewpoints (refer to **Table 7-2**).
- 7.3.36 Further ZTV modelling will be prepared as the iterative design of the Proposed Development and the LVIA progresses, with particular regard to the siting of Main Substation which would represent taller built form in the landscape than that modelled within the current ZTV.

Preliminary Representative Viewpoints

- 7.3.37 The assessment of visual effects in the LVIA will be informed by representative viewpoints within the 3km study area.
- 7.3.38 In addition, illustrative viewpoints may be identified to '*demonstrate a particular effect or specific issues, which might, for example, be the restricted visibility at certain locations*' (GLVIA3, para 6.19) and specific viewpoints where there are key promoted viewpoints within the study area.
- 7.3.39 Representative viewpoints (RVPs) have been selected to represent a range of different visual receptors at different distances and directions from the Site. Twenty-four RVPs are proposed and details are provided in **Table 7-2**. Additional viewpoints may be identified as the design of the Proposed Development progresses and through engagement with relevant stakeholders.

Table 7-2 Preliminary Representative Viewpoints for Consultation

RVP NO.	LOCATION	DISTANCE (KM) / DIRECTION	VISUAL RECEPTOR	GRID REFERENCE	
				X	Y
1	Public Footpath 271/3/30 near Tillingtons (within DCO Site Boundary)	Site, centre	PRoW users	424469	201544
2	d'Arcy Dalton Way recreational trail on Calcroft Lane	0.01km, south	PRoW users and local road users	426096	202592
3	Langley Lane junction near Kelmscott	Site boundary, south	Local road users and walkers	424320	199760
4	Bridleway 279/3/10 near Lower Church Farm	Site boundary, west	PRoW users, local road users, equestrians and walkers	423446	200529
5	Little Faringdon Lane near Little Farringdon House	0.36km, west	Local road users, residents at Langford House and Little Faringdon	422362	201617
6	Public footpath 27/6/20 near Langford	0.16km, centre-north	Residents in Langford and PRoW users	424845	202475
7	Public footpath 212/16/50 near Broughton Poggs	0.17km, centre-north	Residents in Filkins and PRoW users	423590	203670
8	Mill Lane, Clanfield	1.2km, east	Residents in Clanfield, local road users and PRoW users	428025	201617
9	Public footpath 200/1/30 near Kilmester's Farm	1.97km, south	PRoW users	424724	197845
10	Mill Lane between Lechlade Mill and Paradise Farm	0.74km, south-west	Local road users	423243	199461
11	Lane between Southrop and Broughton Poggs	Site boundary, north	Local road users	422453	203743

RVP NO.	LOCATION	DISTANCE (KM) / DIRECTION	VISUAL RECEPTOR	GRID REFERENCE	
				X	Y
12	Lane near Langford Down House, Southrop (CNL)	1.46km, north-west	Local road users and walkers	421147	203743
13	Lane between Eastleach and Southrop (CNL)	2.1km, north-west	Local road users and walkers	419486	204497
14	Lane near Beer Furlong (CNL)	2.0km, west	Residents at Beer Furlong, local road users	419317	206115
15	Bridleway 09403020 near Smeril Plantation (CNL)	2.3km, north-west	PRoW users, walkers and equestrians	419486	207139
16	Lane near Locombe Hill and Sheephouse Farm	0.6km, west	Local road users and walkers	420841	206115
17	d'Arcy Dalton Way and Bridleway 144/1/10 near Furze Ground	1.5km, north-east	Recreational trail / PRoW users	423111	206977
18	Public footpath 262/4/10 near Kencot Hill Solar Farm	2.34km, north-east	PRoW users	424690	206225
19	Calcroft Lane on junction with Bridleway 169/1a/10 near Blazeland Farm	0.62km, north-east	Local road users and PRoW users	427071	202618
20	Bridleway 230/3/10 near Grafton	0.44km, south-east	PRoW users, residents at Grafton and equestrians	427055	201095
21	Public Footpath 26/2/10 near Kelmscott	0.48km, south	PRoW users and residents at Kelmscott	424348	199279
22	Bridleway 230/3/30 and road between Langley Lane and Grafton Lock	0.61km, south-east	Local road users and PRoW users	426791	199942
23	Kelmscott Manor and Gardens	1.05km, south	Tourists and visitors	425080	198883
24	Lane between Langford and Little Faringdon	Site boundary, centre	Local road users and walkers	423931	202048

- 7.3.40 Each of the representative (and specific) viewpoints will be presented on a photopanel indicating the 'Approximate Extent of Site' and annotations indicating key landscape features and reference points for orientation.
- 7.3.41 The representative viewpoints on **Figure 7-5** illustrate the proposed location of the viewpoint and not the orientation or extent of the view proposed to be illustrated. A 360-degree photograph will be taken from each representative viewpoint, and consideration given on what will be illustrated on the photograph panels during the LVIA and report preparation.
- 7.3.42 A number of the representative viewpoints identified above would be provided as parameters based photowire or fully rendered photomontage visualisations (Type 3) that would be prepared in accordance with the LI's Technical Guidance Note 06/19 *Visual Representation of development proposals* (2019). The visualisations would be shown at year 1 and 15 to demonstrate the effects of the proposed planting over time.
- 7.3.43 The following representative viewpoints are proposed to be presented as wireline visuals based upon maximum height parameters for the Solar PV site and for the Main Substation:
- Photowires: RVPs 2, 5, 8, 10, 13, 14, 20, 21
 - Photomontage: RVPs 6, 7, 12

Visual Receptors

- 7.3.44 Visual receptors are '*individuals and/or defined groups of people who have the potential to be affected by a proposal*' (GLVIA3, page 158). Visual receptors assessed within the LVIA will include the following:
- Residents within local settlements;
 - Recreational users of long-distance trails, PRow, accessible landscapes and promoted viewpoints; and
 - Motorists travelling on public highways and local roads
- 7.3.45 The proposed visual receptors 'scoped in' to the LVIA are summarised in **Table 7-3**.

Settlements

- 7.3.46 The following settlements would be 'scoped-in' to the LVIA:
- Eastleach Martin, Eastleach Turville, Fyfield and Southrop – 1.4km, west of northern land parcel;
 - Broughton Poggs and Langford – 0.35km, north of northern land parcel;
 - Clanfield and Grafton – 0.85km, south-east of southern land parcel;
 - Kelmscott and Eaton Hastings – 0.5km south of southern land parcel; and
 - Little Faringdon and Lechlade – 0.2km west of southern land parcel.

- 7.3.47 Further desk and site work will be used to determine if other settlements located within the study area would be 'scoped-in' to the LVIA.

Long Distance Recreational Trails

- 7.3.48 The following long distance recreational trails would be 'scoped-in' to the LVIA:
- d'Arcy Dalton Way – extending north-to-south through the study area and passing through the southern parcel between Little Clanfield and Broadwell Mill to the east; and
 - Thames Path – extending between Lechlade, Buscot, Kelmscott and Radcot, 1.2km south.
- 7.3.49 There are no other long-distance recreational trails located within the study area.

Public Rights of Way (PRoW)

- 7.3.50 The following PRoW located within the Site would be 'scoped-in' to the LVIA:
- Public Footpaths – public footpath 212/16/10 at Oxleaze Farm within the northern parcel; public footpath 271/8/10 between Broughton Poggs and Langford; public footpath 271/12/10-20-30 between Langford and Tillington; public footpath 271/1/20 between Langford and Grafton within the southern land parcel.
 - Bridleways – bridleways 271/3/10, 271/3/30 and 279/3/10 between Langford, Tillington, the dismantled railway line at Little Faringdon Lane; and bridleway 271/16/30 following the dismantled railway line between Langford Lane and Calcroft Lane.
 - Country lanes – where existing country lanes are directly adjacent to the Site and are found to form extensions to the existing PRoW network, i.e. to form circular routes or extend recreational routes, these may be considered within the assessment of effects within the LVIA along with other PRoW.
- 7.3.51 Further desk and site work will be used to determine if other PRoW located within the study area would be 'scoped-in' to the LVIA.

Public Highways

- 7.3.52 The following public highways would be 'scoped-in' to the LVIA:
- A361 – passing through the southern parcel between Lechlade, Little Faringdon and Broughton Poggs.
 - A417 – between Fairford, Lechlade and Faringdon, 1.6km south-west of southern land parcel; and
 - A4095 – between Bampton, Clanfield and Faringdon, 1.5km east of southern land parcel.
- 7.3.53 Further desk and site work will be used to determine if other public highways located within the study area would be 'scoped-in' to the LVIA.

Accessible Landscapes

- 7.3.54 The following accessible landscapes would be 'scoped-in' to the LVIA:
- National Trust, Buscot Lock and Weir on the River Thames – 1.8km, south-west of southern land parcel;
 - National Trust, Cheese Wharf on the River Thames near Lechlade – 2km, south-west of southern land parcel; and
 - Kelmscott Manor and Gardens – 1km, south of southern land parcel.
- 7.3.55 Further desk and site work will be used to determine if other accessible landscapes located within the study area would be 'scoped-in' to the LVIA.

Protected and Designated Landscapes

- 7.3.56 **Figure 7-2** shows that the Site is not located within a statutory or non-statutory protected or designated landscape. The northern land parcel is located approximately 0.25km to the east and the southern land parcel is located 1.4km to the south-east of the boundary of the CNL.
- 7.3.57 As illustrated by the Preliminary ZTV, and confirmed during the initial field survey, there is the potential for views of the Proposed Development from locations within the CNL and for views towards the CNL from within and in proximity to the Site. It is therefore assessed that the Site can be regarded as being within the setting of the CNL.
- 7.3.58 The LVIA will 'scope in' and assess the potential effects of the Proposed Development on the natural beauty and special qualities of the CNL (as described in the CNL Management Plan 2025-2030 and other published reports and guidance), and identify potential measures to mitigate adverse effects through the planning and design process. Consideration will also be given to reasonable and proportionate measures to further the statutory purpose of the Protected Landscape, should adverse effects on its natural beauty/special of the CNL qualities be identified.

Further Surveys

Residential Visual Amenity Assessment

- 7.3.59 Views from residents within individual properties are a private rather than a public concern and therefore assessed within a separate Residential Visual Amenity Assessment (RVAA). The RVAA uses a different methodology to the LVIA and is typically applied to tall buildings or infrastructure such as wind turbines or masts of greater vertical height with the potential for overbearing effects.
- 7.3.60 Initial landscape and visual analysis has identified the potential for effects on residential visual amenity in the surroundings of the southern parcel. An RVAA will therefore be 'scoped-in' to assess the potential effects and to further inform the design process in terms of offset distances and/or mitigation. The study area

for the RVAA would be 100m from the DCO Site Boundary. Beyond this distance, there is not considered to be potential for overbearing visual effects that would breach the RVAA acceptability threshold.

- 7.3.61 The RVAA will form an appendix to the LVIA and will be based upon the Landscape Institute's Technical Guidance Note 02/19 [Ref 7-10].

Night-Time Effects

- 7.3.62 During the Construction and Decommissioning Phases, short-term or temporary lighting may be required in relation to site offices, construction compounds and traffic movements. This would be limited and controlled through measures, including construction working hours, which would be set out within the Outline Construction Environmental Management Plan (OCEMP) and Outline Decommissioning Environmental Management Plan (ODEMP).
- 7.3.63 The Solar PV Array area would remain unlit during the operation phase except infrequently for example for routine maintenance operations and security lighting for the Main and Collector Substation infrastructure.
- 7.3.64 No visible lighting would be required along the perimeter fencing of the Site and Infra-Red (IR) lighting would be provided by the security system to provide night vision functionality for the CCTV.
- 7.3.65 The location and design of lighting would seek to limit adverse impacts on sensitive receptors, for example the use of directional cowls. Such measures would be secured through the Outline Environmental Management Plan (OEMP).
- 7.3.66 An assessment of night-time effects has therefore been 'scoped-out' of the LVIA.

7.4 Legislation, Planning Policy and Guidance

- 7.4.1 The following legislation, national and local planning policies and guidance will be taken into account as part of identifying the assessment methodology, receptor selection/sensitivity, potential significant environmental effects, and mitigation:

Legislation

Levelling-up and Regeneration Act 2023 (LURA)

- 7.4.2 Section 245 (Protected Landscapes) [Ref 7-11] amends the duty on relevant authorities in respect of their functions which affect land in National Parks, National Landscapes, and the Norfolk and Suffolk Broads (collectively referred to as Protected Landscapes) in England.
- 7.4.3 Relevant authorities must now 'seek to further' the statutory purposes of Protected Landscapes. This replaces the previous duty on relevant authorities

(in Section 85 of the Countryside and Rights of Way (CROW) Act 2000) to 'have regard to' their statutory purposes.

National Planning Policy

National Policy Statements

- 7.4.4 The Overarching National Policy Statement (NPS) EN-1 2025 [Ref 7-12] sets out the Government's policy for delivery of major energy infrastructure and will be the primary basis for decision-making.
- 7.4.5 NPS EN-3 2025 for Renewable Energy Infrastructure [Ref 7-13], and NPS EN-5 2025 for Electricity Networks [Ref 7-14] Infrastructure are the primary decision-making policy documents for the Secretary of State on nationally significant onshore renewable electricity generating stations in England and Wales and nationally significant offshore renewable electricity generating stations in waters in or adjacent to England.
- 7.4.6 Key relevant sections of the NPS in relation to LVIA are as follows:
- EN-1: Section 5.10 Landscape and Visual
 - EN-3: Paragraphs 2.10.32 - 2.10.37 - *Public rights of ways* and 2.10.85 – 2.10.93 *Landscape, visual and residential amenity*; and
 - EN-5: Solar Photovoltaic Generation Paragraphs 2.9.7 – 2.9.20 Landscape and Visual Impact.

National Planning Policy Framework (NPPF)

- 7.4.7 The most recent update of the NPPF was published on 17th August 2026 [Ref 7-15] and it contains a set of thematic issues, separated into policies for plan-making and decision-making. It is noted that “*plan-making policies should not be used when making decisions on development proposals.*”
- 7.4.8 Relevant National Decision-making Policies that will be considered within the LVIA are:
- **Policy S5: Principle of development outside settlements** – specifies circumstances for permitting development in areas outside settlements provided they avoid adverse effects, including those on the character of the countryside.
 - **Policy W3: Renewable and low carbon energy development and electricity network infrastructure** – sets out requirements for decommissioning and site restoration.
 - **Policy DP3: Key principles for well-designed places** – sets out how proposals should respond to their context.
 - **Policy DP4: The design process** – defines requirements for engagement with local authorities and quality of documentation for development proposals.
 - **Policy TR8: Public rights of way** – details how public rights of way (PRoW) should be treated within development proposals.

- **Policy F8: Sustainable drainage systems and watercourses** – sets out requirements for SUDS and existing watercourses within proposed development.
- **Policy N2: Improving the natural environment** – requires developments to contribute positively to the natural environment, including landscape character.
- **Policy N3: Trees in new development** – sets out requirements for trees to be included in new developments.
- **Policy N4: Protected Landscapes** – requires development proposals within the setting of Protected Landscapes to be sensitively located and designed to avoid or minimise adverse impacts on the Protected Landscape.

7.4.9 **NPPF Annex C Information Requirements** lists certain national decision-making policies and provides details for information required in support of planning applications to ensure a clear and consistent approach to determining development proposals:

- **Policy W3** requires: Proposals for decommissioning and site restoration, including details of how these measures are expected to be implemented.
- **Policy F8** requires: Statement outlining how the national SuDS standards have been achieved for development proposals which could affect drainage on or around the development site.
- **Policy N2** requires: Such information as required to demonstrate compliance with relevant aspects of Policy N2 (Improving the natural Environment).
- **Policy N4** requires: Assessment of the effect of major development proposals.

7.4.10 Other relevant national planning and guidance includes:

- Planning Practice Guidance (PPG) Design: process and tools, 2019 [Ref 7-16] – sets out the characteristics of well-designed places in reference to the National Design Guide.
- Design and Placemaking Planning Practice Guidance: consultation document [Ref 7-17] – relevant if published at the time of writing ES Landscape and Visual.
- PPG Light Pollution, 2019 [Ref 7-18] – sets out advice on artificial lighting.
- PPG Natural Environment, 2025 [Ref 7-19] – sets out guidance for protecting and enhancing the natural environment.
- PPG Renewable and Low Carbon Energy, 2023 [Ref 7-20] – provides guidance on planning considerations.
- Guidance for relevant authorities on seeking to further the purposes of Protected Landscapes, 2024 (DEFRA) [Ref 7-21] – sets out how the Protected Landscape duty is intended to operate, including functions outside a Protected Landscape.

Local Plan Policy

West Oxfordshire Local Plan 2031 (Adopted Sept 2018)

7.4.11 Local plan policies [Ref 7-22] of relevance to the LVIA are as follows:

- **Policy OS2:** Locating development in the right places, specifically, the General Principles.
- **Policy OS4:** High-quality design.
- **Policy T3:** Public transport, walking and cycling.
- **Policy EH1:** Cotswolds Area of Outstanding Natural Beauty.
- **Policy EH2:** Landscape character.
- **Policy EH4:** Public realm and green infrastructure.
- **Policy EH6:** Decentralised and renewable or low carbon energy development (excepting wind turbines).
- **Policy EH13:** Historic landscape character.
- **Policy EH14:** Registered historic parks and gardens.

Lechlade-on-Thames Neighbourhood Plan 2011-2031, made 2016

7.4.12 Lechlade Parish does not cover the Site although is located to the west of Little Faringdon at Horseshoe Lake. Neighbourhood Plan policy [Ref 7-23] **Policy D1 Design Principles** is relevant to landscape and visual matters.

Cotswolds National Landscape Management Plan 2025 – 2030 (CNL)

7.4.13 The CNL Management Plan 2025 – 2030 [Ref 7-24] sets out the vision, outcomes and policies for management for the period 2025-2030. The special qualities of the CNL are described in the Management Plan and summarised as follows:

- “The unifying character of the limestone geology.
- The Cotswold escarpment, including views from and to the National Landscape.
- The high wolds – a large open, elevated predominately farmed landscape with commons, ‘big’ skies and long-distance views.
- River valleys, the majority forming the headwaters of the Thames.
- Distinctive drystone walls.
- Flower-rich grasslands including floodplain meadows and neutral grasslands and particularly limestone grasslands.
- Ancient broadleaved woodland particularly along the crest of the escarpment.
- Variations in the colour of the stone from one part of the National Landscape to another.
- The tranquillity of the area, away from major sources of inappropriate noise, development, visual clutter and pollution.
- Extensive dark sky areas.
- Distinctive settlements, developed in the Cotswold vernacular with high architectural quality and integrity.

- An accessible landscape for quiet recreation for both rural and urban users.
- Significant archaeological, prehistoric and historic associations dating back 6,000 years.
- A vibrant heritage of cultural associations.”

Cotswolds Conservation Board. Position Statement on Development in the Setting of the CNL (2016)

- 7.4.14 The CNL Conservation Board provides a Position Statement on Development in the Setting of the Cotswolds AONB (2016) [Ref 7-25]. The Position Statement provides guidance in relation to what is considered to be the setting of the CNL. Page 1 notes that:

“The Board considers the setting of the Cotswolds AONB to be the area within which development and land management proposals, by virtue of their nature, size, scale, siting materials or design can be considered to have an impact, positive or negative, on the landscape, scenic beauty and special qualities of the Cotswolds AONB.”

- 7.4.15 Page 4 and 5 of the Position Statement provides examples of what would be considered an adverse impact on the setting of the CNL:
- “Development which would have a significant visual impact on views out of the AONB or between parts of the AONB (and subject to separate guidance and policies views into the AONB) including consideration of cumulative impact of several similar forms of development;
 - Loss of tranquillity through the introduction or increase of lighting and or noise (including consideration of cumulative impact of several similar forms of development);
 - Other environmental impact and forms of pollution like dust;
 - Introduction of abrupt change of landscape character (including the addition of tall structures, masts, wind turbines etc);
 - Loss or harm to heritage assets and natural landscape, particularly if these are contiguous with the AONB;
 - Impact on special associations and interrelationships of settings (for example between the Bath World Heritage Site and the AONB);
 - Change of use of land where of a significant enough scale to cause harm to landscape character;
 - Development individually or cumulatively giving rise to significantly increased traffic flows to and from the AONB (resulting in loss of tranquillity and erosion of the character of rural roads and lanes); and
 - Inappropriate use of external materials, external colours, reflective surfaces, and inappropriate landscaping.”

- 7.4.16 In addition to an assessment of the effects of the Proposed Development on landscape character and views from within the CNL, the LVIA will also include an assessment of the potential effects on the natural beauty and special qualities of the CNL.

Other relevant Cotswolds Conservation Board Position Statements

- 7.4.17 The Cotswolds Conservation Board has published Positions Statements on other issues relevant to the LVIA:
- **Tranquillity (2019)** [Ref 7-27] – provides guidance on how the issue of tranquillity should be addressed in the CNL and its setting.
 - **Dark Skies & Artificial Light (2019)** [Ref 7-27] – sets out approach to managing dark skies across the CNL
 - **Renewable Energy (2023)** [Ref 7-28] – sets out landscape sensitivity and scale of solar development that can be accommodated within the CNL and its setting.

Cotswolds Landscape Strategy and Guidelines

- 7.4.18 Landscape Strategy and Guidelines [Ref 7-29] have been produced for each of the 19 landscape character types defined in the Cotswolds Landscape Character Assessment [Ref 7-20]. This information is to be used to make informed decisions about the suitability of a Proposed Development or change within the Cotswold landscape. While no development would be located within the CNL, the Potential Landscape Implications, Strategies and Guidelines provided for Solar Farms, relevant to landscape character types within the study area will be considered within the LVIA.

7.5 Assessment Methodology

- 7.5.1 The LVIA methodology would follow the relevant best practice within:
- Guidelines for Landscape and Visual Impact Assessment (3rd Ed, 2013) – prepared by Landscape Institute / Institute of Environmental Management and Assessment (GLVIA3) [Ref 7-30]
 - An Approach to Landscape Character Assessment (2014) – prepared by Natural England, 2014 [Ref 7-31]
 - Technical Information Note 05/17, Townscape Character Assessment (2017, rev April 2018) – prepared by Landscape Institute [Ref 7-32]
 - Technical Guidance Note 2/19 Residential Visual Amenity Assessment (2019) – prepared by Landscape Institute [Ref 7-10]
 - Technical Guidance Note 06/19, Visual representation of development proposals (2019) – prepared by Landscape Institute [Ref 7-33]
 - Technical Guidance Notes 02-21, Assessing landscape value outside national designations – prepared by Landscape Institute [Ref 7-34]
 - Technical Guidance Note 01/24, Notes and Clarifications on Aspects of the Guidelines on Landscape and Visual Impact Assessment (3rd Ed) – prepared by Landscape Institute [Ref 7-35]

Methodology

- 7.5.2 Paragraph 1.1 of GLVIA3 advises:

“Landscape and Visual Impact Assessment is a tool used to identify and assess the significance of and the effects of change resulting from development on both the landscape as an environmental resource in its own right and people’s views and visual amenity.”

- 7.5.3 The LVIA will provide a review of the baseline conditions within the study area and assess the sensitivity of landscape and visual receptors to change in terms of landscape value and susceptibility criteria. The magnitude of change arising from the Proposed Development in terms of scale, extent and duration criteria will also be assessed. The significance of landscape and visual effects will be determined through a combination of receptor sensitivity and magnitude criteria during the Construction, Operation (and maintenance) and Decommissioning Phases.
- 7.5.4 The LVIA will be proportionate and focussed on those landscape and visual receptors located at closer proximity to the Site which are more likely to experience significant effects. The findings of the LVIA will be supported by relevant figures, visualisations and technical appendices.

Determining Significant Effects

- 7.5.5 Effects assessed as Major or Major-Moderate will be considered ‘Significant effects’ that are *“likely to influence the eventual decision”* whilst those assessed as Slight or below will be ‘Not Significant’ and *“of lesser concern”* (GLVIA3, para 3.35). Effects assessed as Moderate will be potentially significant and professional judgement will be applied to determine whether such effects are deemed ‘Significant’ or ‘Not Significant’ supported by clear justification and reasoning.

Assumptions and Limitations

Desk study

- 7.5.6 The baseline conditions of the Site and its surrounding landscape within the study area will be described in relevant sections of the LVIA, as required. The desk-based study will be informed by a review of published planning policy and guidance documents available and current at the time of ES submission.

Fieldwork

- 7.5.7 Fieldwork will be undertaken during 2026/2027 in accordance with the project programme. Viewpoint photography will, where practicable, capture winter conditions without full leaf coverage to reflect the period of greatest visibility.
- 7.5.8 Assessments within the LVIA will consider the likely significance of effects during the winter months. Winter photography will take place in January 2027.

Assessment of Cumulative Effects

- 7.5.9 The developments identified as having potential to give rise to cumulative effects in conjunction with the Proposed Development will be considered within the Cumulative Effects Assessment chapter of the ES.
- 7.5.10 The methodology for the assessment of cumulative effects is set out within **Chapter 5: Cumulative Effects Assessment** of this EIA Scoping Report.
- 7.5.11 The LVIA section of the Cumulative Effects chapter of the ES will present an assessment of the Cumulative Effects arising from the additionality of the Proposed Development in conjunction with other operational, under-construction and in-planning/consented developments located within the 3km study area for the LVIA.
- 7.5.12 The LVIA will 'scope-in' the cumulative effects during the operation phase which are likely to be significant and 'scope-out' the cumulative effects during the construction and Decommissioning Phases which are temporary.
- 7.5.13 The cumulative assessment would follow the process advocated within the Planning Inspectorate's guidance on *Nationally Significant Infrastructure Projects: Advice on Cumulative Effects Assessment* [Ref 7-36]. This will include the Stage 1 review of the long list of potential committed development projects and the Stage 2 short list of those projects which are likely to result in perceptible cumulative effects as part of a proportionate assessment.
- 7.5.14 In-Combination Effects will also be considered.

7.6 Potential Landscape and Visual Effects

- 7.6.1 This section sets out the potential landscape and visual effects arising from the Proposed Development on receptors during Construction, Operation (and maintenance) and Decommissioning Phases identified in paragraphs 7.3.8 to 7.3.38. Embedded mitigation measures intended to reduce potential adverse landscape and visual effects are outlined in **paragraph 7.6.12**.

Construction Phase

- 7.6.2 Landscape and visual effects during the Construction Phase are likely to be short-term in duration and temporary, potentially including:
- Physical changes to landform and vegetation cover associated with the creation of site Access Tracks, construction compounds, the installation of Underground Cabling and soils storage and management activities.
 - Effects on landscape character, either as a result of physical change to the landscape fabric, or changes to characteristic views.
 - Visual effects associated with views to construction plant/vehicles as well as of compounds, storage areas, security fencing and construction activity.
 - Effects on the natural beauty and special qualities of the CNL arising from views to construction activity.

- 7.6.3 The final details and timescales for the construction programme will be dependent on the detailed layout and environmental constraints.
- 7.6.4 The construction effects would be managed through an Outline Construction and Environmental Management Plan (OCEMP) secured through the DCO.
- 7.6.5 Where practicable, measures to reduce landscape and visual effects during the Construction Phase, such as the siting of compounds and storage areas in visually less sensitive locations, will be recommended in the LVIA.

Operation (and Maintenance) Phase

- 7.6.6 Landscape and visual effects during the operation (and maintenance) phase are likely to be long-term in duration, potentially including:
- Landscape (character) effects associated with the change of land use, landscape pattern and composition, and changes to visual, perceptual and cultural characteristics.
 - Visual effects on receptors (people) within local settlements or using recreational trails, PRow, public roads and accessible landscapes arising from views of the Proposed Development.
 - Effects on the natural beauty and special qualities of the CNL arising principally from views to the operational Solar PV Arrays, Main Substation, Collector Substation, Power Conversion Units (PCUs) or other built elements of the Proposed Development.
- 7.6.7 It is anticipated that the significance of landscape and visual effects during the operation (and maintenance) phase are likely to reduce with distance beyond the DCO Site Boundary and its immediate surroundings as landform, vegetation within and surrounding the Site, and other obstructions filter or screen views of the Proposed Development.
- 7.6.8 The operation and maintenance phase is forty years. During the early part of the operation (and maintenance) phase, the landscape and visual effects are likely to be at their greatest. As proposed mitigation and other planning becomes established, it is anticipated that this will reduce visual effects.
- 7.6.9 Existing vegetation that is retained, and the proposed planting within the Site would be maintained during the entire Operational Phase of the Proposed Development through the implementation of the Outline Landscape and Ecological Management Plan (OLEMP) secured through the DCO.

Decommissioning Phase

- 7.6.10 Following the end of the operation (and maintenance) phase, the proposed Solar PV Arrays, BESS and Main Substation infrastructure would be dismantled and removed from Site. Underground Cabling below 1.2m is likely to remain *in situ* to avoid disturbance from removal. The areas of established planting as part of the embedded mitigation may not be removed as part of the Decommissioning Phase.

- 7.6.11 The effects are likely to be similar to the Construction Phase, short-term and of the same significance or lower due to the screening effects provided by vegetation delivered as part of the embedded mitigation.

Mitigation and Design

- 7.6.12 The LVIA will be undertaken as part of an iterative design and assessment process. Mitigation measures to avoid or reduce significant landscape and visual effects will be embedded in the design of the Proposed Development. These will be fully documented in the LVIA and will likely include the following:
- Setting back proposed Solar PV Arrays, the Main Substation, the Collector Substation, Power Conversion Units (PCUs) or other built elements of the Proposed Development from sensitive receptors such as along footpaths, residential properties and the CNL.
 - Retention, reinforcement and management of existing field boundary vegetation within the Site, such as hedgerows and tree groups, with new native shrub and tree planting to enhance their screening function, longevity and improve functional and ecological habitats and connectivity.
 - Supplementing the existing framework of hedges and tree belts with new native shrub and tree planting to reduce the visibility of the Solar PV Arrays, Main Substation, Collector Substation, PCUs or other built elements of the Proposed Development.
 - Setting back proposed Solar PV, Main and Collector Substations, PCUs or other built elements of the Proposed Development from watercourses and drains to retain their riparian character.
- 7.6.13 The embedded mitigation measures will be further tested and developed through the iterative design and assessment process and consultation. The embedded mitigation would be implemented and managed through the Outline Landscape and Ecological Management Plan (OLEMP) secured through the DCO.
- 7.6.14 Mitigation measures relevant to Landscape and Visual Impacts are also included in **Appendix 3-1: Commitments Register**.

7.7 Proposed Scope

Scoped In / Scoped Out

- 7.7.1 **Table 7-3** summarises the landscape and visual receptors proposed to be ‘scoped-in’ or ‘scoped-out’ of the LVIA. The purpose of the receptor scoping is to ensure the LVIA remains proportionate and focussed on those receptors with the potential for adverse landscape and visual effects.
- 7.7.2 The decision to ‘scope-in’ or ‘scope-out’ a particular landscape or visual receptor is informed by the preliminary ZTV, desk-based assessment and field surveys summarised in **Table 7-3** Summary of LVIA receptors Scoped-In and Scoped-Out.

Table 7-3 Summary of LVIA receptors Scoped-In and Scoped-Out

POTENTIAL LIKELY EFFECT/ RECEPTOR	SCOPED IN / SCOPED OUT	REASON / JUSTIFICATION
Landscape Character		
Natural England, National Character Areas (NCAs)		
NCA 107 Cotswolds	Scoped Out	Strategic scale landscape character assessment. More detailed assessments available at County and District level.
NCA 108 Upper Thames Clay Vale		
Oxfordshire Wildlife and Landscape Study (2004)		
LCT 4 Estate Farmlands LCA 4D. Carterton (CW/1)	Scoped In	County scale landscape assessment covering West Oxfordshire District.
LCT 5 Farmland Hills LCA 5D Little Faringdon Hill (UT/8)		
LCT 8 Lowland Village Farmlands LCA 8A. Langford (UT/7)		
LCT 10 River Meadowlands LCA 8M. River Leach (UT/6)		
LCT 15 Terrace Farmland LCA 15A. Buscot to Kelmscott (UT/3, UT/10)		
LCT 17 Vale Farmland LCA 17D. Langford Brook (UT/9)		

POTENTIAL LIKELY EFFECT/ RECEPTOR	SCOPED IN / SCOPED OUT	REASON / JUSTIFICATION
Gloucestershire Landscape Character Assessment (2006)		
LCT 24 Dip Slope Lowland	Scoped In	County scale landscape character assessment covering Cotswold District outside CNL. Effects likely to be Not Significant on LCTs.
LCT 25 River Basin Lowland		
West Oxfordshire Landscape Character Assessment (1998)		
LCA 9 Shilton Downs	Scoped Out	WOLCA will be an important reference, to update and enhance the baseline description, inform the assessment of effects and identify design and mitigation measures. WOLCA will be ‘scoped-out’ as individual landscape receptors within the LVIA although will be referred to within the baseline study.
LCA 10 Bampton Vale		
LCA 13 Western Thames Fringes		
Landscape Character Assessment for Vale of White Horse (2024)		
LCT 7 Ridge Hilltops / LCA 7A Faringdon Ridge Hilltops	Scoped In	District scale landscape character assessment for Vale of White Horse District.
LCT 11 Upper Vale / LCA 11A Thames Upper Vale		
LCT 12 Middle Vale / LCA 12A Thames Middle Vale		
Cotswold Water Park Integrated Landscape Character Assessment (2009)		
LCT Dip Slope Limestone Lowland / LCA 1C Langford Lowlands (host)	Scoped Out	CWPIECA (2009) only covers part of the study area and overlaps with other landscape character assessments.
LCT Cornbrash Limestone Lowland / LCA 2C Southrop Lowlands		
LCT River Basin Clay /		

POTENTIAL LIKELY EFFECT/ RECEPTOR	SCOPED IN / SCOPED OUT	REASON / JUSTIFICATION
LCA 3C Fairford and Lechlade Settled Wetlands		
Swindon Borough Landscape Character Assessment (2025)		
LCA 12 Thames Vale	Scoped In	District scale landscape character assessment for Swindon Borough to south-west of Site.
Cotswolds National Landscape / AONB Landscape Character Assessment (2002)		
LCT 11 Dip Slope Lowland / LCA 11A South and Mid Cotswolds Lowlands	Scoped In	County scale landscape character assessment for CNL.
LCT 12 Dip-Slope Lowland Valley / LCA 12C Lower Leach Valley		
Visual Receptors		
Settlements		
Eastleach Martin Eastleach Turville Fyfield Southrop Broughton Poggs Langford Clanfield Grafton Kelmscott Little Faringdon Lechlade	Scoped In	Residents of and visitors to settlements located within ZTV with potential for visual effects.
Long Distance Recreational Trails		
d’Arcy Dalton Way Thames Path	Scoped In	Users of long-distance recreational trails within ZTV with potential for visual effects.
Public Rights of Way (PRoW)		
Public footpath 212/16/10 at Oxleaze Farm.	Scoped In	Users of PRoW within ZTV with potential for visual effects.

POTENTIAL LIKELY EFFECT/ RECEPTOR	SCOPED IN / SCOPED OUT	REASON / JUSTIFICATION
Public footpath 271/8/10 between Broughton Poggs and Langford. Public footpath 271/12/10-20-30 between Langford and Tillington Public footpath 271/1/20 between Langford and Grafton. Bridleways 271/3/10, 271/3/30 and 279/3/10 between Langford, Tillington, the dismantled railway line at Little Faringdon Lane. Bridleway 271/16/30 following between the dismantled railway line between Langford Lane and Calcroft Lane.		
Public Highways		
A361 –between Lechlade, Little Faringdon and Broughton Poggs. A417 – between Fairford, Lechlade and Faringdon A4095 – between Bampton, Clanfield and Faringdon, 1.5km east.	Scoped In	Motorists on public highways within ZTV with potential for visual effects.
Accessible Landscapes		
National Trust, Cheese Wharf and Buscot Lock and Weir on the River Thames Kelmscott Manor and Gardens.	Scoped In	Visitors to/users of accessible landscapes within ZTV with potential for visual effects.
Residential Visual Amenity Assessment (RVAA)		
Residential properties within 100m from the proposed PV Solar Arrays and Main and Collector Substations.	Scoped In	Potential for visual impacts on residents of properties within 100m of Proposed Development.

POTENTIAL LIKELY EFFECT/ RECEPTOR	SCOPED IN / SCOPED OUT	REASON / JUSTIFICATION
Residential properties at distances greater than 100m from the proposed PV Solar Arrays and Main and Collector Substations.	Scoped Out	Effects on residents of properties beyond 100m of Proposed Development likely to be Not Significant.
<i>Night-time Effects</i>		
Night-time visual effects arising through artificial lighting.	Scoped Out	Mitigation measures will be used to avoid visual effects arising from artificial lighting during the temporary Construction and Decommissioning Phases. Proposed Development would remain unlit during Operation Phase except infrequently for routine maintenance operations and for security lighting, and mitigation measures to reduce lighting impacts.
<i>Protected Landscapes</i>		
Cotswold National Landscape	Scoped In	The Proposed Development is assessed to be in the setting of the Cotswolds National Landscape.

7.8 Consultation

- 7.8.1 Engagement with the relevant LVIA consultees including Oxfordshire County Council (OCC), West Oxfordshire County Council (WODC) and the Cotswolds National Landscape (CNL) commenced in September 2026.
- 7.8.2 The findings of this engagement to-date, including the request for the inclusion of an additional two representative viewpoints, are included within this scoping chapter.
- 7.8.3 Further engagement will be undertaken throughout the DCO pre-application process to inform the iterative design and assessment process.

7.9 Summary of Matters Scoped-In and Scoped-Out

Table 7-4 Summary of Assessment Scope

ASPECT / MATTER	CONSTRUCTION	OPERATION (AND MAINTENANCE)	DECOMISSION -ING
Effects on Landscape Character	Scoped In	Scoped In	Scoped In
Effects on Views/Visual Receptors	Scoped In	Scoped In	Scoped In
Effects on Protected Landscapes	Scoped In	Scoped In	Scoped In
Cumulative Effects	Scoped In	Scoped In	Scoped In
Residential Visual Amenity Assessment (RVAA)	Scoped In	Scoped In	Scoped In
Night-time Effects	Scoped Out	Scoped Out	Scoped Out

7.10 References

- Ref 7-1 Natural England. National Character Area 108 Upper Thames Clay Vales. Available at: Natural England website. National Character Area 108. Available at: <https://nationalcharacterareas.co.uk/Upper-Thames-Clay-Vales/> [11 September 2026]
- Ref 7-2 Natural England. National Character Area 107 Cotswolds. Available at: <https://nationalcharacterareas.co.uk/cotswolds/> [11 September 2006]
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8. ECOLOGY AND BIODIVERSITY

8.1 Introduction

- 8.1.1 This chapter sets out the scope and methodology for the assessment of likely significant effects arising from the Proposed Development on Ecology and Biodiversity (comprising Designated Sites, habitats and protected or notable species) during the Construction, Operation and Decommissioning Phases.
- 8.1.2 It identifies the scope of the assessment and the further ecological surveys that will be undertaken to ensure there is appropriate information to accurately characterise the baseline. This chapter also considers the potential impacts of the Proposed Development and how this has informed the scope of assessment and proposed methodology that will be included within the Ecology and Biodiversity chapter of the Environmental Statement (ES).
- 8.1.3 This chapter is supported by the following figures and appendices:
- **Figure 8-1:** Designated and Non-designated Sites for Nature Conservation

8.2 Study Area

- 8.2.1 Study Areas for assessment pertaining to Ecology and Biodiversity vary according to the ecological feature being considered and have been informed based on published guidance [Ref 8-1] and professional judgement.
- 8.2.2 The following study areas have been considered:
- UK National Site Network sites where the qualifying features are bats (e.g. Special Areas of Conservation (SACs) – 30 km.
 - UK National Site Network sites (others) (e.g. SAC, Special Protection areas (SPAs) and other statutorily designated sites of international importance (e.g. Ramsar sites) – 10 km from DCO Site boundary and within 200m of proposed traffic routes to the Site.
 - Statutorily Designated Sites at a national level (e.g. Sites of Special Scientific Interest (SSSIs), National Nature Reserves (NNRs)) – 5km from DCO Site boundary and within 200m of proposed traffic routes to the Site.
 - Non-Statutory Designated Sites (e.g. Local Wildlife Sites (LWSs) – 2km from DCO Site boundary and along route of proposed traffic routes to the Site.
 - Ancient woodland, veteran and ancient trees, and priority habitat – DCO Site Boundary
 - Records of Protected and Notable Species – 2km.
 - Great crested newts - Extent of the Proposed Development and ponds within 250 m where access could be obtained.
 - Habitat Surveys, Protected and Notable species surveys (e.g. bats, badgers, dormouse) - Extent of the DCO Site Boundary.

8.3 Baseline Conditions

Statutory Designated Sites

- 8.3.1 There are no UK National Site Network sites within 30km of the DCO Site Boundary for which bats are a qualifying feature.
- 8.3.2 No further UK National Site Network sites or statutorily designated sites of international importance (SPAs or SACs) are located within 10km of the DCO Site Boundary.
- 8.3.3 There are three statutorily designated sites at a national level, located within 5km of the DCO Site Boundary.
- 8.3.4 The closest and largest, Cotswold Water Park SSSI, is located (at its closest point) approximately 270m to the south-west of the Proposed Development. This SSSI is notified for its nationally important ornithological features including breeding great crested grebe *Podiceps cristatus*, little egret *Egretta garzetta* and little ringed plover *Charadrius dubius*; a diverse assemblage of breeding birds of lowland open waters, their margins and scrub; non-breeding shoveler *Spatula clypeata*; gadwall *Mareca strepera*; pochard *Aythya ferina*; tufted duck *Aythya fuligula*; great crested grebe; coot *Fulica atra*; green sandpiper *Tringa ochropus* and lesser black-backed gull *Larus fuscus*; an assemblage of over 20,000 waterbirds during the non-breeding season; and populations of the aquatic plants starry stonewort *Nitellopsis obtusa*, lesser bearded stonewort *Chara curta*; pointed stonewort *Nitella mucronata* and clustered stonewort *Tolypella glomerata* [Ref 8-2].
- 8.3.5 Other SSSIs located within 5km of the DCO Site Boundary include:
- Alvescot Meadows SSSI - Located approximately 2.5km to the north-east of the Proposed Development. This SSSI supports two areas of hay meadow which include botanically rich unimproved grassland, fen communities, and unimproved neutral grassland.
 - Grafton Lock Meadow SSSI - Located 1.4km south-east of the Proposed Development. This SSSI supports an area of unimproved neutral grassland on damp alluvial soils, adjacent to the Thames and subject to regular floods in winter.

Non-Statutory Designated Sites

- 8.3.6 There are five Non-Statutory Designated Sites within 2km of the DCO Site Boundary. These are:
- The Bog – Oxfordshire Local Wildlife Site (OLWS). Located approximately 411m to the north-east of the Site. This measures 2.9ha and supports two fields with dry neutral grassland and wetter areas with a more calcareous influence. There is also a stream with pollarded willows.
 - Upper Thames Conservation Target Area (CTA). This is located 950m to the south of the Proposed Development. CTAs are a designation geared

toward identifying key clusters of designated sites and priority habitats and potential habitat creation and enhancement work in these areas. In this case, priority habitat restoration enhancement and creation includes Lowland meadows, Wet grassland and Floodplain Grazing Marsh habitats.

- Bushyleaze Copse LWS. Located 1.1km west of the Site. The precise reason for its designation is not clear on the basis of the information provided, though it is designated for its botanical interest.
- Edward Richardson and Phyllis Mey LWS. This is located approximately 1.1km west of the Proposed Development and supports a system of lakes and reservoirs.
- Coate's Farm, Southrop Conservation Road Verge located 2km to the west of the Proposed Development and supports lowland calcareous grassland.

8.3.7 There is also a Road Verge Nature Reserve located near Burford for which details were not received with the exception of a location. This is located along the A361, approximately 1.8km to the north-east of the Proposed Development.

8.3.8 A review of the Local Nature Recovery Strategy mapping for Oxfordshire [Ref 8-3] was also carried out which shows that a small area of woodland located in the northern part of the Site has been deemed an "Area of particular importance for biodiversity" covering a parcel of woodland. Other parts of the Site are covered by "Areas that could become of particular importance". These are generally located along the eastern boundary, associated with the Broadwell Brook and the potential for creation of wet habitats (wet woodland or restoration of riparian habitats) or neutral grassland creation. On the western boundary there are some further "Areas that could become of particular importance", similarly associated with riparian habitats. One pond in the southern part of Site is covered by an "Area that could become of particular importance".

Habitats

8.3.9 Detailed habitats surveys are ongoing. Initial surveys carried out between March and April 2026 (inclusive) have identified that the Site is dominated by arable land, interspersed with hedgerows and some grassland margins. The Site also include several grasslands and small parcels of woodland, scrub and ponds.

8.3.10 These surveys were also aimed at identifying the presence of any Invasive Non-Native Species within the DCO Site Boundary.

Ancient Woodland, Veteran and Ancient Trees

8.3.11 The Site supports one parcel of Ancient Woodland listed in the Priority Habitat Inventory [Ref 8-4], Boughton Copse located on the northern boundary of the Site. It also supports small parcels of Deciduous Woodland listed in this inventory on and adjacent to it.

Protected and Notable Species

8.3.12 Several Protected and Notable Species/Species group surveys have been or are being carried out to date, within the DCO Site Boundary. The scope of these surveys is cognisant of project assumptions in relation to mitigation embedded through design (see **paragraph 8.6.9**). They include:

- **Wintering birds (October 2025 to March 2026 inclusive).** The findings of these surveys indicate very low levels of use of the Site by water birds associated with the Cotswold Water Park SSSI. None of the non-breeding bird species for which it is notified were recorded, though teal *Anas crecca* (using one particular pond in the south and flooded areas in the east of the Site), mallard *Anas platyrhynchos* and mute swan *Cygnus olor* were. Waders were also recorded, including lapwing *Vanellus vanellus* and golden plover *Pluvialis apricaria*, though both appear to have peaked in numbers in November with no subsequent golden plover records and very few lapwing sightings, suggesting use during passage or only very occasionally by these species. The other species recorded included non-breeding passerines such as skylark *Alauda arvensis* with flocks up to 107 recorded. Starling *Sturnus vulgaris* flocks of up to 185 were also noted.
- **Breeding Bird Surveys (March 2026 to August 2026)** - the Proposed Development was covered by ten transects with six visits per transect having been carried out, in line with current industry guidance [Ref 8-5]. The Site supports a typical assemblage of breeding species of farmland and woodland habitats. This includes ground nesting species of open habitats such as skylark and yellow wagtail.
- **Bat activity surveys (April 2026 to October 2026 inclusive)** were conducted in line with current industry guidance [Ref 8-6]. These include(d) walked transects (Nighttime Bat Walkovers) carried out each season (Spring, Summer and Autumn) and the use of static bat detectors gathering five nights of data per location, per month.
- Hazel dormouse *Muscardinus avellanus* surveys (July 2026 to October 2026 inclusive). A total of 50 dormouse footprint tunnels were deployed within the hedgerows on Site, as per current industry guidance [Ref 8-7] [Ref 8-8]. Though no footprints attributable to this species have been found to date, an individual dormouse was found constructing a nest within a footprint tunnel on 24 August 2026. This species is therefore considered to be present within the DCO Site Boundary.
- **Otter** *Lutra lutra* and **water vole** *Arvicola amphibius* surveys were carried out in Spring and Autumn 2026, sampling both the main channels of the Langford Brook and Broadwell Brook. This is broadly in line with survey guidance for both species though rather than detailed surveys of all watercourses, a sampling approach has been taken due to avoidance measures being included as embedded mitigation with the Proposed Development proposals, with the most suitable habitats being targeted for survey to establish presence at a Site level. Otter has been confirmed as present on the Site, with spraints found at a number of locations. Water vole

surveys revealed the presence of the species along the Langford Brook and Broadwell Brook.

- Surveys for **great crested newt** (GCN) *Triturus cristatus* were carried out at all ponds for which access was available in Spring 2026. This largely included ponds within the DCO Site Boundary or the same landholdings. The species was recorded via the discovery of an egg at one pond only, near the centre of the Site, in close proximity to Little Faringdon Wood.
- **Badger** *Meles meles* surveys of the Proposed Development have shown a number of setts within the area but generally low levels of activity have been noted.
- **Other Species of Principal Importance (SPIs)** as listed in Section 41 of the NERC Act 2006 (as amended) [Ref 8-9] include numerous sightings of brown hare *Lepus europaeus*. Hedgehog *Erinaceus europaeus*, harvest mouse *Micromys minutus* and polecat *Mustela putorius* are also likely present, though they have not been sighted directly.

- 8.3.13 The Site is dominated by arable land, however it also has habitats with the potential to support notable invertebrate species, such as woodlands, hedgerows, grassland margins and aquatic invertebrates in the streams, however no direct surveys have been carried out.

Invasive Non-Native Species

- 8.3.14 Invasive Non-native Species (INNS) species observations were recorded during the course of other ecological surveys. Himalayan balsam *Impatiens glandulifera* was recorded in areas of the Site.

8.4 Overview of Legislation, Policy, and Guidance

- 8.4.1 The below legislation, policy and guidance has been taken into consideration in order to establish the proposed approach to the assessment of biodiversity.

Legislation

- The Environment Act 2021 (as amended) [Ref 8-10]
- Natural Environment and Rural Communities (NERC) Act 2006 (as amended) [Ref 8-11]
- The Conservation of Habitats and Species Regulations 2017 (as amended) [Ref 8-12]
- Wildlife and Countryside Act 1981 (as amended) [Ref 8-13]
- Protection of Badgers Act 1992 (as amended) [Ref 8-14]
- The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (SI 2017/572) [Ref 8-15]
- Hedgerow Regulations 1997 [Ref 8-16]
- The Animal Welfare Act 2006 [Ref 8-17]
- The Invasive Alien Species Order 2009 [Ref 8-18]

National Planning Policy

- National Planning Policy Framework (NPPF) 2026 [Ref 8-19]
- Energy National Policy Statements (NPSs) 2025: Overarching National Policy Statement for energy (EN-1) [Ref 8-20]
- National Policy Statement for Renewable Energy Infrastructure (EN-3) [Ref 8-21]
- National Policy Statement for electricity networks infrastructure (EN-5) [Ref 8-22]
- The 25 Year Environment Plan [Ref 8-23]
- Environmental Improvement Plan 2023 [Ref 8-24]
- ODPM Circular 06/2005. Government Circular: Biodiversity and Geological Conservation – Statutory Obligations and their Impacts within the Planning System [Ref 8-25]
- Guidance document on the strict protection of animal species of Community interest under the Habitats Directive 92/43/EEC. (February 2007), EC [Ref 8-26]

Local Planning Policy

West Oxfordshire Local Plan 2031

- Policy EH3: Biodiversity and Geodiversity [Ref 8-27]. This policy states that “The biodiversity of West Oxfordshire shall be protected and enhanced to achieve an overall net gain in biodiversity.”
- Supplementary Planning Document: “Design Guide 13: Biodiversity & Protected Species” [Ref 8-28]

Relevant Industry Guidance

- The Chartered Institute for Ecology and Environmental Management (CIEEM) Guidelines for Ecological Impact Assessment in the UK and Ireland Terrestrial, Freshwater, Coastal and Marine (the CIEEM guidelines) [Ref 8-29];
- Natural England and Department for Environment, Food and Rural Affairs (DEFRA) Guidance: Protected species and development: advice for local planning authorities [Ref 8-30]
- Defra (2023) Guidance for Complying With The Biodiversity Duty [Ref 8-31]
- UK Biodiversity Framework [Ref 8-32]
- BRE (2014) Biodiversity Guidance for Solar Developments. Eds G. E. Parker and L. Greene [Ref 8-33]
- Bennun, L., van Bochove, J., Ng, C., Fletcher, C., Wilson, D., Phair, N., Carbone, G. (2021). Mitigating biodiversity impacts associated with solar and wind energy development: Guidelines for project developers [Ref 8-34]
- Birds of Conservation Concern (BoCC) 5th edition (red list and amber list birds) [Ref 8-35]
- Bird Survey & Assessment Steering Group (2026), Bird Survey Guidelines for assessing ecological impacts [Ref 8-5]

- Mammal Society (Bullion S., Wolton R., White I., Mathews F.) (2025), Hazel Dormouse Conservation Handbook [Ref 8-7]
- Mammal Society (Wells D., Chanin P, Gubert L., Mathews F.) (2025), Hazel Dormouse Mitigation Handbook [Ref 8-8]

8.5 Assessment Methodology

- 8.5.1 The assessment of potential effects as a result of the Proposed Development (Construction, Operation (and maintenance) and Decommissioning Phases) on ecology and biodiversity will broadly follow the overarching EIA Methodology set out in **Chapter 4** of this EIA Scoping Report. This section sets out the discipline-specific assessment approach, study area(s), effect significance criteria, and any assumption and limitations. As such, the main guidance document followed is the Ecological Impact Assessment (EclA) guidance published by the CIEEM [Ref 8-29].

Significance Criteria

Relevant Receptors

- 8.5.2 One of the first steps in EclA is determining the important ecological features (IEFs) to be assessed. These can include habitats, species groups or individual species. These ecological features should then be subject to detailed assessment if they are likely to be affected by a development. It is not necessary to carry out detailed assessment of features that are sufficiently widespread, unthreatened and resilient to effects of a development, such that there is no risk to their viability.

Importance Criteria

- 8.5.3 The importance of an ecological feature (also termed value or sensitivity, elsewhere in the EIA) is considered within the defined geographical context in which it matters, as informed by their biodiversity value, social community or economic value, and their legal protection status. The summary of the importance of ecological features and the geographical frame of reference used in the assessment is presented below:
- International / European
 - National (UK)
 - Regional (South-East)
 - County (Oxfordshire)
 - Local (West Oxfordshire)
 - The Site (The area within the DCO Site Boundary and its immediate surrounds).
 - Below Site level: negligible importance.

Characterising and Quantifying Effects and Assessing their Significance

- 8.5.4 The assessment of the significance of predicted impacts on ecological features is based on both the 'importance' of a feature and the nature and magnitude of the impact that the Proposed Development is likely to have. Impacts may be direct (e.g. the loss of species or habitats), or indirect (e.g. effects due to noise, dust or disturbance). The impact assessment process will involve:
- Identifying and characterising impacts
 - Incorporating measures to avoid and mitigate (reduce) these impacts (e.g. by maximising existing habitat retention, implementing sensitive lighting, implementing works exclusion areas to safeguard important ecological features, and protected species licensing where necessary)
 - Assessing the significance of any residual effects after mitigation
 - Identifying appropriate compensation measures to offset significant residual effects (e.g. through habitat creation, or bespoke as requirement for protected species requirements, if required); and
 - Identifying opportunities for ecological enhancement.
- 8.5.5 The assessment will include consideration of potential impacts (direct, indirect, secondary, cumulative and residual) on each ecological feature determined as important from all phases of the Scheme. The assessment will describe in detail the impacts that are likely to be significant with significant effects defined as those which either supports or undermines the biodiversity conservation objectives for important ecological features. Where a negative effect has been identified, which cannot be fully satisfied through avoidance or mitigation, proportionate compensatory measures will be proposed. Impacts will be assessed against the following characteristics as set out in CIEEM, and reproduced below:
- Positive - a change that improves the quality of the environment e.g. by increasing species diversity, extending habitat or improving water quality. This may also include halting or slowing an existing decline in the quality of the environment
 - Negative - a change which reduces the quality of the environment e.g. destruction of habitat, removal of foraging habitat, habitat fragmentation, pollution
 - Extent - the spatial or geographical area over which the impact/effect may occur under a suitably representative range of conditions (e.g. noise transmission under water)
 - Magnitude - refers to size, amount, intensity and volume. It should be quantified if possible and expressed in absolute or relative terms e.g. the amount of habitat lost, percentage change to habitat area, percentage decline in a species population
 - Duration - defined in relation to ecological characteristics (such as the lifecycle of a species) as well as human timeframes, with consideration given to the duration of activities and their resulting effects; and

- Timing – the timing of an activity (e.g. seasonal considerations to life-stages), Frequency - the number of times an activity occurs, and the implications arising from the repetition of potentially disturbing effects.
- Reversibility – The likelihood of reversing impacts within a given time-scale subject to the sensitivity of the receptor, and the reasonable actions Available to achieve this.

- 8.5.6 An assessment to classify the effect, having taken into consideration any embedded and applied mitigation, will be determined using a matrix approach similar to that set out in **Chapter 4: Environmental Impact Assessment Methodology** of this EIA Scoping Report.
- 8.5.7 As a rule, major and moderate effects are considered to be significant, whilst minor and neutral/negligible are considered to be not significant. However, professional judgement will be applied, including taking account of whether the effect is permanent or temporary, its duration and frequency, whether it is reversible, and/or its likelihood of occurrence.

Habitat Regulations Assessment

- 8.5.8 As part of the environmental assessment of the Proposed Development, it is necessary to determine whether the Proposed Development has the potential to result in a likely significant effect on any site designated for international nature conservation importance within the UK National Site Network. These sites, formerly referred to as European sites, are protected under the Conservation of Habitats and Species Regulations 2017 [Ref 8-15] (as amended) (hereafter referred to as the Habitats Regulations).
- 8.5.9 UK National Site Network sites comprise Special Protection Areas (SPAs), Special Areas of Conservation (SACs), potential SPAs (pSPAs) and candidate or possible SACs (cSACs/pSACs), designated for their biodiversity value. In addition, Ramsar sites and proposed Ramsar sites, which are designated under the Ramsar Convention on Wetlands, are afforded equivalent policy protection.
- 8.5.10 Following the UK's withdrawal from the European Union on 31 January 2020, the requirement to undertake Habitats Regulations Assessment (HRA) has been retained through amendments to the Habitats Regulations, ensuring the continued protection of internationally important nature conservation sites.
- 8.5.11 The HRA will be undertaken in accordance with relevant UK Government guidance, Planning Inspectorate advice relating to Nationally Significant Infrastructure Projects (NSIPs), and established HRA principles and case law where relevant. The assessment will consider applicable impact pathways between the Proposed Development and designated sites and will be informed by the precautionary principle.
- 8.5.12 Under Regulation 63 of the Habitats Regulations, the Competent Authority, in this case the Secretary of State, must undertake an Appropriate Assessment where a plan or project is likely to have a significant effect on the conservation objectives of a UK National Site Network site, either alone or in combination

with other plans or projects, and is not directly connected with or necessary to the management of that site.

- 8.5.13 Whilst responsibility for determining the outcome of the HRA rests with the Competent Authority, the Applicant is required to provide sufficient information to inform this process. Accordingly, an HRA Screening Report will be prepared to identify and assess the potential for likely significant effects arising from the Proposed Development and to provide the information necessary to support any subsequent Appropriate Assessment, where required.
- 8.5.14 The HRA process seeks to identify potential effects at an early stage in project development, enabling opportunities to avoid, reduce or mitigate impacts. In reaching its conclusions, the Competent Authority is required to consult the relevant Statutory Nature Conservation Body, in this case Natural England, and have regard to its advice.
- 8.5.15 An HRA Screening (Stage 1) Report will be prepared and will be refined, as necessary, throughout the Development Consent Order (DCO) process and submitted as part of the DCO Application.

Assessment of Cumulative Effects

- 8.5.16 The methodology for the assessment of cumulative effects is set out within **Chapter 5: Cumulative Effects Assessment** of this EIA Scoping Report. The developments identified as having potential to give rise to cumulative effects in conjunction with the Proposed Development will be considered within the Assessment of Cumulative Effects chapter of the ES.
- 8.5.17 For Ecology and Biodiversity, this assessment will include any other developments within the Zone of Influence that are likely to result in residual effects on the same ecological features (e.g. nest site loss for ground-nesting species).

Assumptions and Limitations

- 8.5.18 As baseline ecological surveys are still being undertaken, there remains the potential for additional IEFs to be identified that may be considered significant within the scope of assessment. Any such features will be addressed in consultation with relevant stakeholders on a case-by-case basis. Arboriculture surveys will be completed to support and inform the design of the project.
- 8.5.19 As set out in the **Chapter 3: The Proposed Development**, the Proposed Development will retain the following habitats:
- Water bodies (including ponds);
 - watercourses (whilst small crossings of minor watercourses may be required, trenchless techniques would be utilised for crossing main rivers); and
 - existing hedgerows, woodland, and field margins would be retained where reasonably possible within the layout of the solar arrays, with the exception of small breaks and/or crossings required for new Access Tracks, security

fencing and Underground Cabling. Any breaks or crossings would be designed to use existing agricultural gateways/tracks between the fields where reasonably practicable, and the width of any new breaks will be kept to a minimum.

8.5.20 Further detail is provided below at **paragraph 8.6.9**.

8.6 Potential Impacts

8.6.1 With reference to **Chapter 3: The Proposed Development**, the Proposed Development has the potential to affect ecology and biodiversity (positively or negatively) during Construction, Operation (and maintenance) and Decommissioning Phases. Through the adoption of a standard hierarchical approach, the Proposed Development identify and implement mitigation measures in order to avoid, prevent, reduce or offset those effects identified.

Construction Phase

8.6.2 Construction Phase activities associated with the Proposed Development, including the establishment of construction compounds, Access Tracks and associated vehicle movements, installation of Solar PV Panels and related infrastructure, laying of Underground Cabling, and construction of the Main and Collector Substations, have the potential to affect biodiversity features within and adjacent to the Site. The principal types of impact that may arise are summarised below:

- **Habitat Loss:** Temporary habitat loss may occur as a result of site clearance, construction compounds, access routes and cable installation works. Permanent habitat loss is anticipated to be limited and will principally relate to land required for PV infrastructure and associated development.
- **Habitat Fragmentation and Reduced Ecological Connectivity:** Construction activities may temporarily disrupt habitat networks or create barriers to the movement of wildlife, particularly where linear infrastructure or watercourse crossings are required.
- **Habitat Degradation:** Construction activities may affect habitat quality through dust generation, sedimentation, accidental pollution incidents, spreading of Invasive Non-Native Species, or changes to surface water drainage and groundwater conditions.
- **Disturbance to Fauna:** Increased levels of noise, vibration, lighting and human activity during construction may disturb protected and notable species, potentially resulting in temporary displacement or changes in behaviour.
- **Species Injury or Mortality:** There is potential for harm to individual animals during vegetation clearance, groundworks and the operation of construction plant and machinery where appropriate mitigation measures are not implemented.
- **Introduction or Spread of Invasive Non-Native Species (INNS):** The movement of personnel, vehicles and equipment may increase the risk of

introducing or spreading invasive species within the Site and surrounding area.

- 8.6.3 These potential effects have been considered as part of the ecological assessment and have informed the development of embedded mitigation and construction management measures to avoid, minimise or offset adverse effects where necessary, as described in further detail below.
- 8.6.4 The following impact pathways have been identified as potentially occurring during the Construction Phase. Embedded and applied mitigation is however considered within the relevant sections below.

Operational Phase

- 8.6.5 Operational (and maintenance) phase activities associated with the Proposed Development, may result in the following effects on ecology and biodiversity:
- Potential avoidance by species using the Site due to indirect impacts as a result of, for example, noise disturbance.
 - Disturbance or displacement of sensitive species arising from operational infrastructure and/or maintenance activities.
 - Fragmentation of habitats as a result of physical barriers to some species, i.e. due to fencing.

Decommissioning Phase

- 8.6.6 Effects to ecology and biodiversity as a result of the decommissioning of the Proposed Development are likely to be similar to those experienced during the Construction Phase. The potential impacts during the Decommissioning Phase would need to be assessed closer to the time and supported by up-to-date surveys as the Site's habitats and therefore species will have changed significantly. The updated surveys and relevant legislation and policy in effect at the time of decommissioning will be considered and appropriate mitigation will be designed and implemented.

Mitigation and Design

- 8.6.7 The design of the Proposed Development will take into account potential effects on ecology and biodiversity receptors and, where reasonably practicable, will incorporate mitigation measures to avoid or minimise adverse effects in accordance with the mitigation hierarchy, applicable planning policy and legislative requirements. Such measures will include those embedded within the design of the Proposed Development and those achievable through recognised environmental best practice or statutory requirements.
- 8.6.8 Standard construction best-practice measures will be documented in an Outline Construction Environmental Management Plan (OCEMP), which will be secured through the Development Consent Order (DCO) to ensure compliance with relevant legislation and to reduce potential impacts on ecology and

biodiversity receptors. The OCEMP will set out measures to be implemented before and during construction; following DCO consent a detailed Construction Environmental Management Plan (CEMP) will be prepared in accordance with the OCEMP to implement and formalise those measures.

8.6.9 The Proposed Development will aim to avoid, protect and retain notable habitats and species where practicable, embedding such measures into the design of the Proposed Development. This will include retention, avoidance and offsets of:

- A minimum of 8m from the top of the watercourses and water bodies, extended to a minimum of 10m from where any such watercourses are found to support riparian mammals. Greater buffers are likely to be required where water bodies or watercourses support species, such as Great Crested Newt;
- A minimum of 10m from any type of woodland features; and
- At least 5m from hedgerows without trees, where practicable, noting that there may be small incursions into hedgerows to facilitate access, fence-lines and cabling. Woodland and retained trees will be protected, in line with British Standard Recommendations with undeveloped buffers concordant with the requirements for each individual tree, (based on their root protection areas). Where protected species (e.g. bat roosts or more significant bat commuting routes) are recorded, then this buffer will be extended as appropriate. Fencing, as appropriate, will be included around working areas.

8.6.10 The Proposed Development will also take measures to aim to avoid, protect and retain protected or notable species, where practicable, including:

- Retaining ponds and watercourses within the DCO Site, particularly those supporting Great Crested Newt;
- Retaining boundary features where practicable, supporting breeding and non-breeding birds, commuting and foraging bats and other fauna, with undeveloped zones;
- Retaining Badger setts, as far as is practicable, with an undeveloped zone of at least 30m from the sett and with at least 10m from outlier setts (dependent on the activity); and
- Retaining trees with the potential to support roosting bats, with a minimum undeveloped zone concordant with the Root Protection Area (RPA) of the tree and dependent on the bat roost categorisation.

8.6.11 The incorporation of enhancement measures within the Proposed Development is expected to result in a range of positive environmental outcomes upon completion. These measures will ensure that there is no net loss of habitats and will deliver an overall Biodiversity Net Gain, in line with the requirements for Nationally Significant Infrastructure Projects (NSIPs) being introduced in November 2026, as assessed via the use of Defra's Statutory Biodiversity Metric Tool [Ref 8-36], thereby supporting compliance with relevant planning policy requirements. Such beneficial effects include:

- The creation and enhancement of permanent grassland habitats with greater floristic diversity than the existing arable farmland, leading to increased abundance and diversity of invertebrate communities.
- Improved ecological connectivity within the DCO Site Boundary and to the wider surrounding area through the establishment of new trees and hedgerows.
- The creation of new habitats, including field margins and other undisturbed areas, providing valuable nesting and foraging opportunities for farmland birds, small mammals, and reptiles.
- Potential increases in the abundance and distribution of species as a result of reduced human disturbance and changes in land management practices within the DCO Site, including the cessation of intensive agricultural activities.
- Indirect ecological benefits arising from a potential reduction in agricultural chemical inputs to local watercourses and decreased pesticide use, which may support greater invertebrate abundance and species diversity within the local area.

8.6.12 Mitigation measures relevant to Ecology and Biodiversity are also included in **Appendix 3-1: Commitments Register**.

8.7 Proposed Scope

Scoped In

Statutory Designated Sites

- 8.7.1 The closest and largest Designated Site of National Importance within 5km is the Cotswold Water Park SSSI, located, approximately 270m to the south-west of the Proposed Development. Predominantly notified for its nationally important ornithological features, impacts to this SSSI have been scoped in for assessment due to the proximity to the Proposed Development and potential for functionally linked land associated with bird species (though it should be noted that the breeding and wintering bird surveys undertaken in 2025/ 26 have not identified any significant activity from bird species listed in the SSSI designation within the DCO Site Boundary. Indirect impacts will also remain scoped in, though the OCEMP will set out measures to avoid impacts to this feature.

Non-Statutory Designated Sites

- 8.7.2 The Bog OLWS located approximately 411 m to the north-east of the Site and on the eastern edge of the A361. Further to the north, also on the side of A361, there is a Road Verge Nature Reserve located near Burford for which details were not received. Due to their proximity to the proposed routes used for traffic during the Construction Phase, assessment of potential effects on these features are scoped in.

Habitats

- 8.7.3 As set out above, the Proposed Development has the potential to result in both beneficial and adverse effects for ecology and biodiversity, i.e. it will result in habitat loss, but also proposals for creation and enhancement of habitats.
- 8.7.4 The adverse effects of the Proposed Development are likely to be limited to the Construction Phase in terms of habitat loss, largely affecting agricultural land in the form of grassland or arable land, though some field margins may be affected to a lesser extent. The Proposed Development will however result in the creation of grassland within the solar arrays and further habitats designed to maximise biodiversity. The changes will be fully assessed using the Statutory Metric.
- 8.7.5 Hedgerows will be retained wherever possible and losses will be limited to either widening existing gaps or creating new gaps, rather than expansive removal, to facilitate Underground Cabling and/or Access Track crossings. A minimum buffer of 5m to retained hedgerows without trees will be incorporated where practicable into the design of the Proposed Development, noting that there may be small incursions into hedgerows to facilitate access, fence-lines and cabling. These areas will have the potential to be used for habitat creation (or retention) including grassland margins. Consideration will be given to enhancing retained hedgerows with gaps of lacking trees by interplanting and establishing wider buffers and removing pressures associated with local agricultural activities (ploughing or excessive flailing). Woodlands will be retained with a buffer which will be available for additional complementary planting such as scrub margins, trees and rough grassland to soften and widen ecotones. Offsets from water bodies and watercourses will also be included, limiting potential impacts to areas identified for crossing points for infrastructure.
- 8.7.6 During the Operational Phase, habitats created will continue to establish and retained habitats will either remain unaffected or will be subject to management likely to increase their value.
- 8.7.7 The enhancements and planting would increase biodiversity throughout the landscape and contribute to the Proposed Development achieving Biodiversity Net Gain (BNG) in line with the requirements of the Environment Act 2021 [Ref 8-10], the National Planning Policy Framework and local planning policy. The Proposed Development design will aim to achieve BNG levels greater than the minimum 10% required by the Environment Act 2021. An Outline Landscape and Ecological Management Plan (OLEMP) will be submitted alongside the DCO Application and will set out the principles for how the land would be managed throughout the operation (and maintenance) phase, following completion of construction.
- 8.7.8 Whilst there is risk of degradation or accidental damage of retained habitats during the Construction Phase, through accidental encroachment, pollution or contamination, the Outline Construction Environmental Management Plan (OCEMP) which will accompany the DCO Application will describe the mitigation measures and best practice guidance to be employed during the

Construction Phase to avoid, prevent an/or reduce such effects. This includes, for example, avoidance measures such as timing of vegetation cutting, specific mitigation for certain protected species and the need (where necessary) to secure the relevant licences from licensing authorities as well as relevant protection measures for retained habitats.

- 8.7.9 It is likely overall that the effects on habitats overall will be beneficial with the potential for significant gains. Therefore, the effects on habitats are scoped in.

Species

Badger

- 8.7.10 Badger have been identified within the DCO Site Boundary. The Proposed Development will result in losses of arable land and modification of some existing grassland, though most habitats of value for badger as a foraging resource (e.g. woodland, hedgerow bases) will be retained and new habitats created (e.g. permanent grassland and hedgerows) will likely provide additional foraging opportunities.
- 8.7.11 Setts are known to be present and, where possible, the design of the Proposed Development will aim to retain any mains setts with appropriate buffers.
- 8.7.12 Effects on badger from the Proposed Development at all phases are scoped into the EIA.

Dormouse

- 8.7.13 Dormouse have been identified within the DCO Site Boundary. The Proposed Development will result in losses of arable land and modification of some existing grassland, habitats of little or no value for dormouse. Most habitats of value for dormouse as a foraging or dispersal resource (e.g. woodland, hedgerows) will be retained and new habitats created (e.g. newly established or enhanced existing hedgerows) will likely provide additional foraging opportunities.
- 8.7.14 The design of the Proposed Development will aim to retain hedgerow where possible and minimise the size of any new gaps introduced. Habitat removal will likely need to be covered by a European Protected Species Mitigation licence informed by appropriate mitigation.
- 8.7.15 Effects on dormouse from the Proposed Development at all phases are scoped into the EIA.

Bats

- 8.7.16 Roosting and foraging/commuting bats have been identified within the Study Area. The Proposed Development will result in losses of arable land and modification of some existing grassland. Most habitats of value for bats as a foraging resource or for commuting (e.g. woodland, hedgerows and watercourses) will be retained. Furthermore, creation of new habitats (e.g.

permanent grassland and hedgerows) will likely provide additional foraging opportunities.

- 8.7.17 Notwithstanding the above, there is the potential for effects resulting from the additional noise generated by construction activities and by the Main and Collector Substation and BESS infrastructure which will need to be considered and assessed accordingly.
- 8.7.18 Effects on bats from the Proposed Development at all phases are scoped into the EIA.

Birds

- 8.7.19 The Proposed Development will result in the loss of some nesting habitat for species such as skylark and yellow wagtail. Mitigation measures will therefore be considered within areas of the Proposed Development not used for arrays or other infrastructure, such as creating rough grassland or potentially carrying out cereal farming with skylark plots, which are not currently present, to increase the nesting carrying capacity for skylark in these areas.
- 8.7.20 However, a range of other species, including SPIs will benefit from the retention and enhancement of hedgerows and the provision of permanent grassland in place of arable land and the creation of new hedgerows.
- 8.7.21 Whilst other impacts may arise during the Construction Phase, as a result of accidental encroachment, the OCEMP which will accompany the DCO Application will describe the mitigation measures and best practice guidance to be employed during the Construction Phase to avoid and reduce impacts, i.e. in relation to timing of vegetation cutting and removal as well as relevant protection measures for retained habitats.
- 8.7.22 Effects on breeding and non-breeding birds are scoped into the EIA.

Amphibians

- 8.7.23 GCN have been found to be present within the DCO Site Boundary. It is also likely that common toad *Bufo bufo* is present based on the types of habitats present. Though not fully protected this species is an SPI.
- 8.7.24 Most habitats of value for amphibians as a foraging or breeding resource (e.g. woodland, tussocky grassland, hedgerow bases and ponds) will be retained. New habitats to be created (e.g. permanent grassland and hedgerows) will likely provide additional foraging opportunities.
- 8.7.25 As damaging or removing habitat used by GCN would constitute an offence, a District Level Licence will be secured for the Proposed Development. On-site enhancement of habitats and habitat creation will also be implemented.
- 8.7.26 Effects on amphibians as a result of the Proposed Development at all phases are scoped into the EIA.

Reptiles

- 8.7.27 The presence of grass snake was confirmed from incidental sightings within the DCO Site Boundary. The habitats present are also likely to support slow worm and potentially common lizard. No surveys have been undertaken to date as most habitats to be affected within the Proposed Development are of poor or negligible suitability for reptiles. The species present are likely to be reliant currently on small pockets of permanent tussocky grassland, especially if associated with waterbodies and hedgerow bases.
- 8.7.28 Whilst the Proposed Development will result in losses of arable land and modification of some existing grassland, most habitats of value for reptiles as a foraging or breeding resource (e.g. woodland, tussocky grassland, hedgerow bases and ponds) will be retained. In addition, creation of new habitats to be created (e.g. permanent grassland and hedgerows) will likely provide additional foraging opportunities.
- 8.7.29 Effects on reptiles from the Proposed Development at all phases are scoped into the EIA.

Otter and water vole

- 8.7.30 Otters have been found to be present across the Site, though they are likely only utilising aquatic habitats such as the Langford Brook, Broadwell Brook and smaller ponds associated with these.
- 8.7.31 Water vole are also present but likely limited to less shaded sections of the water bodies. Many sections of the Langford Brook and Broadwell Brook are heavily shaded by scrub, and though they may be used for commuting are unlikely to support large numbers of the species due to the lack of marginal and aquatic vegetation typically needed for foraging and cover.
- 8.7.32 Effects on otter and water voles are scoped into the EIA.

Terrestrial invertebrates

- 8.7.33 Terrestrial invertebrates are present within the Proposed Development, with the highest numbers (and likely the most significant communities) associated with hedgerows, woodlands or the more tussocky grassland areas. No direct surveys for these species were deemed necessary as the Proposed Development will result in losses of arable land and modification of some existing grassland, which is unlikely to adversely affect these species.
- 8.7.34 Creation of new habitats (e.g. permanent grassland and hedgerows) will likely provide additional foraging opportunities. Existing literature [Ref 8-37] reviewing the biodiversity impacts of solar farms, especially where arable land is replaced by permanent grassland and other higher value habitats, indicate these species will benefit from the removal of agricultural activities and more sympathetic management.
- 8.7.35 Effects on terrestrial invertebrates are scoped into the EIA.

Other SPI mammal species (hedgehog, polecat, harvest mouse, brown hare)

8.7.36 Brown Hare has been identified with the DCO Site Boundary and Hedgehog and Harvest Mouse have the potential to be present, based on the habitats available the Site. Therefore, the species will be assumed to be present and assessed as such. Incidental records of these species will be recorded during other ecological surveys and any required mitigation measures formalised in the OCEMP secured as part of the DCO requirements.

8.7.37 Effects on other SPI mammals are scoped into the EIA.

Fish

8.7.38 The watercourses and ponds within the DCO Site Boundary have the potential to support a range of fish species, both within ponds and watercourses. Embedded mitigation measures in the form of offsets from watercourses/waterbodies, combined with measures set out within the OCEMP and OOEMP to control Construction Phase impacts, is likely to result in the avoidance/prevention of effects fish species. Furthermore, the cessation of arable farming has the potential to improve water quality, resulting in beneficial effects.

8.7.39 Effects on fish are scoped into the EIA.

Aquatic invertebrates

8.7.40 The watercourses and ponds within the DCO Site Boundary have the potential to support a range of aquatic invertebrate species, both within ponds and watercourses. Embedded mitigation measures in the form of offsets from watercourses/waterbodies, combined with measures set out within the OCEMP and OOEMP to control Construction Phase impacts, is likely to result in the avoidance/prevention of effects to aquatic invertebrate species. Furthermore, the cessation of arable farming has the potential to improve water quality, resulting in beneficial effects.

8.7.41 Effects on aquatic invertebrates are scoped into the EIA.

Invasive Non-Native Species

8.7.42 There is potential that construction activities, including vehicle tracking, could result in spread of INNS within the DCO Site Boundary. Effects associated with INNS is therefore scoped into the EIA.

Scoped Out

Statutory Designated Sites

8.7.43 Alvescot Meadows SSSI and Grafton Lock Meadow SSSI are located within the Study Area.

8.7.44 Alvescot Meadows SSSI consists of two discrete areas of hay meadow located near Shill Brook between Alvescot village and Brize Norton airfield. The larger

western meadow contains a mix of botanically rich unimproved grassland and fen communities, whilst the easterly area is a small diverse area of unimproved neutral grassland. This site is located 2.5km from the nearest point of the DCO Site Boundary and just over 3km from the nearest point of the proposed road network (A361) to be used for access to the Site. Therefore, due to lack of pathways for direct and indirect impacts (such as habitat loss or degradation or via pollution or hydrological connectivity, this site is scoped out from further assessment.

- 8.7.45 Grafton Lock Meadow SSSI is located 1.4km south-east of the DCO Site Boundary. This site supports an area of unimproved neutral grassland on damp alluvial soils, adjacent to the Thames and subject to regular floods in winter. There is no hydrological linkage between this SSSI and the Site. The habitats are located sufficiently far away from the Site that the Proposed Development would not result in direct or indirect habitat loss or degradation as pollution events from the Site would not affect this site and the distance is such that other indirect impacts such as dust, could not affect this site. Therefore, this SSSI is scoped out from further assessment.

Non-Statutory designated sites

- 8.7.46 With the exception of the Bog OLWS and the Road Verge Nature Reserve located near Burford (see above), during all phases of the Proposed Development, direct and indirect impacts to non-statutory designated sites outside the DCO Site boundary are considered unlikely given their location, proximity and nature, such that impacts are likely to occur and/or impact pathways do not exist. Therefore, effects to these Non-statutory Designated Sites are scoped out of further assessment.

8.8 Consultation

- 8.8.1 Consultation with statutory parties will be undertaken as part of the Environmental Impact Assessment (EIA) process following the submission of this EIA Scoping Report.
- 8.8.2 Engagement with Natural England and the Environment Agency commenced in September 2026. Further engagement with the Ecologists for the Local Planning Authorities (West Oxfordshire Council and Oxfordshire County Council, either jointly or with each individually) and The Berkshire, Buckinghamshire and Oxfordshire Wildlife Trusts (BBOWT) will take place to inform the design and EIA process.

8.9 Summary of Matters Scoped In and Out

Table 8-1 Summary of Assessment Scope

ASPECT/ MATTER	CONSTRUCTION	OPERATION	DECOMMISSIONING
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Cotswold Water Park SSSI	Scoped In	Scoped out	Scoped in
Other SSSI	Scoped out	Scoped out	Scoped out
Bog OLWS and the Road Verge Nature Reserve located near Burford	Scoped In	Scoped out	Scoped in
Other Non-Statutory Designated Sites	Scoped out	Scoped out	Scoped out
Habitats	Scoped in	Scoped in	Scoped in
Badger	Scoped in	Scoped in	Scoped in
Dormouse	Scoped in	Scoped in	Scoped in
Bats	Scoped in	Scoped in	Scoped in
Breeding birds	Scoped in	Scoped in	Scoped in
Wintering birds	Scoped in	Scoped in	Scoped in
Amphibians (including great crested newt)	Scoped in	Scoped in	Scoped in
Reptiles	Scoped in	Scoped in	Scoped in
Otter	Scoped in	Scoped in	Scoped in
Water vole	Scoped in	Scoped in	Scoped in
Terrestrial invertebrates	Scoped in	Scoped in	Scoped in
Aquatic invertebrates	Scoped in	Scoped in	Scoped in
INNS	Scoped in	Scoped out	Scoped in

8.10 References

- Ref 8-1 Chartered Institute of Ecology and Environmental Management (CIEEM) (2018), Guidelines for Ecological Impact Assessment in the UK and Ireland
- Ref 8-2 Natural England (2021), Cotswold Water Park – Site of Special Scientific Interest (SSSI) notified under section 28C of the Wildlife and Countryside Act 1981
- Ref 8-3 Oxfordshire County Council, Local Nature Recovery Strategy: Local habitat map
- Ref 8-4 Natural England (2025), Priority Habitats Inventory (England)
- Ref 8-5 Bird Survey & Assessment Steering Group (2026), Bird Survey Guidelines for assessing ecological impacts
- Ref 8-6 The Bat Conservation Trust, London (Collins, J. (ed.)) (2023), Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition)
- Ref 8-7 Mammal Society (Bullion S., Wolton R., White I., Mathews F.) (2025), Hazel Dormouse Conservation Handbook
- Ref 8-8 Mammal Society (Wells D., Chanin P, Gubert L., Mathews F.) (2025), Hazel Dormouse Mitigation Handbook
- Ref 8-9 Natural Environment and Rural Communities Act 2006
- Ref 8-10 Environment Act 2021
- Ref 8-11 Natural Environment and Rural Communities Act 2006
- Ref 8-12 The Conservation of Habitats and Species Regulations 2017
- Ref 8-13 Wildlife and Countryside Act 1981
- Ref 8-14 Protection of Badgers Act 1992
- Ref 8-15 The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017
- Ref 8-16 Hedgerow Regulations 1997
- Ref 8-17 The Animal Welfare Act 2006
- Ref 8-18 The Invasive Alien Species Order 2009
- Ref 8-19 Ministry of Housing, Communities and Local Government (2026), National Planning Policy Framework
- Ref 8-20 Department for Energy Security and Net Zero (2025), Overarching National Policy Statement for Energy (EN-1)
- Ref 8-21 Department for Energy Security and Net Zero (2025), National Policy Statement for Renewable Energy Infrastructure (EN-3)
- Ref 8-22 Department for Energy Security and Net Zero (2025), National Policy Statement for Electricity Networks Infrastructure (EN-5)
- Ref 8-23 HM Government (2018), A Green Future: Our 25 Year Plan to Improve the Environment
- Ref 8-24 HM Government (2023), Environmental Improvement Plan: First revision of the 25 Year Environment Plan
- Ref 8-25 Office of the Deputy Prime Minister (2005), ODPM Circular 06/2005 – Government Circular: Biodiversity and Geological

Conservation – Statutory Obligations and their Impact Within the Planning System

- Ref 8-26 Directorate-General for Environment (European Commission) (2007), Guidance document on the strict protection of animal species of Community interest under the Habitats Directive 92/43/EEC
- Ref 8-27 West Oxfordshire District Council (2018), West Oxfordshire Local Plan 2031
- Ref 8-28 West Oxfordshire District Council (2016), West Oxfordshire Design Guide 13: Biodiversity and Protected Species
- Ref 8-29 Chartered Institute of Ecology and Environmental Management (CIEEM) (2024), Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine
- Ref 8-30 Natural England and Department for Environment, Food and Rural Affairs (DEFRA) (2014) Protected species and development: advice for local planning authorities
- Ref 8-31 Department for Environment, Food and Rural Affairs (Defra) (2023), Complying with the biodiversity duty
- Ref 8-32 Joint Nature Conservation Committee (JNCC) on behalf of the Four Countries' Biodiversity Group (2024), UK Biodiversity Framework
- Ref 8-33 BRE (Eds G E Parker and L Greene) (2014), Biodiversity Guidance for Solar Developments
- Ref 8-34 IUCN (Bennun, L., van Bochove, J., Ng, C., Fletcher, C., Wilson, D., Phair, N., Carbone, G.) (2021), Mitigating biodiversity impacts associated with solar and wind energy development: Guidelines for project developers
- Ref 8-35 British Trust for Ornithology (BTO) (2021), Birds of Conservation Concern 5
- Ref 8-36 DEFRA (2026) Statutory biodiversity metric tools and guides. Available at:
<https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides>
- Ref 8-37 Solar Energy UK (2025), Solar Habitat 2025: Ecological trends on solar farms in the UK

9. WATER ENVIRONMENT

9.1 Introduction

- 9.1.1 This chapter sets out the scope and methodology for the assessment of likely significant effects arising from the Proposed Development on the water environment (comprising hydrology, hydrogeology, flood risk and surface water drainage) during the Construction, Operation (and maintenance) and Decommissioning Phases.
- 9.1.2 The purpose of the assessment is to identify and characterise sensitive hydrological receptors, consider the nature and magnitude of likely significant effects and how these will be put forward within the water environment chapter of the Environmental Statement (ES).
- 9.1.3 This chapter is supported by the following figures and appendices:
- **Figure 9-1:** Study Areas
 - **Figure 9-2:** Watercourse Catchment
 - **Figure 9-3:** BGS 50k Superficial Deposits
 - **Figure 9-4:** BGS 50k Bedrock Geology
 - **Figure 9-5:** EA Abstractions
 - **Figure 9-6:** Flood Zones
 - **Figure 9-7:** Thames 2011 Model Extents
 - **Figure 9-8:** Thames 2017 Model Extents
 - **Figure 9-9:** Thames MRL to St Johns 2017 Model Extents
 - **Figure 9-10:** Surface water 1% AEP + Climate Change Extent
 - **Figure 9-11:** Surface water 1% AEP + Climate Change Depths
 - **Figure 9-12:** Reservoirs Flood Extents

9.2 Study Area

- 9.2.1 The Study Area (SA) for the water environment is defined as the area where direct and indirect effects of the Proposed Development on hydrology, hydrogeology and flood risk receptors may potentially occur.
- 9.2.2 The DCO Site Boundary will form the Core Study Area (CSA) (**Figure 9-1**) for both Scoping and the Environmental Statement (ES). The CSA comprises two main land parcels, a smaller northern land parcel and a larger southern land parcel.
- 9.2.3 The SA extends 5km from the CSA and is based on potential hydrological and hydrogeological connectivity or water bodies located downstream of the Proposed Development. A smaller 1km study area will be applied to assess private water supply (PWS) and public water supply (PuWS) abstractions and will be referred to as the Water Supplies Study Area (WSSA). The study areas for the assessment are provided in **Figure 9-1**.

- 9.2.4 The study areas are defined based on the anticipated area of influence of the Proposed Development, hydrological and hydrogeological connectivity and professional experience assessing similar scale developments (DCO solar developments).
- 9.2.5 The SA will be utilised within the cumulative effects assessment.
- 9.2.6 A desk-based review was undertaken in July/August 2026 to provide an overview of the baseline conditions for the water environment within the Study Area. The information is based on the latest available data at the time of writing.
- 9.2.7 A site visit was conducted on 4th and 5th August 2026 to verify the presence of watercourses and gain an understanding of the overall hydrological setting of the CSA and surrounding areas.

9.3 Baseline Conditions

- 9.3.1 This section describes the baseline conditions for the Proposed Development at the scoping stage. The baseline has been established through a combination of desk-based data collection and site-based observations. Key sources of information include publicly available datasets, information provided by the Environment Agency (EA) and local authorities and observations recorded during the site visit. In addition, a Groundsure report was commissioned to provide information on groundwater, contaminated land, water abstractions and discharges. Collectively, these sources have informed the understanding of the hydrological and hydrogeological setting of the CSA and study areas.

Hydrological Setting

- 9.3.2 The CSA and SA are located within the catchment of the River Thames which is located approximately 1.2km south of the CSA. The River Thames flows east towards Radcot, approximately 2.2km south-east of the CSA.
- 9.3.3 The CSA is located within the EA's Catchment Data Explorer [Ref 9-1] Cotswolds Management Catchment. The SA is located within the Cotswolds Management Catchment and Gloucestershire and Vale Management Catchment.
- 9.3.4 The CSA is located within the Windrush Operational Catchment which comprises 19 watercourses. The River Leach (source to Thames), Radcot Cut, Broadwell Brook, Thames (Leach to Evenlode), Highmoor Brook at Brize Norton, Wadley Stream (Source to Thames at Duxford), Shill Brook and Tributaries are located within the Windrush Operational Catchment as shown in **Figure 9.2**. The other 12 watercourses within the catchment are not located within the SA.
- 9.3.5 The SA is located within the River Leach (source to Thames), Radcot Cut and Broadwell Brook catchments, as shown in **Figure 9-2**.
- 9.3.6 The River Leach (source to Thames), Radcot Cut and Broadwell Brook have Water Framework Directive (WFD) classification as outlined in **Table 9-1**.

Table 9-1 WFD Waterbody Classification

WFD INDICATOR	LEACH (SOURCE TO THAMES)	RADCOT CUT	BROADWELL BROOK
Water body ID	GB106039030040	GB106039030231	GB106039030232
Hydro-morphological designation	Not designated artificial or heavily modified	Heavily modified	Not designated artificial or heavily modified
Ecological status	Poor	Moderate	Moderate
Chemical status including uPBTs	Fail	Fail	Fail
Chemical Status excluding uPBTs	Good	Good	Good
Ecological Objective	Good by 2039	Good by 2027 (low confidence)	Good by 2027 (low confidence)
Chemical Objective	Good by 2063	Good by 2063	Good by 2063

- 9.3.7 The River Leach is located approximately 30m west of the CSA and flows south, discharging into the River Thames approximately 1.6km south-west of the nearest CSA boundary.
- 9.3.8 The Langford Brook is located in the western section of the CSA and flows south and then east, before discharging into the Kelmscot Brook, then Radcot Cut. The Parson's Barn Ditch disconnects from the Langford Brook for approximately 750m before reconnecting.
- 9.3.9 The Broadwell Brook is predominantly located to the east of the CSA and flows south-east through the eastern section of the CSA, discharging into the Radcot Cut approximately 2.2km south-east of the CSA. The Langhat Ditch is a tributary of the Broadwell Brook; the confluence of the two watercourses is located within the eastern section of the CSA.
- 9.3.10 The Little Clanfield Brook is located within the SA flowing south connecting the Broadwell Brook and Kelmscot Brook.

- 9.3.11 The Black Bourton Brook is partially located along the eastern boundary of the SA.
- 9.3.12 Based on a site visit conducted 4th and 5th August, LiDAR and hillshade analysis, a network of land drains are present within the CSA, located on field boundaries.
- 9.3.13 Three ponds are located within the larger southern land parcel of the CSA based on satellite mapping. The Groundsure report obtained for the SA identifies 7 ponds are located within the CSA. A series of ponds and lakes, including Horseshoe Lake, are located adjacent to the River Leach which is located to the west of the CSA and within the SA.
- 9.3.14 Based on the Canal and River Trust network map [Ref 9-2]; no canals are located within the CSA or SA.
- 9.3.15 The CSA is shown to be located outside the EA's Drinking Water Protected Area (surface water) [Ref 9-3] however is located within the Drinking Water Safeguard Zones (surface water) [Ref 9-4].
- 9.3.16 The CSA is shown to be located within the Cotswolds River Trust and Thames Rivers Trust area [Ref 9-5].

Soils, Geology and Hydrogeology

Soils

- 9.3.17 The LandIS soilsclapes data [Ref 9-6] indicates that the majority of the CSA is located within 'freely draining lime-rich loamy soils' (soilscape 5) which is freely draining. Areas adjacent to watercourse, particularly Langford Brook and Broadwell Brook are classified as 'loamy soils with naturally high groundwater' (soilscape 22) which are naturally wet.
- 9.3.18 The area to the north of Little Farrington Wood is classified as 'slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils' (soilscape 18) which have impeded drainage.
- 9.3.19 The northern parcel and areas north of the A361 are classified as 'shallow lime-rich soils over chalk or limestone' (soilscape 3) which are freely draining.

Geology

- 9.3.20 The British Geological Survey (BGS) Hydrogeology 625,000 digital hydrogeological map [Ref 9-7] shows the southern parcel of the CSA is predominantly located within Kellaways Formation and Oxford Clay Formation, characterised as 'rocks with essentially no groundwater'. Areas adjacent to the A361 and the northern land parcel of the CSA are located within Great Oolite Group characterised as a highly productive aquifer.
- 9.3.21 The BGS Geology Viewer [Ref 9-8] shows the majority of the CSA southern parcel is located within Summertown-Radley sand and gravel member superficial deposits comprised of sand and gravel. Alluvium superficial deposits

comprised of clay, silt, sand and gravel are located adjacent to the Langford Brook and Broadwell Brook.

- 9.3.22 Superficial deposits adjacent to Lechlade Road and between Lechlade Road and A361 are shown to vary from Head (clay, silt and gravel), Wolvercote sand and gravel member (sand and gravel), Summertown-Radley sand and gravel member (sand and gravel), Alluvium (clay, silt, sand and gravel), as shown in **Figure 9-3**.
- 9.3.23 The northern land parcel of the CSA is shown to have Alluvium comprised of clay, silt, sand and gravel and Head comprised of clay, silt, sand and gravel along the eastern boundary of northern parcel of the CSA adjacent to a tributary of the Broadwell Brook. Northmoor Sand and Gravel Member is located within the south-eastern corner of the northern parcel of the CSA, as shown in **Figure 9-3**.
- 9.3.24 The majority of the northern land parcel of the CSA is shown to have no superficial data.
- 9.3.25 The bedrock geology for the majority of the southern land parcel of the CSA is identified as Oxford Clay Formation and West Walton Formation comprised of Mudstone. The bedrock geology adjacent to the A361 varies from Combrash Formation (Limestone) to the north and Kellaways Sand Member (Sandstone and siltstone) and Kellaways Clay Member (Mudstone) to the south of the A361, as shown in **Figure 9-4**.
- 9.3.26 The bedrock geology for the majority of the northern land parcel of the CSA is Forest Marble Formation comprised of Mudstone. Cornbrash Formation comprised of Limestone is located in the south and a pocket near Oxleaze Farm. Forest Marble Formation comprised of Limestone is located adjacent to the Broadwell Brook located on the southern boundary of the northern parcel of the CSA. White Limestone Formation comprised of Limestone is located adjacent to a tributary of Broadwell Brook. Forest Marble Formation comprised of limestone is located in the north of the northern parcel, as shown in **Figure 9-4**.
- 9.3.27 The BGS fault lines show no faults are located within the southern parcel of the CSA; however, a linear feature is shown to be located within the northern parcel of the CSA, as shown in **Figure 9-4**.
- 9.3.28 The BGS borehole records [Ref 9-9] show 10 borehole logs are located within the CSA southern land parcel, no borehole logs are located within the northern land parcel. A summary of the borehole records located within the CSA are provided in Table 9-2 BGS borehole records overview **Table 9-2**.

Table 9-2 BGS borehole records overview

BGS ID	Depth (m)	Geology overview	Recorded water level (m bgl)
12701657	15.8	4.2m well followed by bluestone, clay and hardstone.	14.6
314851	3.4	Clay based strata	2

BGS ID	Depth (m)	Geology overview	Recorded water level (m bgl)
314858	4.5	Made ground to a depth 0.4m followed by clay-based strata	2.9
314786	45.7	Marl and gravel to 4.5m followed by blue stone and blue clay.	22.6
314763	6.7	Clay based strata to 0.3m followed by 5.6 m sandy gravel and 0.5m, bluish clay.	1.6
314804	6.4	Made ground to a depth 0.7m followed by sand and gravel before reaching Oxford clay at approximately depth 5.9m.	1.9
314853	6.5	Bands of clay, silt and gravel.	0.9
315033	3	Construction of a well, no data. A reference to gravel is made	No record
314897	24.4	Blue clay and clay	15.2
314850	3	Varying clay-based strata	Not struck

- 9.3.29 The BGS mines and quarries [Ref 9-10] dataset shows two ceased mines or quarries are located within the CSA. Lower Farm (BGS reference name) is located within the southern land parcel of the CSA, BGS reference 57671. Broughtondowns Plantation (BGS reference name) is located within the northern land parcel of the CSA towards the northern boundary.
- 9.3.30 The EA historic landfill sites [Ref 9-11] dataset shows no historical landfills are located within the CSA.

Hydrogeology

- 9.3.31 The CSA is shown to be located outside a Source Protection Zone, the SA is shown to be located within the Zone I – Inner Protection Zone, Zone II – Outer Protection Zone and Zone III – Total Catchment, located on the western and north-western boundaries of the SA.
- 9.3.32 The CSA is shown to be partially located within the Secondary A (bedrock) aquifer designation. Areas of the CSA north of the Little Farrington Wood and A361 are predominantly located within the Secondary A aquifer, areas south of Little Farrington Wood and Langford are located outside the aquifer designations.
- 9.3.33 The majority of the southern parcel of the CSA is located within the Secondary A (Superficial Drift) aquifer designation with pockets of Secondary (undifferentiated). The northern parcel of the CSA is shown to be located outside the aquifer designations.
- 9.3.34 The CSA is not located within the Drinking Water Safeguard Zones (groundwater) [Ref 9-12].

- 9.3.35 The EA River Basin Management Plan (RBMP) shows the CSA is located within the Burford Jurassic, Kemble Forest Marble and Upper Thames Gravels groundwater bodies. The groundwater body characteristics are provided in **Table 9-3**.

Table 9-3 WFD Groundwater body characteristics

WFD indicator	Upper Thames Gravels	Kemble Forest Marble	Burford Jurassic
Water Body ID	GB40603G000200	GB40602G600500	GB40601G600400
Chemical Status	Poor	Poor	Poor
Quantitative Status	Good	Good	Good
Chemical Objective	2027 – Low Confidence	2027 – Low Confidence	2027 – Low Confidence
Quantitative Objective	Good (2015)	Good (2015)	Good (2015)

- 9.3.36 Defra MAGIC map shows Groundwater vulnerability classification ranges from unproductive to medium-low in the centre and south of the CSA, up to High and soluble rock risk in the north of the CSA.
- 9.3.37 Groundsure report includes the BGS groundwater vulnerability mapping which shows the south of the CSA ranges from unproductive aquifer to secondary superficial aquifer classified as high vulnerability. The north of the CSA is shown to be located within Secondary bedrock aquifer classified as high vulnerability. The northern parcel is predominantly located within the secondary bedrock aquifer classed as high vulnerability and partly located within the secondary superficial aquifer classed as high vulnerability and principal bedrock aquifer classed as high vulnerability.
- 9.3.38 The EA's Location of Groundwater Dependent Terrestrial Ecosystems (GWDTEs) in England map shows no GWDTEs are located within the CSA. GWDTEs are shown to be located within the SA at the Grafton Lock Meadow (SSSI), Cotswold Water Park (SSSI) and Alvescot Meadows (SSSI).

Ground Conditions

- 9.3.39 The Groundsure report identifies that no contaminated land is present within 500m of the CSA. Further information pertaining to Ground Conditions is presented within **Chapter 16: Other Environmental Matters**.
- 9.3.40 The Defra Peat Map shows no peat is located within the CSA.

Water Abstractions and Discharges

- 9.3.41 The Groundsure report identifies 19 surface water abstractions are located within the WSSA, nine of which are located within the CSA. The EA public extractions data shows 15 abstractions are located within the WSSA, two of which are located within the CSA and are located on the CSA boundary, as shown in **Figure 9-5**.
- 9.3.42 Three potable abstractions were identified within the Groundsure report, one of which is located within the CSA, the other two are located within 1km of northern land parcel.
- 9.3.43 The Groundsure report shows 24 groundwater abstractions are located within the WSSA, two of which are located within the CSA and 6 located within 1km of CSA of north parcel.
- 9.3.44 All councils within the SA were contacted for PWS data. Cotswold District Council/Forest of Dean District Council/West Oxfordshire DC provided PWS for the WSSA however, the data does not include location information for the abstractions. Consultation with the Environmental Health Officer for the three councils will be undertaken to determine what location information can be provided so the data can be included within the ES chapter.
- 9.3.45 Swindon Borough Council confirmed no PWS are located within the SA and therefore will be scoped out of the assessment within the ES chapter.
- 9.3.46 South Oxfordshire and Vale of White Horse District Council provided 3 PWS which are located outside the WSSA and will be scoped out of the assessment within the ES chapter.
- 9.3.47 The Groundsure report identifies 5 licensed discharges, effluent type sewage, into the Broadwell Brook and one licensed discharge to groundwater via a soakaway. An additional 42 licensed discharges are located within the Groundsure report up to approximately 500m from the CSA.
- 9.3.48 The Groundsure report will be provided as part of the ES.

Flood Risk

Fluvial

- 9.3.49 The CSA is located within Flood Zone 1, 2 and 3, covering areas of approximately 90.2%, 2.8% and 7%, respectively, as shown in Figure 9-6.
- 9.3.50 Areas of Flood Zone 2 and 3 within the CSA are located adjacent to the Langford Brook and Broadwell Brook.
- 9.3.51 The West Oxfordshire Strategic Flood Risk Assessment (SFRA) (2025) [Ref 9-13] Appendix mapping does not delineate Flood Zone 3b.
- 9.3.52 The superseded West Oxfordshire SFRA (2016) [Ref 9-14] provides coarse mapping of Flood Zone 3b, which shows the CSA is located on the boundary of the Flood Zone 3b, adjacent to Parson's Barn Ditch. It should be noted the Flood

Zone 3b designation is derived from the 5% Annual Exceedance Probability (AEP) flood outline and not the standard 3.33% AEP event.

- 9.3.53 The Flood Zone for Planning plus climate change allowances [Ref 9-15] (Central 2080 epoch and Upper End 2125 epoch) dataset shows approximately 10.4% of the CSA is located within Flood Zone 2 and 3, plus climate change.
- 9.3.54 The EA's recorded flood outlines [Ref 9-16] shows the CSA is partly located within the 1947 event outline, located on the southern boundary of the CSA. The CSA is also located within the 1993 recorded outline adjacent to the Broadwell Brook.
- 9.3.55 The CSA is shown to be located within two EA models, Thames Main River Limits (MRL) to St Johns (2014) and St Johns to Shifford (2011).
- 9.3.56 The St Johns to Shifford (2011) model outputs show the CSA is located within the undefended 1% AEP, 1% AEP plus climate change (+20%) and 0.1% AEP events, as shown in **Figure 9-7**. The flood extents are shown to be limited to a small area of the southern boundary of the CSA, adjacent to the Parson's Barn Ditch and Langford confluence.
- 9.3.57 A 3.33% AEP event is not provided; the nearest event is the 5% AEP event, which shows the CSA is located outside the modelled extents, as shown in **Figure 9-7**.
- 9.3.58 In 2017, model re-runs were commissioned and provided outputs for the defended 1% AEP plus 15%, 25%, 35% and 70% climate change scenario events. The model extents show the CSA is located within all climate change events, the flood extents are shown to be limited to a small area of the southern boundary of the CSA, adjacent to the Parson's Barn Ditch and Langford confluence, as shown in **Figure 9-8**.
- 9.3.59 The Thames MRL to St Johns (2014) model does not include model extents for the scenarios modelled. In 2017, model re-runs were commissioned and provided outputs for the defended 1% AEP plus 15%, 25%, 35% and 70% climate change scenario events. The model extents show the majority of the CSA is located outside the events except along the southern boundary of the CSA, as shown in **Figure 9-9**.

Tidal

- 9.3.60 The CSA is located within the Cotswolds Management Catchment which is part of the Thames River Basin District. The catchment the CSA is located within is not tidally influenced. The Flood Zone designation for the CSA is classified as fluvial.

Surface Water (Pluvial)

- 9.3.61 The EA's Flood Map for Planning - Surface Water Spatial Planning Extents – Climate Change [Ref 9-17] dataset shows modelled surface water flood extent for the 1% AEP plus climate change (40%, Upper End 2070s epoch). The flood extent shows the majority of the CSA is located outside the 1% AEP plus climate

change event, approximately 3.4% of the CSA is located within the flood extent as shown in **Figure 9-10**.

- 9.3.62 Localised pooling occurs across the CSA likely in topographical depressions, larger pooling occurs adjacent to the Langford Brook and Broadwell Brook.
- 9.3.63 The EA's Flood Map for Planning - Surface Water Spatial Planning Depths – Climate Change [Ref 9-18] dataset show the majority of flood depths for the 1% AEP plus climate change event are less than 150mm and smaller areas up to 300 mm. The maximum flood depths within the CSA are up to 1200mm, located within the Langford Brook, the maximum depth out of channel is 600mm. The 1% AEP plus climate change surface water flood depths are provided in **Figure 9-11**.

Reservoir

- 9.3.64 The CSA is located outside the EA's Reservoir dry day scenario [Ref 9-19] however is located within the wet day scenario [Ref 9-20] and fluvial contribution scenario [Ref 9-21] along the southern boundary of the CSA, as shown in **Figure 9-12**.

Groundwater

- 9.3.65 The SFRA (2025) does not provide any groundwater flood risk mapping. The superseded SFRA (2016) provides Areas Susceptible to Groundwater Flooding (ASTGWF) mapping, the coarse resolution mapping shows the south of the CSA is located within the $\geq 75\%$ susceptibility to groundwater flooding, the middle of the CSA ranges from $\geq 25\% < 50\%$ to $\geq 75\%$ and the north of the CSA ranges from $< 25\%$ to $\geq 25\% < 50\%$.
- 9.3.66 The Groundsure report provides the groundwater flood risk mapping which shows the CSA groundwater flood risk ranges from negligible to high. Higher flood risk is located adjacent to the Broadwell and Langford brook.
- 9.3.67 Through consultation with the EA, the latest available data for groundwater for the area will be obtained.

Sewer

- 9.3.68 The CSA is located within a rural area and therefore is unlikely to be affected by sewer flooding. The SFRA (2025) provides sewer flooding incident records per postcode area, the sewer records are shown to be located within OX7, OX15, OX 18, OX20, OX28 and OX29. The CSA has a postcode of GL7 and therefore has not publicly recorded sewer incidents.

Canal and artificial sources

- 9.3.69 The Canal and River Trust network map shows no canals are located within the CSA or SA.

- 9.3.70 Horseshoe Lake and Bowmoor Lake are located within the SA and are shown to be at lower elevation to the nearest CSA elevation.

Nature Conservation Designations

- 9.3.71 Designations located within the SA (i.e. 5km from the CSA) are Grafton Lock Meadow SSSI located approximately 1.4km south-east of the CSA, Alvescot Meadows SSSI located approximately 2.5km north-east of the Proposed Development and Cotswold Water Park SSSI located approximately 270m west of the CSA. For further information relating to ecology, refer to **Chapter 8: Ecology and Biodiversity**.

9.4 Overview of Legislation, Policy, and Guidance

- 9.4.1 The following legislation, policy and guidance has been taken into consideration in order to establish the proposed approach to the assessment of the water environment.

Legislation

- Environmental Protection Act 1990;
- Water Resources Act 1991;
- Land Drainage Act 1991;
- Environment Act 1995;
- The Pollution Prevention and Control Act 1999;
- Anti-Pollution Works Regulations 1999;
- The European Water Framework Directive (WFD) 2000/60/EC;
- Flood Directive 2007/60/EC;
- Groundwater Daughter Directive 2006/118/EC;
- The Groundwater (England and Wales) Regulations 2009;
- Flood and Water Management Act 2010;
- Water Act 2003;
- Water Act 2014;
- The Environmental Damage (Prevention and Remediation) (England) Regulations 2015;
- The Environmental Permitting (England and Wales) Regulations 2016;
- The Private Water Supplies (England) Regulations 2016;
- Conservation of Habitats and Species Regulations 2017;
- The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017; and
- The Water Supply (Water Quality) Regulations 2018.

National Planning Policy

- Overarching National Policy Statement for Energy (EN-1) 2025 – Part 5 Section 5.8 and Section 5.16;
- National Policy Statement for Renewable Energy Infrastructure (EN-3) 2025 – Paragraph 2.10.76 – 2.10.80;

- National Policy Statement for Electricity Networks Infrastructure (EN-5) 2025 – Paragraph 2.3.2 and 2.3.3;
- National Planning Policy Framework (NPPF) 2026;

Local Planning Policy

- West Oxfordshire Local Plan 2031 (Adopted 2018);
- Oxfordshire Local Flood Risk Management Strategy 2025;
- West Oxfordshire Level 1 Strategic Flood Risk Assessment 2025; and
- Oxfordshire County Council Local Standards & Guidance for Major Development with Surface Water Drainage 2026.

Relevant Industry Guidance

- Control of Water Pollution from Construction Sites: Guidance for Consultants and Contractors C532;
- Environmental Good Practice on Site 2023 (CIRIA 5th Edition);
- Planning Practice Guidance (PPG) 2024 Flood Risk and Coastal Change (amended 2025);
- Construction Industry Research and Information Association (CIRIA) C753 'The SuDS Manual' 2015;
- Nationally Significant Infrastructure Projects: Advice on the Water Framework Directive 2025; and
- National Standards for Sustainable Drainage Systems (SuDS) 2025.

9.5 Assessment Methodology

- 9.5.1 The ES assessment will broadly follow the overarching EIA Methodology set out in **Chapter 4: EIA Methodology** of this EIA Scoping Report. This section sets out the discipline-specific assessment approach, study area(s), effect significance criteria, and any assumptions and limitations.
- 9.5.2 The approach for the hydrological and hydrogeological impact assessment for the Proposed Development has been developed in consultation with several statutory consultees over numerous Town and Country Planning Act applications and DCO applications for solar and battery energy storage systems (BESS) and substation sites.
- 9.5.3 The assessment will be based on a source-pathway-receptor methodology, where the sensitivity of the receptors and the magnitude of potential changes (effect) upon those receptors is identified within the study areas identified in **Section 9.2**.
- 9.5.4 As a small area of the CSA is located within Flood Zone 2 and 3 a Flood Risk Assessment (FRA) will need to demonstrate that, where development is proposed in areas with identified risk of flooding from all sources, it passes the Sequential and Exception tests outlined in National Policy Statements (NPS) and the National Planning Policy Framework (NPPF). There will be a requirement to raise electrically sensitive equipment at least 600mm above the highest modelled flood level for the 1% AEP event (plus climate change

allowance) or have a commitment to install flood resilient onsite infrastructure, however avoidance of these areas will be considered as a preferred design solution where practicable.

- 9.5.5 The climate change allowance data will be obtained from the EA Climate Change Allowances for Peak River Flow in England for the Cotswold Management Catchment. As the Proposed Development is classed as Essential Infrastructure as per Annex 3: Flood risk vulnerability classification of the NPPF and will be operational between the 2050s and 2080s epochs the Higher Central band of 43% will be used to assess fluvial flows.
- 9.5.6 The FRA will focus on the following elements:
- The risk of flooding to the Development from fluvial, surface water, groundwater, reservoirs, sewers and artificial (canals) sources;
 - Assessment of the introduction of new hardstanding and impermeable ground areas on the greenfield run-off rates, using InfoDrainage software;
 - Storage requirements calculations to accommodate the 3.33% AEP and the 1% AEP storm events including an allowance for climate change i.e. 40% for the Upper End Allowance for the 2070s epoch as outlined in the National Standards for Sustainable Drainage Systems.
 - The management of surface water runoff using Rural Sustainable Drainage Systems (RSuDS) techniques, such as grassland under the PV arrays; and
 - The FRA will also conclude how the Development complies with local planning policy, the West Oxfordshire Strategic Flood Risk Assessment and Section 5.8 of the NPS EN-1.
- 9.5.7 The FRA will utilise existing fluvial data and results from the St Johns to Evenlode Confluence (2011) model and 2017 climate change re-runs. At this stage it is anticipated that existing EA hydraulic model outputs will provide an appropriate assessment.
- 9.5.8 The CSA is predominantly located on freely draining soils and therefore does not propose two-dimensional (2D) direct rainfall runoff modelling and will utilise EA dataset to assess pluvial flood risk.
- 9.5.9 Consultation with the EA will be undertaken to determine the full scope of the Flood Risk Assessment.
- 9.5.10 Infiltration testing will be conducted in the Main Substation, Collector Substation and BESS areas to identify the underlying geology and potential for infiltration. In the event infiltration is not possible, as per the drainage hierarchy discharge to the nearest watercourses (land drains) will be prioritised.
- 9.5.11 A Water Framework Directive (WFD) Compliance Assessment will be undertaken to assess the potential effects of the Proposed Development on the status and objectives of relevant waterbodies.

Relevant Receptors

9.5.12 The following list provides all the relevant receptors that may be adversely impacted by the Proposed Development.

- EA Main Rivers – Langford Brook, Broadwell Brook, Radcot Cut, Parson's Barn Ditch, Kelmscot Brook, Little Clanfield Brook and River Thames;
- Surface water land drains;
- Waterbodies – Leach (source to Thames), Radcot Cut and Broadwell Brook;
- Groundwater bodies, Upper Thames Gravels, Kemble Forest Marble and Burford Jurassic;
- Public and Private Water Supplies (subject to additional information being provided);
- Licensed discharge points; and
- Residential and commercial properties – potential to increase flood risk

Sensitivity of Receptors

9.5.13 The sensitivity of the baseline conditions, including the importance of environmental features on or near to the Proposed Development or the sensitivity of potentially affected receptors, will be assessed in line with best practice guidance, legislation, statutory designations and/or professional judgement.

9.5.14 **Table 9-4** details the proposed framework for determining the sensitivity of receptors.

Table 9-4 Framework for Determining Sensitivity of Receptors

Sensitivity of Receptors	Definition
High	• A watercourse of water body with a WFD classification of 'High' or 'Good'; • The receptor and associated downstream environment has limited capacity to attenuate fluctuations in hydrochemistry and cannot buffer further changes without profoundly altering its characteristics or natural processes; • The hydrological receptor is designated as having international importance, such as Special Areas of Conservation and Special Protection Areas (SPAs); • The hydrological receptor is of high environmental importance or is a designated as having national importance, such as SSSIs and/or Groundwater Dependent Terrestrial Ecosystems (GWDTEs); • Groundwater Vulnerability Class of High; • Areas located in Source Protection Zone 1;

Sensitivity of Receptors	Definition
	• Water abstractions used to produce mass produced consumables (food and drink) or public water supply; • The hydrological receptor will support abstractions for public water supply or private water abstractions for more than 25 people; • EA registered abstractions; • Local or regional groundwater constitutes a valuable resource because of its high quality and yield, e.g., aquifer(s) or local or regional value and areas classed as Principal and Secondary aquifer designations; • Areas classed as Drinking Water Protected Area; • Areas classed as Functional Floodplain (Flood Zone 3b) and flood storage areas not protected by flood defences; • Residential and industrial receptors in Flood Zone 1 which are located outside other sources of flooding; and • Flood defences.
Medium	• A watercourse of water body with a WFD classification of 'Moderate'; • The receptor and associated downstream environment has some capacity to attenuate fluctuations in hydrochemistry but cannot absorb prolonged changes without profoundly altering its baseline characteristics/natural processes; • Areas classed as Flood Zone 3a; • Groundwater Vulnerability Class of Medium-High or Medium; • Areas located in Source Protection Zone 2; and • Areas containing geological features of designated regional importance including regionally important geological/geomorphological Sites (RIGS).
Low	• A watercourse or water body with a WFD Overall Water Body Class of 'Poor' or 'Bad' and/or a Current Chemical Quality classification of 'Fail' excluding ubiquitous, persistent, bioaccumulative and toxic substances (uPBTs); • Heavily modified watercourses or manmade drainage ditches; • The receptor is not of regional, national or international environmental importance;

Sensitivity of Receptors	Definition
	- Groundwater Vulnerability Class of Medium-Low or Low; - The hydrological receptor does not support abstractions for public water supply or private water abstractions; - Poor groundwater quality and/or very low permeability make exploitation of groundwater unfeasible; - Areas located in Source Protection Zone 3; and - Areas classed as Flood Zone 2.
Negligible	- The receptor is resistant to change and/or is of little environmental value; - Groundwater Vulnerability Class of Unproductive; and - Non-residential areas classed as Flood Zone 1.

Magnitude of Impacts

9.5.15 The magnitude of potential impacts will be identified through consideration of the Proposed Development, the degree of change to baseline conditions predicted as a result of the Proposed Development, the duration and reversibility of an effect and professional judgement, best practice guidance and legislation.

9.5.16 The criteria for assessing the magnitude of an impact are provided in **Table 9-5**.

Table 9-5 Framework for Determining Magnitude of Impact

Magnitude of Effects	Definition
High	Adverse: - A major shift in hydrochemistry or hydrological conditions sufficient to negatively change the function of the receptor. This change would result in a downgrading of an WFD quality classification by two classes, e.g., from 'High' to 'Moderate'; - A material increase in the probability of flooding onsite and off-site, adding to the extent which requires protection by flood prevention measures or affecting the ability of the functional flood plain to attenuate the effects of flooding by storing flood water (in accordance with NPPF) i.e., loss of functional floodplain (Flood Zone 3b) storage;

Magnitude of Effects	Definition
	- A permanent or long term degradation of quality to groundwater quality or a long term reduction in the available yield; and/or - A greater than 50% loss of geological receptor or peat/GWDTE habitat site, or where there would be complete severance of a site such as to fundamentally affect the integrity of that site (e.g., severing hydrological connectivity). Beneficial: - A decrease in the probability of flooding onsite and offsite, such as a substantial reduction in the floodplain or pluvial depths at conurbation level.
Medium	Adverse: - A fundamental change to the hydrochemistry or hydrological environment, resulting in a change in ecological status. This change would result in a downgrading of a EA water quality classification by one class, e.g., from 'Good' to 'Moderate'. - A loss of between 15% and 50% of a hydrogeological receptor or peat habitat site, complete or substantial severance and effects to its integrity as a feature, or disturbance such that the value of that site would be affected, but could still function; - Reversible or temporary changes to yield or quantity of the groundwater regime may affect the use of the receptor but could still function; - The yield or quality of PWS or PuWS may be temporarily reduced; and/or - A moderate increase in the probability of flooding onsite and offsite, adding to the area of land which requires protection by flood prevention measures and affecting the ability of the functional flood plain to attenuate the effects of flooding by storing flood water, i.e., moderate loss of storage within Flood Zone 3a. Beneficial: - A moderate decrease in the probability of flooding onsite and offsite, such as a reduction in the floodplain or pluvial flood depths at clusters of dwellings.
Low	Adverse:

Magnitude of Effects	Definition
	- A detectable non-detrimental change to the baseline hydrochemistry or hydrological environment. This change would not reduce the WFD status of the receptor; - Loss of storage within Flood Zone 2; - Interaction with the groundwater table which will marginally alter local ecology or will lead to a slight detectable displacement of groundwater; and/or - A detectable but non-material effect on the receptor or a moderate effect on its integrity as a feature or where there would be a minor severance or disturbance such that the functionality of the receptor would not be affected. Beneficial: - A slight decrease in the probability of flooding onsite and offsite, such as a reduction in the floodplain or pluvial flood depths at individual dwellings.
Negligible	Adverse/Beneficial: - No perceptible/detectable change to the baseline hydrochemistry or hydrological environment; - No change to water quality classification; and - No increase in the probability of flooding onsite and offsite.

Significance Criteria

- 9.5.17 The sensitivity of the receptor and the magnitude of the predicted impact will be used as a guide, in addition to professional judgement, to assess the level of the likely effect and whether it is significant.
- 9.5.18 **Table 9-6** summarises guideline criteria for assessing the significance of effects.

Table 9-6 Framework for Assessment of the Significance of Effects

Magnitude of Effects	Sensitivity of Resource or Receptor			
	High	Medium	Low	Negligible
High	Major	Moderate	Moderate	Minor
Medium	Moderate	Moderate	Minor	Negligible
Low	Minor	Minor	Negligible	Negligible
Negligible	Negligible	Negligible	Negligible	Negligible

- 9.5.19 The ES assessment will consider the likelihood of an effect occurring, taking account of embedded and applied mitigation through design and measures within the OCEMP, and conclude whether the residual or overall significance will be Major, Moderate, Minor or Negligible, before appropriate mitigation (beyond that specified through design and the OCEMP) has been implemented.
- 9.5.20 A residual effect is considered to be a likely significant effect if assessed as Moderate or Major following the implementation of necessary mitigation measures.

Assessment of Cumulative Effects

- 9.5.21 The methodology for the assessment of cumulative effects is set out within **Chapter 5: Cumulative Effects Assessment** of this EIA Scoping Report. The developments identified as having potential to give rise to cumulative effects in conjunction with the Proposed Development will be considered within the Assessment of Cumulative Effects chapter of the ES.
- 9.5.22 The methodology to assess the cumulative effects will be the same as that used for the Proposed Development in isolation.
- 9.5.23 A cumulative effect is considered to be an additional effect on a hydrological or hydrogeological resource (i.e., within the same hydrological catchment) arising from the Proposed Development in addition to the contribution of other developments likely to affect the hydrological environment but whose effects are not represented in the baseline data. In-combination effects occur when a single resource or receptor is impacted by multiple environmental impacts.
- 9.5.24 At distances greater than 5km developments are unlikely to contribute to a cumulative or in combination hydrological effect due to attenuation, dilution and deposition over distance of potentially polluting chemicals and sediment. Therefore, for the purposes of the assessment of potential cumulative effects on the catchment in which the Proposed Development is located, only proposed developments, which require large scale construction/excavation commensurate to that of the Proposed Development, within approximately 5km of the DCO Site Boundary will be considered.

Assumptions and Limitations

- 9.5.25 The current baseline and future baseline information provided in **Section 9.3** is based on the latest publicly available data and therefore the accuracy of the data is reliant on the provider of the data.
- 9.5.26 The baseline and future baseline information is based on the latest available data at the time of writing. New datasets may become available during the application phase and may change the baseline findings within this report.
- 9.5.27 Consultation with all relevant stakeholders has not been undertaken and may provide additional data which is not included within the baseline conditions.

- 9.5.28 EA consultation for groundwater level or depth data (GIS format) has not been undertaken and may change the baseline findings.
- 9.5.29 Local councils have been contacted for PWS and licensed abstraction data, not all councils have responded and the additional data may change the baseline findings. The PWS and abstractions will be updated within the ES upon receipt of relevant information.
- 9.5.30 As set out in the **Chapter 3: The Proposed Development**, the Proposed Development will retain:
- Water bodies (including ponds); and
 - Watercourses (whilst small crossings of minor watercourses may be required, trenchless techniques would be utilised for crossing main rivers).

9.6 Potential Impacts

- 9.6.1 The following section indicates the hydrological issues associated to the Proposed Development during the Construction, Operation (and maintenance) and Decommissioning Phase.

Construction Phase

- 9.6.2 During the Construction Phase, the following construction activities have the potential to affect the water environment:
- Earthworks and site clearance activities such as topsoil strip, trenching, stockpiling of excavated material;
 - Piling and erection of Solar PV Array Mounting Structures;
 - Trenching or ploughing cable routes;
 - Excavation and foundation construction for the Main and Collector Substations;
 - Construction of temporary compounds or laydown areas;
 - Storage and handling of fuels, oils and other chemicals;
 - Construction of foundations for Power Conversion Units and BESS units;
 - Horizontal directional drilling (HDD) (or other similar methods) under or adjacent to watercourses;
 - Dewatering of excavations;
 - Construction of Access Tracks and drainage infrastructure; and
 - Construction vehicle movements (leakages).
- 9.6.3 The construction activities above have the potential to cause the following effects on the water environment:
- Chemical pollution;
 - Erosion and sedimentation;
 - Impediments to surface water flow;
 - Changes in soil interflow patterns;
 - Changes in groundwater flow;
 - Compaction of soils;

- Increase in surface water run-off rates;
- Displacement of flood storage;
- Changes in quality or quantity of supply (PWS and PuWS);
- Damage to existing watercourses or land drains;
- Potential increase in flood risk; and
- Migration of pollutants from contaminated land.

Operational Phase

9.6.4 During the Operational Phase, the following operational activities have the potential to affect the water environment:

- Cleaning of panels;
- Non-intrusive maintenance of Proposed Development infrastructure and/or access;
- Intrusive maintenance (excavation);
- Vegetation maintenance;
- Vehicles movements (leakages);
- Storage and handling of fuels, oils and other chemicals;
- Maintenance of drainage infrastructure and SuDS features; and
- Fire suppression and emergency response activities associated with BESS compound.

9.6.5 The operational activities above have the potential to cause the following effects on the water environment:

- Chemical pollution;
- Erosion and sedimentation;
- Compaction of soils;
- Increase in surface water run-off rates;
- Damage to existing watercourses or land drains;
- Changes in quality or quantity of supply (PWS and PuWS); and
- Potential increase in flood risk.

Decommissioning Phase

9.6.6 The Decommissioning Phase will have similar activities to the Construction Phase, activities with the potential to affect the water environment are as follows:

- Earthworks and site clearance activities such as topsoil strip, trenching, stockpiling of excavated material;
- Removal of PV arrays, PCUs, Main and Collector Substations and BESS;
- Construction of temporary compounds or laydown areas;
- Storage and handling of fuels, oils and other chemicals;
- Removal of foundations for PCUs and BESS units;
- Dewatering of excavations;
- Removal of Access Tracks and drainage infrastructure; and
- Construction vehicle movements (leakages).

9.6.7 The decommissioning activities above have the potential to cause the following effects on the water environment:

- Chemical pollution;
- Erosion and sedimentation;
- Impediments to surface water flow;
- Changes in soil interflow patterns;
- Changes in groundwater flow;
- Compaction of soils;
- Increase in surface water run-off rates;
- Displacement of flood storage;
- Changes in quality or quantity of supply (PWS and PuWS);
- Damage to existing watercourses or land drains;
- Potential increase in flood risk; and
- Migration of pollutants from contaminated land.

Mitigation and Design

9.6.8 The ES will identify and assess all potential environmental effects of the Proposed Development. Mitigation will be incorporated and assessed in accordance with the ISEP Guidance, including mitigation embedded within the design of the Proposed Development, applied mitigation comprising standard construction and operational good practice measures and secondary mitigation where additional measures are required to avoid, reduce or offset adverse effects. The ES will identify the extent to which these measures are expected to avoid or reduce potential impacts during the Construction, Operation (and maintenance) and Decommissioning Phases of the Proposed Development.

9.6.9 The OCEMP will comprise good practice construction methods and works that are established and effective measures, such as silt traps, settlement lagoons and cut-off ditches, to which the Applicant will be committed through the DCO process, and which can be secured by an appropriate Schedule 2 requirement.

9.6.10 There is confidence in the effectiveness of the measures that will be outlined in the OCEMP (i.e. these have been observed to function effectively on similar projects) for them to be treated as part of the Proposed Development for the purposes of the assessment. As such, the assessment of significance of effects associated with the Proposed Development will be considered assuming implementation of the measures in the OCEMP.

9.6.11 The measures to be included in the OCEMP are fundamentally part of the Proposed Development design and should be treated as applied mitigation.

9.6.12 In addition, the following mitigation measures would apply:

- An OBSMP will be produced to manage the potential event of a battery fire. The surface water drainage strategy for the BESS compound will include the capture and attenuation of fire suppression water.
- Monitoring of watercourses during the construction phase;
- Where Underground Cabling is required to cross Main Rivers (Langford Brook, Broadwell Brook), it is assumed that this would be below ground

using non-intrusive techniques beneath the bed at a sufficient depth to avoid exposure.

- The Proposed Development will include an appropriately designed surface water collection and treatment system based on the principles of SuDS;
- The Proposed Development will include design measures to ensure that it does not generate any adverse flood risks to adjacent areas;
- Watercourses will be buffered from permanent new infrastructure by 8m from the top of the watercourse and water bodies extending to 10m (where any such watercourses are found to support riparian mammals assessed on a case-by-case basis depending on importance and potential impacts, other than where crossings are required, drainage or other essential infrastructure that has to be located nearer to the watercourse; and
- The more vulnerable elements of the Proposed Development such as the BESS, Main Substation, Collector Substation, Power Conversion Units (PCUs) and PV Panels will be sequentially located to areas of lowest risk of flooding. Where this is not possible, these elements will be designed accordingly with some elements potentially raised above the design flood level.

9.6.13 The Decommissioning Phase would apply similar design and mitigation measures as the Construction Phase although it is anticipated that the power cables may be left in situ beneath watercourses and there would be less excavation works required close to watercourses. Standard pollution prevention and construction best practices would be adopted to mitigate potential impacts upon the water environment where required and reasonably practicable. Such measures would be included in a Decommissioning Environmental Management Plan (DEMP). A detailed DEMP would be prepared and agreed with the relevant authorities at the time of Proposed Development decommissioning.

9.6.14 Mitigation measures relevant to the Water Environment are also included in **Appendix 3-1: Commitments Register**.

9.7 Proposed Scope

Scoped In

9.7.1 Potential issues scoped in for the assessment are summarised in **Table 9-7**.

Table 9-7 Water resources scoped in summary

Aspect	Justification
Surface water quality and quantity	The Proposed Development has the potential to impact the quality and quantity of surface water.
Groundwater quality and quantity	The Proposed Development has the potential to impact the quality and quantity of groundwater.

Aspect	Justification
Public and private water supplies and abstractions	The Proposed Development has the potential to impact public and private water supplies and abstractions.
Flood Risk	The Proposed Development has the potential to be affected by and increase flood risk onsite and offsite.
Surface Water Drainage	The Proposed Development has the potential to increase impermeable areas and impact surface water drainage.

Scoped Out

- 9.7.2 As neither the CSA nor the SA is tidally influenced, flooding from tidal sources is scoped out of the assessment and FRA.
- 9.7.3 Potential effects from historic landfill sites will be scoped out of the assessment due to the absence of landfill within the CSA.
- 9.7.4 Ground conditions effects are likely to be limited due to anticipated excavation depths associated with PV arrays, absence of peat deposits, GWDTEs within the CSA and the relatively uniform geological conditions identified.
- 9.7.5 PWS located within South Oxfordshire and Vale of White Horse District Council are located outside the WSSA extent and therefore will be scoped out. No PWS are located within the SA within Swindon Borough Council and therefore will be scoped out. All other PWS will be included within the assessment (subject to the data provided).
- 9.7.6 A summary of the scoped-out aspects of the assessment is provided in **Section 9.9**.

9.8 Consultation

- 9.8.1 Consultation with statutory parties will be undertaken as part of the Environmental Impact Assessment (EIA) process following the submission of this EIA Scoping Report. The Applicant will consult the following organisations:
- The Lead Local Flood Authority (Oxfordshire County Council) to discuss the proposed drainage measures to manage surface water flows using SuDS and Rural Sustainable Drainage Systems (RSuDS) techniques;
 - Thames Water – public abstractions and utilities search within the SA;
 - Cotswold River Trust and Thames River Trust – catchment management initiative opportunities;
 - The EA – to request licenced abstractions, Public Water Supply (PuWS) and groundwater modelling data for the SA; and
 - District Councils to request details on PWS that are not covered within scoping.

9.9 Summary of Matters Scoped In and Out

9.9.1 A summary of the matters scoped in and out of the assessment are provided in **Table 9-8**.

Table 9-8 Summary of Assessment Scope

ASPECT/ MATTER	CONSTRUCTION	OPERATION	DECOMMISSIONING
Surface Water Quality and Quantity	Scoped In	Scoped In	Scoped In
Groundwater Quality and Quantity	Scoped In	Scoped In	Scoped In
Ground Conditions	Scoped Out	Scoped Out	Scoped Out
Flood Risk Fluvial Surface water Groundwater	Scoped In	Scoped In	Scoped In
Flood risk Tidal	Scoped Out	Scoped Out	Scoped Out
Surface Water Drainage	Scoped In	Scoped In	Scoped In

9.10 References

- Ref 9-1 Environment Agency Catchment Data Explorer. River basin districts. Available at:
<https://environment.data.gov.uk/catchment-planning>.
- Ref 9-2 Canal & River Trust. Our canal & river network. Available at:
[UK Canal Network Map | Canal & River Trust](#)
- Ref 9-3 Environment Agency (2026). Drinking Water Protected Areas (Surface Water). Available at:
<https://www.data.gov.uk/dataset/3d136e9a-78cf-4452-824d-39d715ba5b69/drinking-water-protected-areas-surface-water>.
- Ref 9-4 Environment Agency (2026). Drinking Safeguard Zones. Available at: <https://www.data.gov.uk/dataset/6ac22521-2e77-4dc8-ba90-6bb55d2ea3b8/drinking-water-safeguard-zones-surface-water>
- Ref 9-5 The Rivers Trust. Members Trusts. Available at:
<https://theriverstrust.org/about-us/member-trusts>.
- Ref 9-6 LandIS.Soilscapes Viewer. Available at:
<https://www.landis.org.uk/soilscapes/>.
- Ref 9-7 British Geological Survey. Hydrogeology 625k digital hydrogeological map of the UK. Available at:
<https://www.bgs.ac.uk/datasets/hydrogeology-625k/>.
- Ref 9-8 British Geological Survey. BGS Geology Viewer. Available at:
<https://www.bgs.ac.uk/map-viewers/bgs-geology-viewer/>.
- Ref 9-9 British Geological Survey. Borehole records. Available at:
<https://www.bgs.ac.uk/information-hub/borehole-records/>.
- Ref 9-10 British Geological Survey. Mines and quarries. Available at:
<https://mapapps2.bgs.ac.uk/geoindex/home.html?layer=BGSMinAM>.
- Ref 9-11 Environment Agency (2026). Historical Landfill Sites. Available at:
<https://environment.data.gov.uk/dataset/7a955570-d465-11e4-a37c-f0def148f590>.
- Ref 9-12 Environment Agency (2026). Drinking Water Safeguard Zones (Groundwater).
<https://www.data.gov.uk/dataset/7fe90245-d6e8-4d7c-a13a-65a87455f429/drinking-water-safeguard-zones-groundwater>.
- Ref 9-13 West Oxfordshire District Council (2025). Level 1 Strategic Flood Risk Assessment. Available at:
<https://www.westoxon.gov.uk/media/r0lgseci/west-oxfordshire-level-1-strategic-flood-risk-assessment-sfra-june-2025.pdf>.
- Ref 9-14 West Oxfordshire District Council (2016). Strategic Flood Risk Assessment. Available at:
<https://www.westoxon.gov.uk/media/0adg2zs5/env9-west-oxfordshire-district-council-strategic-flood-risk-assessment-update-report-november-2016.pdf>.

- Ref 9-15 Environment Agency (2026). Flood Map for Planning – Flood Zones plus Climate Change. Available at:
<https://www.data.gov.uk/dataset/77931470-ee6b-4f8e-8868-82842aed2e5d/flood-map-for-planning-flood-zones-plus-climate-change>.
- Ref 9-16 Environment Agency (2026). Recorded Flood Outlines. Available at: <https://www.data.gov.uk/dataset/16e32c53-35a6-4d54-a111-ca09031eaaaf/recorded-flood-outlines1>.
- Ref 9-17 Environment Agency (2026). Flood Map for Planning – Surface Water Spatial Planning Extents – Climate Change. Available at:
<https://environment.data.gov.uk/dataset/c5ac51b0-be1d-462a-b734-2c22625ce005>.
- Ref 9-18 Environment Agency (2026). Flood Map for Planning – Surface Water Spatial Planning Depths – Climate Change. Available at:
<https://environment.data.gov.uk/dataset/cf8d4e8f-99b6-4e5d-bf56-7f80e93d0931>.
- Ref 9-19 Environment Agency (2021). Reservoir Flood Extents – Dry Day. Available at:
<https://environment.data.gov.uk/dataset/c66ee97f-49d2-454e-9a19-d48a47bd22ad>.
- Ref 9-20 Environment Agency (2021). Reservoir Flood Extents – Wet Day. Available at:
<https://environment.data.gov.uk/dataset/d81646cf-37e5-4e71-bbcf-b7d5b9ca3a1c>
- Ref 9-21 Environment Agency (2026). Reservoir Flood Extents – Fluvial Contribution. Available at:
<https://environment.data.gov.uk/dataset/db114020-465a-412b-b289-be393d995a75>

10. SOILS AND AGRICULTURE

10.1 Introduction

10.1.1 This chapter sets out the proposed scope and methodology for the assessment of potential likely significant effects arising from the Proposed Development on soils and agricultural during the Construction, Operation (and maintenance) and Decommissioning Phases. This includes consideration of potential effects on:

- Agricultural land and land use including the potential loss of BMV land; and
- Quality of soil resources in terms of potential for disturbance/damage or improvement through changes in land management.

10.1.2 This chapter is supported by the following:

- **Figure 10-1:** Site-Specific Agricultural Land Classification (ALC); and
- **Appendix 10-1:** Agricultural Land Classification Survey

10.2 Study Area

10.2.1 The proposed study area is confined to the DCO Site Boundary, as defined in **Chapter 2: Site Context and Description**. However, due regard has also been given to published mapping within a 250m radius to provide additional context. This buffer is considered to be proportionate as it captures adjacent land that could be directly or indirectly influenced by the Proposed Development.

10.2.2 To provide additional context to the discussion of agricultural land, within the ES, impacts relating to the potential loss of Best and Most Versatile (BMV) agricultural land will also be considered in the regional context of Oxfordshire County.

10.2.3 The Site comprises two separate land parcels 750m apart (please see **Figure 2-1**); these will be referred to as southern land parcel and the northern land parcel.

10.3 Baseline Conditions

Baseline surveys

10.3.1 A site-specific intrusive Agricultural Land Classification (ALC) survey was undertaken in May 2026 (see **Appendix 10-1**). The survey comprised at least one hand auger per hectare to a maximum depth of 1.2m BGL (below ground level), to examine the soil profile. This sampling frequency is in line with that recommended by Natural England. The three south-easternmost fields (Fields 100, 101 & 102, as shown in **Figure 2-1**) have not yet been surveyed at the time of writing this EIA Scoping Report; however, a survey is scheduled to take place in early October 2026.

Geological units and soils

- 10.3.2 Cranfield Soilscape mapping shows soils across the northern land parcel to be Soilscales 3, shallow lime-rich soils over chalk or limestone [Ref 10-1]. Soils across the majority of the southern land parcel to be Soilscales 5, freely draining lime-rich loamy soils. Soils in the area of the Broadwell Brook and Langford Brook are classified as Soilscales 22, loamy soils with naturally high groundwater. A small area at the west of the southern land parcel is classified as Soilscales 18, slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils.
- 10.3.3 Soils mapping for the area as shown on *Soils and their use in South East England*, 1984 [Ref 10-2], Soil Survey of England and Wales Memoir and accompanying 1:250,000 scale map has been reviewed as part of this assessment. The soils mapping suggests the soils on site comprise the Badsey 1 Association and the Denchworth Association, with the Elmtun 1 Association present in the north of the Site, and the potential for soils of the Kelmscot Association to encroach on the south of the site. The soils are described as follows:
- Badsey 1 Association (511h) - Well drained calcareous and non-calcareous fine loamy soils over limestone gravel. Some deep fine loamy soils and fine loamy soils over gravel, and similar but shallower soils affected by groundwater.
 - Denchworth Association (712b) - Slowly permeable seasonally waterlogged clayey soils with similar fine loamy over clayey soils. Some fine loamy over clayey soils with only slight seasonal waterlogging and some slowly permeable calcareous clayey soils. Landslips and associated irregular terrain locally.
 - Elmtun 1 Association (343a) - Shallow well drained brashy calcareous fine loamy soils over limestone. Some similar deeper soils and some non-calcareous and calcareous clayey soils.
 - Kelmscot Association (832) - Calcareous fine loamy soils over gravel variably affected by groundwater, associated with non-calcareous clayey soils over gravel. Flat land. Risk of flooding.
- 10.3.4 The underlying geological strata includes discontinuous superficial deposits of predominantly River Terrace Deposits. Alluvium deposits are present in the area of Langford Brook and Broadwell Brook, and outcrops of Head Deposits are present in the area west of Langford [Ref 10-3].
- 10.3.5 These are underlain on the southern land parcel principally by the Oxford Clay Formation (mudstone). Northwards of this, lies west-east trending bands of Kellaways Sand Member (interbedded sandstone and siltstone), Kellaways Clay Member (mudstone) and the Cornbrash Formation (limestone).
- 10.3.6 The majority of the northern land parcel is underlain by the Forest Marble Formation (mudstone). Small sections at the west and east of the northern land

parcel are underlain by limestone belonging to the Forest Marble Formation and White Limestone Formation respectively.

- 10.3.7 There are no known sites of geological interest, or geological conservation review sites within the Site or extended Study Area.

Agricultural land use

- 10.3.8 According to the Predictive Agricultural Land Classification (ALC) Map for England [Ref 10-4], the Site is predominantly classified as Grades 2 (very good quality agricultural land), 3a (good quality agricultural land), and 3b (moderate quality agricultural land) land, with the majority falling within 2 and 3a. A small area of land within the southernmost extent of the Site is classified as Grade 1. The surrounding area is similarly classified as Grades 2, 3a and 3b, with land confined to the nearby settlements classified as Urban.
- 10.3.9 The site-specific ALC survey, which was undertaken in May 2026, identified the limiting factors on Site to be soil wetness and droughtiness, a result of soil texture and available water capacity, as well as shallow bedrock in the north of the Site. The results of the ALC survey undertaken to date are presented in **Table 10-1**.

Table 10-1 ALC Classification

ALC Grade	Area (ha)	Percentage
Grade 1	5.3	0.57%
Grade 2	8.18	0.89%
Subgrade 3a	98.27	10.64%
Subgrade 3b	522.17	56.51%
Grade 4	188.98	20.45%
Grade 5	18.0	1.95%
Non-Agricultural	37.5	4.06%
Not surveyed (Scheduled Monuments)	45.6	4.94%
Total Site Area	924*	100%
*Scheduled monument areas excluded from assessment.		

- 10.3.10 The site-specific ALC survey identified land across the northern land parcel to be largely Grade 4 and 5, with small areas of Grade 3a and 3b.
- 10.3.11 The majority of the southern land parcel was identified as Grade 3b and 4 with areas of Grade 3a land mapped largely at the centre of the land parcel. Grade 2 land is limited to three areas, two at the northern boundary of the land parcel and one to the south of Lechlade Road. There are two areas of Grade 1 land,

at the south and north of the Site. The survey results typically found agricultural land to be of lower grade than that predicted by DEFRA mapping.

- 10.3.12 The ALC report concluded that 12.1% of the Site area (111.8ha) is classified as BMV land. BMV land is defined as Grades 1, 2 and 3a on MAFF's 1988 ALC system [Ref 10-5].
- 10.3.13 It should be noted that three additional fields in the south-east of DCO Site Boundary have yet to be surveyed at the time of writing (surveys due during October 2026). DEFRA mapping indicates these to be Grade 3a, however adjacent fields with the same classification which have already been surveyed were demonstrated to be Grade 3b. It is not anticipated that the additional survey area will substantially change the proportion of BMV land on Site.

10.4 Overview of Legislation, Policy and Guidance

Legislation

- 10.4.1 The Environment Act 2021 provides the legislative framework for environmental protection and improvement, encompassing soil health. It places a duty on the Secretary of State to establish legally binding environmental targets and develop Environmental Improvement Plans to support the conservation and enhancement of natural resources, including soils.

National Planning Policy

- 10.4.2 The following planning policies from relevant National Policy Statements (NPS) have been taken into account with regard to the assessment of soils and agricultural land:
- Overarching NPS for Energy (EN-1) (adopted 2025) including paragraphs 4.6.13, 4.7.2, 5.11.12-5.11.15 in the Land Use, Including Open Space, Green Infrastructure, and Green Belt section and 5.11.23 under mitigation [Ref 10-6];
 - NPS for Renewable Energy Infrastructure (EN-3) (adopted 2025) (Ref 6) Section 2.10 including paragraphs 2.10.21-2.10.26 and paragraph 2.10.73 [Ref 10-7];
 - NPS for Electricity Networks Infrastructure (EN-5) (adopted 2025) paragraph 2.9.26. [Ref 10-8]; and
 - The National Planning Policy Framework (NPPF). Section 15 on Conserving and enhancing the natural environment [Ref 10-9].
 - Policy N1(3) (Plan-Making) requires plans to identify and protect environmental assets and steer development towards land of least environmental value, avoiding the use of higher quality agricultural land where poorer quality is available.
 - Policy N1(1)(b) (Decision making) requires that decision makers should take account of the quality and grade of agricultural land, including BMV

land, and where significant development is necessary, use poorer quality land where possible.

Relevant Guidance

10.4.3 Relevant industry guidance includes:

- A Green Future: Our 25 Year Plan to Improve the Environment [Ref 10-10];
- Use of Best and Most Versatile (BMV) agricultural land in England by ground-mounted Solar photovoltaic installations (2026) [Ref 10-11];
- Natural England's Guide to Assessing Development Proposals on Agricultural Land 2021 [Ref 10-12];
- The Guidelines for grading the quality of agricultural land JP069 DEFRA (2025) [Ref 10-13];
- The Land Use Framework for England [Ref 10-14];
- The Institute of Environmental Management and Assessment (IEMA) (now ISEP) guidance document 'A New Perspective on Land and Soil in Environment Impact Assessment' [Ref 10-15]; and
- The ISEP guidance for Solar PV on Agricultural Land (2025) [Ref 10-16].

10.5 Assessment Methodology

- 10.5.1 This assessment broadly follows the overarching EIA Methodology set out in **Chapter 4: EIA Methodology** of this EIA Scoping Report. This section sets out the discipline-specific assessment approach, study area(s), effect significance criteria, and any assumption and limitations.
- 10.5.2 The approach to identifying and evaluating agricultural land quality, through Agricultural Land Classification (ALC) surveys, is described in the subsequent sections.
- 10.5.3 The ALC system in England and Wales is a grading system where agricultural land quality is determined by using the relevant guidance documents, including:
- Agricultural Land Classification of England and Wales – Revised guidelines and criteria for grading the quality of agricultural land [Ref 10-13];
 - Natural England Technical Information Note TIN037 - Soil Texture. [Ref 10-17];
 - Natural England Technical Information Note TIN049 - Agricultural Land Classification: protecting the best and most versatile (BMV) agricultural land. [Ref 10-18];
 - Soil Survey Field Handbook [Ref 10-19].
- 10.5.4 The ALC entails a detailed survey to gather data on the physical features of the soils, as well as a comprehensive assessment of desktop data to gather relevant information on the Site to accurately assess the limitations to cultivation of the Site and, as such, assign an ALC grade.
- 10.5.5 The following factors are considered in the ALC process, with the most limiting factor contributing to the final grading of the Site:

- Climate
- Flooding
- Topography/Microrelief
- Soil Depth
- Stone Content
- Soil Wetness
- Soil Droughtiness

10.5.6 The ALC survey leads developers to recognise the presence of Best and Most Versatile (BMV) agricultural land, which equates to ALC Grades 1, 2 & 3a (as defined in NPPF Annex 2), with the preference for development on lower quality agricultural land, which equates to ALC Grades 3b, 4 and 5. These grades are described as follows:

- **Grade 1:** Excellent quality agricultural land. No or very minor limitations to agricultural use.
- **Grade 2:** Very good quality agricultural land Minor limitation which affect crop yield, cultivation or harvesting
- **Grade 3a:** Good quality agricultural land. Capable of producing moderate to high yields of a narrow range of arable crops or moderate yields of a wider range of crops.
- **Grade 3b:** Moderate quality agricultural land. Capable of producing moderate yields of a narrow range of arable crops and/or lower yields of a wider range of crops.
- **Grade 4:** Poor quality agricultural land. Severe limitations which significantly restrict the range of crops and/or levels of yield.
- **Grade 5:** Very poor quality agricultural land. Very severe limitations which restrict use to permanent pasture or rough grazing.

Relevant Receptors

10.5.7 The following receptors have been considered in assessing the effects of the Proposed Development on soil and agriculture:

- Agricultural land and land use including the loss of BMV land; and
- Soil resources in the context of changes to quality associated with potential disturbance/damage or improvement through changes in land management.

Significance Criteria

10.5.8 The assessment will be undertaken in consideration of ISEP's guidance document 'A New Perspective on Land and Soil in Environmental Impact Assessment' and professional judgement. Natural England technical advice notes, together with National Planning Policy, will form the basis of the definitions for the impacts and the significance of impacts on agriculture and soils as a result of the proposed development. and professional judgement

10.5.9 The assessment of effects on agricultural land and soil resources will be undertaken through consideration of the sensitivity of the receptor and the

magnitude of the impact arising from the Proposed Development, in accordance with recognised methodology.

- 10.5.10 Significance is assessed as a function of the sensitivity of the receptor (agricultural land and soil resource) and the magnitude of the potential impact upon it

Agricultural Land

- 10.5.11 Based on ISEP guidance, the methodology for determining the sensitivity of the agricultural land receptors is determined using the criteria set out in **Table 10-2** Table 10-2 Sensitivity of receptor: Agricultural land and professional judgement

Table 10-2 Sensitivity of receptor: Agricultural land

SENSITIVITY	AGRICULTURAL LAND CLASSIFICATION
Very High	ALC Grades 1 and 2
High	ALC Grade 3a
Medium	ALC Grade 3b
Low	ALC Grade 4 and 5

- 10.5.12 The magnitude of change for the agricultural land receptors is determined using the criteria in
- 10.5.13 Table 10-3. The ISEP guidelines provide threshold areas for permanent loss or effects, i.e. permanent sealing of land or quality downgrading. Long-term temporary developments can result in a permanent impact if resulting disturbance of land use change causes permanent damage to soils.

Table 10-3 Magnitude of change for the agricultural land

MAGNITUDE OF CHANGE	AGRICULTURAL LAND
High	Permanent loss of over 20ha of agricultural land.
Medium	Permanent loss of over 5 to 20ha of agricultural land.
Low	Permanent loss of less than 5ha of agricultural land.
Negligible	No discernible loss of agricultural land.

Soil Resource

- 10.5.14** The ISEP Guidance recognises that soils vary in their vulnerability when handled or disturbed. This is reflected in the sensitivity of the soil resource receptors is determined using the criteria set out in **Table 10-4**.

Table 10-4 Sensitivity of receptor: Soils

SENSITIVITY	SOIL RESOURCE
Very High	Disturbance of heavy textured soils in plastic conditions.

SENSITIVITY	SOIL RESOURCE
High	Disturbance of medium textured soils in plastic conditions.
Medium	Disturbance of medium textured soils in friable conditions.
Low	Disturbance of light textured soils in friable conditions.

- 10.5.15 The sensitivity and magnitude criteria in relation to soil resource considers to soil disturbances from the Proposed Development such as the stripping, storage and respreading of soil, and compaction/degradation from the passage of plant. The magnitude of change for the soil resource receptors is determined using the criteria in **Table 10-5**.

Table 10-5 Magnitude of change for the soil resource

MAGNITUDE OF CHANGE	AGRICULTURAL LAND
High	Total loss of topsoil or topsoil function.
Medium	Reduction of topsoil function for agricultural use but may retain function for reuse on site.
Low	Loss of subsoil function for agricultural use but may retain function for reuse on site.
Negligible	Marginal to no impact on soil function on site.

Determining the level of effect

- 10.5.16 The overall degree of effects, detailed in **Table 10-6**, is determined considering sensitivity and magnitude as set out above.

Table 10-6 Level of Effect Matrix

SENSITIVITY	MAGNITUDE OF IMPACT			
	High	Medium	Low	Negligible
Very High	Major	Major*/Moderate	Moderate	Minor
High	Major	Major*/Moderate	Minor	Minor
Medium	Moderate	Minor	Minor	Minor
Low	Minor	Minor	Negligible	Negligible

**Where the total of grades 1, 2 and 3a is 20ha or more*

Agricultural Food Production

- 10.5.17 Crop selection and food production are not within the scope of this assessment. However, consideration has been given to the wider context of agricultural land use and national food security. The DEFRA UK Food Security Report 2024 [Ref 10-20] notes that, with continued improvements in agricultural productivity and favourable market conditions, food production levels could be maintained or moderately increased alongside the land use changes required to meet the UK's Net Zero targets and commitments under the Environment Act 2021.
- 10.5.18 The proportion of agricultural land currently occupied by solar development is limited. In 2024, approximately 3,683 ha of land in England was utilised for solar photovoltaic (PV) development, representing around 0.04% of England's total utilised agricultural area. Solar Energy UK [Ref 10-21] reports that solar farms currently occupy less than 0.1% of the UK's land area. Based on industry projections, achieving 90 GW of solar capacity by 2050 would require an additional 60 GW of ground-mounted solar development. Under this scenario, it is estimated that approximately 1% of the UK's 9 million hectares of utilised agricultural land would be occupied by solar development by 2050.
- 10.5.19 Agricultural output is inherently variable and is influenced by a range of factors, including climatic conditions, market drivers, technological advances, and improvements in crop varieties and farming practices. Annual variations in agricultural productivity are typically greater than 1%. In this context, the evidence indicates that food production can be maintained, and potentially increased, alongside the anticipated land use changes associated with solar deployment. Accordingly, no likely significant effects on food production have been identified, and no further assessment is considered necessary within the EIA.

Assessment of Cumulative Effects

- 10.5.20 The methodology for the assessment of cumulative effects is set out within **Chapter 5: Cumulative Effects Assessment** of this EIA Scoping Report. The developments identified as having potential to give rise to cumulative effects in conjunction with the Proposed Development will be considered within the Assessment of Cumulative Effects chapter of the ES.

The assessment of cumulative effects will be made in the context of other solar NSIPs in the county.

Assumptions and Limitations

- 10.5.21 Information used in this assessment is based on published information, and Agricultural Land Classification Report (**Appendix 10-1**). It is considered that there is sufficient information to enable an informed decision to be taken in relation to the identification and assessment of likely significant environmental effects on soils and agriculture.

- 10.5.22 It is assumed that all soil resources will be retained on-site and not exported for reuse elsewhere.
- 10.5.23 At the time of writing the scoping report, three fields at the south-east of the Site are yet to be surveyed for ALC assessment.

10.6 Potential Impacts

- 10.6.1 The following section indicates the potential effects in relation to soils and agriculture associated with the Proposed Development during the Construction, Operation (and maintenance) and Decommissioning Phase.

Construction and Decommissioning

- 10.6.2 During the construction and Decommissioning Phases, the following construction activities have the potential to cause soil disturbance, resulting in potential damage to soil resources:
- Earthworks and site clearance activities associated with construction and decommissioning;
 - Topsoil stripping, trenching, stockpiling of excavated material during construction;
 - Piling and erection of Solar PV Array support infrastructure;
 - Construction and subsequent remove of temporary compounds or laydown areas;
 - Excavation and foundation construction for Main and Collector Substations, Power Conversion Units (PCUs) and BESS units;
 - Cable installation;
 - Trenchless installation of Underground Cabling beneath or adjacent to watercourses;
 - Construction of Access Tracks and drainage infrastructure;
 - Removal of the equipment above 1.2m below ground level to facilitate decommissioning; and
 - Vehicle movements resulting from construction and decommissioning.
- 10.6.3 The construction and decommissioning activities above have the potential to cause the following effects on soil function and quality:
- Changes in soil quality/fertility;
 - Damage to soil structure through compaction;
 - Mixing of distinctive soil horizons and/or soil types; and
 - Damage to the function of soil in regards to ecosystem services.
- 10.6.4 There also is potential for short-term and long-term temporary loss of BMV agricultural land to occur, subject to the final layout of the Proposed Development. Initial findings of the intrusive site survey suggest that over 100ha of the site is BMV agricultural land, comprising ALC Grades 1, 2 and 3a.

Operational Phase

- 10.6.5 During the Operational (and maintenance) Phase, the following activities have the potential to result in damage to soil resources:
- Ad hoc maintenance activities such as repair or replacement of panels, inverters or BESS and landscape maintenance activities may result in localised disturbance of soils and/or temporary removal of vegetation; and
 - Land take from the BESS Compound, Main Substation, Collector Substation, and PCUs would result in the long-term loss of BMV agricultural land if located within such areas.
- 10.6.6 The Proposed Development, throughout operation, would continue to experience a temporary land-use change from agricultural to non-agricultural where the BESS Compound, Main Substation, Collector Substation and PCUs are located until decommissioning.
- 10.6.7 Across remaining area of the Site, permanent vegetation cover would be established, i.e. the land underneath and surrounding the Solar PV Mounting Structures.

Mitigation and Design

- 10.6.8 The BESS Compound, Main Substation, Collector Substation and PCUs will require soil excavation to establish foundations within the Construction Phase. The Solar PV Mounting Structures are piled and do not require prior soil removal.
- 10.6.9 Where possible, embedded mitigation measures to avoid or minimise soil damage including the siting and micro-siting of the Main Substation, Collector Substation, BESS or PCUs in areas assessed to be of a lower agricultural grade and/or making specific commitments in relation to how the Proposed Development shall be constructed. For example, the installation of cabling within the Site would be below the depth of agricultural cultivation, with soils reinstated in alignment with the OSMF, such that ploughing and arable farming would still be possible following reinstatement of the land.
- 10.6.10 An Outline Soil Management Plan (OSMP), Outline Construction Environmental Management Plan (OCEMP) and Outline Decommissioning Environmental Management Plan (ODEMP) will be established for the Proposed Development. These documents will set out measures to avoid or minimise damage to soils and agricultural land during the construction and Decommissioning Phases, resulting in land retaining its original quality and BMV status. Such measures will include:
- 10.6.11 Maintaining both physical and chemical soil conditions such as texture, structure, drainage, pH, nutrient levels, and organic matter throughout the construction and Operational Phases of the Proposed Development. The SMP seeks to uphold soil functionality by establishing methods for assessing

baseline conditions, mapping soil types, and managing soil handling in line with best practices

- 10.6.12 Soil handling and storage on the site will be undertaken in accordance with the 2009 DEFRA construction code guidance [Ref 10-22], highlighting the importance of handling soils in dry conditions to prevent compaction and structural damage. The operational requirements of such handling involve strategic planning around weather and soil moisture to guide the timing of soil handling and vehicular traffic. These measures may include monitoring soil wetness, particularly to avoid working soils at or above their plastic limits and employing temporary haul roads to reduce direct impact. Recommendations will also be made for managing drainage, preventing erosion and contamination, and reducing biosecurity risks during site activities.
- 10.6.13 The safe handling and storage of soil resources on the site will also allow for the resource to be provide ecosystem services including drainage and carbon sequestration throughout the Operational Phase.
- 10.6.14 Mitigation measures relevant to Soils and Agriculture are also included in **Appendix 3-1: Commitments Register**.

10.7 Proposed Scope

Construction and Decommissioning Phase

- 10.7.1 Construction of the Proposed Development would require the temporary disturbance of agricultural land including 111.8ha of BMV land, for the installation of Solar PV Arrays, Main and Collector Substations, Access Tracks and other ancillary infrastructure. This includes temporary soil stripping and handling in localised areas as well as trafficking by vehicles.
- 10.7.2 BMV land is considered to be a limited national resource and potential impacts to soil quality should be minimised. Impacts to agricultural land during construction of the Proposed Development would be short-term and temporary and cannot be avoided, however measures will be taken to avoid or minimise impacts where possible.
- 10.7.3 The majority of the Proposed Development area will comprise piled solar arrays, which cause minimal localised disturbance to the soil profile. Where required, disturbance will be managed through best practice construction methods, detailed in the OCEMP, OSMP and ODEMP.
- 10.7.4 Cable installation will result in the temporary disturbance of agricultural land; however, soils will be reinstated immediately following installation, in line with a site-specific SMP. This will ensure soil resources are appropriately stripped, handled, stored and reinstated, allowing land to return to its existing agricultural use following construction.
- 10.7.5 Decommissioning of the Proposed Development would include the removal of all above ground infrastructure including Solar PV Panels and Mounting Structures, the Main Substation, Collector Substation, PCUs, BESS, buildings

and fencing. Temporary disturbance would therefore occur as plant and vehicles access the Site and infrastructure is removed. Potential impacts will be managed through measures set out in an ODEMP and OSMP. Below ground components of the Proposed Development, i.e. electrical cables, may be left in situ, but at a depth below that of agricultural cultivation (greater than 1.2m below ground level), such that arable farming is still possible and no permanent effects on agricultural land would occur.

- 10.7.6 Agricultural land and soils would be restored in accordance with the agreed ODEMP and OSMP. The restoration would result in a beneficial impact through the reinstatement of land to agricultural use and the removal of the long-term restriction on agricultural availability.
- 10.7.7 Potential impacts to agricultural land and soil resource during the Construction and Decommissioning Phase is scoped in for further assessment.

Operational Phase

- 10.7.8 Soil resources beneath and between the Solar PV Arrays which will occupy the majority of the Site, will remain in-situ and would be capable of restoration to agricultural use following decommissioning. The retention of existing grass cover and the establishment of permanent grassland beneath and around the Solar PV Arrays would reduce the potential for soil erosion within the Site. Ground cover would be maintained throughout the Operational Phase, with any areas of exposed soil re-seeded, where reasonably practicable.
- 10.7.9 In addition, the temporary and reversible change in land-use has the potential to deliver beneficial effects to the soil resource and soil quality, allowing it to recover from many years of intense agricultural rotation which, upon restoration, would result in betterment. The Site could continue to be used for grazing.
- 10.7.10 As such, once construction is complete, the temporary loss of agricultural land and any residual change in soil function will already have occurred; the Operational Phase would not introduce any additional impact pathway beyond the continuation of the final land use associated with the operation of the Proposed Development. Accordingly, it is assumed that no separate operational-phase effects on agricultural land classification or soil resources are anticipated.
- 10.7.11 Potential impacts to agricultural land and soil resource during the Operation Phase is therefore scoped out of further assessment.

10.8 Consultation

- 10.8.1 Consultation in relation to the assessment of soils and agricultures has not yet taken place.
- 10.8.2 As the Site exceeds 20ha of BMV land, Natural England, as statutory consultee, will be consulted on the ALC survey results to inform the scope of assessment.

10.9 Summary of Matters Scoped In and Out

Table 10-7 Summary of Assessment Scope

ASPECT/ MATTER	CONSTRUCTION	OPERATION	DECOMMISSIONING
Impacts to Agricultural land and soil quality	Scoped In	Scoped out	Scoped In

10.10 References

- Ref 10-1 UK Soil Observatory (2026). UKSO Map Viewer. Available at: <https://mapapps2.bgs.ac.uk/ukso/home.html>
- Ref 10-2 Soil Survey of England and Wales (1984). Soils and their use in south east England.
- Ref 10-3 British Geological Society. (2026). GeoIndex Onshore. Retrieved from BGS: <https://mapapps2.bgs.ac.uk/geoindex/home.html>
- Ref 10-4 DEFRA (2026). Predictive Agricultural Land Classification Map for England [Internet]. Available at: <https://environment.data.gov.uk/dataset/a817d96f-271d-487b-89ad-48d271f931aa> (Accessed: 01 Sept 2026).
- Ref 10-5 MAFF (1988). Agricultural Land Classification of England and Wales – Revised Guidelines and Criteria for Grading the Quality of Agricultural Land.
- Ref 10-6 Department for Energy Security and Net Zero (2026). Overarching National Policy Statement for energy (EN-1), 2025.
- Ref 10-7 Department for Energy Security and Net Zero (2026). National Policy Statement for renewable energy infrastructure (EN-3), 2025.
- Ref 10-8 Department for Energy Security and Net Zero (2026). National Policy Statement for electricity networks infrastructure (EN-5), 2025.
- Ref 10-9 Ministry of Housing, Communities and Local Government (2026). National Planning Policy Framework.
- Ref 10-10 HM Government (2018). A Green Future: Our 25 Year Plan to Improve the Environment.
- Ref 10-11 SolarQ (2026). Use of Best and Most Versatile (BMV) agricultural land in England by ground-mounted Solar photovoltaic installations.
- Ref 10-12 Natural England (2026). Guide to assessing development proposals on agricultural land.
- Ref 10-13 DEFRA (2025). Agricultural Land Classification of England and Wales: Guidelines for grading the quality of agricultural land.

- Ref 10-14 HM Government (2026). The Land Use Framework for England.
- Ref 10-15 Institute of Environmental Management & Assessment (IEMA) (2022). A New Perspective on Land and Soil in Environmental Impact Assessment.
- Ref 10-16 Institute of Sustainability & Environmental Professionals (ISEP) (2025). New ISEP advice note: Protecting agricultural land while powering the future.
- Ref 10-17 Natural England (2008). Natural England Technical Information Note TIN037: Soil texture.
- Ref 10-18 Natural England (2012). Natural England Technical Information Note TIN049: Agricultural Land Classification: protecting the best and most versatile agricultural land.
- Ref 10-19 Hodgson, J. M. (1975). Soil Survey Field Handbook.
- Ref 10-20 DEFRA (2024). United Kingdom Food Security Report 2024.
- Ref 10-21 SEP (2025). Solar PV on Agricultural Land: Essential Components of Environmental Assessments and Reports.
- Ref 10-22 DEFRA (2009). Construction Code of Practice for the Sustainable Use of Soils on Construction Sites.

11. NOISE AND VIBRATION

11.1 Introduction

- 11.1.1 This chapter sets out the scope and methodology for the assessment of likely significant effects arising from the Proposed Development on receptors sensitive to noise and vibration during construction, operation (and maintenance) and decommissioning.
- 11.1.2 During the construction and decommissioning of the Proposed Development, noise and vibration could arise from construction traffic and construction related activities. These activities tend to be temporary and varied in nature and noise level, and the assessment of these effects will therefore focus on understanding the need for dedicated management measures and, if necessary, mitigation measures.
- 11.1.3 During the operational (and maintenance) of the Proposed Development, the primary potential noise source is associated with electrical and mechanical plant located within the Site. The assessment of these effects will consider the potential noise in terms of level and character, against the context of the baseline environment. If the assessment suggests that significant operational noise effects may occur, then design and physical mitigation measures will be set out to address them.
- 11.1.4 This chapter is supported by the following figure:
- **Figure 11-1: Noise Study Area and Sensitive Receptors**

11.2 Study Area

- 11.2.1 The study area for operational noise effects has been identified based on a conservative worst-case scenario in terms of effects and has considered noise-sensitive receptors within approximately 1km of the DCO Site Boundary. Operational noise emissions from solar developments are generally limited and, based on experience of similar recent developments, significant impacts are unlikely beyond a distance of 500m. However, as the Proposed Development will also include a Main and Collector Substation and BESS infrastructure which typically have higher noise emissions, an increased radius of approximately 1km will form the Study Area when considering operational noise. Fields 1-10 to the north-west will be used for mitigation and enhancement purposes only and will not include any operational equipment (see **Figure 2-2: Site Context**). As such, these are not included within the Study Area.
- 11.2.2 Similarly, construction and decommissioning noise impacts are anticipated to be localised within approximately 500m of the Site, as significant impacts are unlikely beyond this distance. In some limited instances, however, impacts may extend further, in cases of night-time work for example. Therefore, the as with

the Operational Phase, a Study Area of approximately 1km from the DCO Site Boundary will also be used when assessing construction and decommissioning effects.

- 11.2.3 Vibration impacts, mainly associated with the construction and Decommissioning Phases, tend to be more localised and will likely be limited to a smaller area within approximately 100m of the Site. Therefore, the wider Study Area will also encompass the area required for the study of vibration impacts.
- 11.2.4 Noise sensitive receptors located along the traffic route used for construction (once defined) will also be considered. As this assessment will be undertaken on a relative change basis, noise-sensitive receptors located along the route will be considered on a general basis rather than within a specific distance from the route.

11.3 Baseline Conditions

- 11.3.1 The Site is located in a predominately rural area of generally low population density, comprising mostly of agricultural fields except for neighbouring settlements of Eastleach to the north-west, Broughton Poggs and Langford to the north, Little Clanfield to the east, Kelmscott to the south, and Lechlade on Thames and Little Farringdon to the west. Potential noise-sensitive receptors, which mainly comprise residential receptors, are located within these settlements or as more isolated properties or farms nearby to the Site.
- 11.3.2 The nearest locations representative of noise-sensitive residential receptors within the study area are illustrated on **Figure 11-1** in relation to this chapter. As mentioned above, the land parcel to the north-west (Fields 1-10) is not anticipated to contain any operational plant, PV Arrays, or infrastructure and therefore will not be subject to the associated construction activities. Therefore, noise effects (operational or construction) are not expected to arise from the northern land parcel and are not considered further in this assessment.
- 11.3.3 Some public rights of way (PRoW) are also located close to or passing through the extents of the Site. For properties or PRoW located along the A361 or in more populated settlements, traffic noise will influence the noise environment. Noise from some rural commercial and industrial sources may also be an influence in areas such as the Little Clanfield Mill Estate on Mill Lane. In other cases, the background noise environment will be influenced by natural sources such as wind-disturbed vegetation and birds, as well as localised activities such as farming operations.
- 11.3.4 A noise survey has not been undertaken at this stage; however, a baseline noise survey will be undertaken as part of the noise assessment.

Desk and Field Survey Methods

- 11.3.5 A desktop review has been undertaken using available mapping of the potential noise-sensitive receptors in the Study Area, which will be supported by the

consultation set out in **Section 11.8**. The desk study will also identify any available relevant baseline noise monitoring undertaken in the area, for example to support the assessment of recent neighbouring commercial or industrial developments.

- 11.3.6 A baseline noise survey will be undertaken at locations representative of the noise-sensitive receptors identified within the Study Area, to quantify in further detail the baseline noise environment for receptors closest to the Site. The survey will also include the acquisition of supporting non-acoustic data such as rainfall during the survey period. The survey and analysis will be undertaken in accordance with the guidance of BS 4142:2014+A1:2019 “*Methods for rating and assessing industrial and commercial sound*” (BS 4142) [Ref 11-1].
- 11.3.7 It is not considered necessary to undertake a survey of baseline noise or vibration levels for quantifying the effects of noise and vibration associated with the construction and decommissioning of the Proposed Development. This is because the assessment of construction and Decommissioning Phase noise effects of the Proposed Development will mainly be based on fixed thresholds, derived from the guidance outlined in **paragraph 11.4.4**, on the basis of the rural nature of most of the land within the Study Area.
- 11.3.8 Background noise level measurements are proposed to be carried out in late 2026 at a representative range of locations to be agreed in consultation with the Environmental Health (EH) department of West Oxfordshire District Council (WODC). It is proposed to combine long-term and short-term attended supplementary measurements.
- 11.3.9 Noise level predictions from plant and equipment are to be carried out based on representative noise source data provided by the relevant manufacturers. These predictions will be made using the methodology outlined in ISO 9613-2 ‘*Acoustics – Attenuation of sound during propagation outdoors – Part 2: General method of calculation*’ [Ref 11-2].

11.4 Overview of Legislation, Policy, and Guidance

- 11.4.1 The below legislation, policy and guidance have been taken into consideration in order to establish the proposed approach to the assessment of noise and vibration.

Legislation

- The Environmental Protection Act 1990 [Ref 11-3] defines the powers for local authorities to investigate and control statutory nuisance from noise. Local authorities also have powers under the Control of Pollution Act [Ref 11-4] to control noise and vibration from construction activities. Notwithstanding these powers, the aim of the planning system is to minimise and control (where required) noise and vibration levels associated with the Proposed Development.
- The Planning Act 2008 [Ref 11-5] confers statutory authority unless there is a provision in a granted DCO to the contrary.

National Planning Policy

- The Overarching National Policy Statement (NPS) for Energy (EN-1) [Ref 11-6] recognises that noise and vibration from energy development can have impacts on the quality of human life as well as on wildlife in some cases. These documents outline general principles for the control and management of these impacts and relevant factors and standards to consider but do not provide specific guidance.
- The NPS for Renewable Energy Infrastructure (EN-3) [Ref 11-7] specifically considers solar photovoltaic generation and recognises that the government is supportive of solar that is co-located with energy storage to maximise the efficiency of land use. It also includes construction (including traffic and transport noise and vibration) as a specific factor to consider. Construction including traffic and transport noise and vibration in solar projects is addressed in paragraphs 2.10.120 to 2.10.126, 2.10.139 to 2.10.144, and 2.10.161 to 2.10.162 of the policy.
- The NPS for Electricity Networks Infrastructure (EN-5) [Ref 11-8] sets out specific considerations which apply to electricity network infrastructure. NPS EN-5 notes the potential for high voltage transmission lines in certain conditions, substation equipment such as transformers and other voltage regulation equipment to produce noise.
- The Noise Policy Statement for England (NPSE) [Ref 11-9] and National Planning Policy Framework (NPPF) [Ref 11-10] include general planning guidance on noise and introduces the principles of adverse noise effects (which should be mitigated and reduced to a minimum) and significant adverse noise effects (which should be avoided). The NPPF also notes to *'Mitigate and reduce to a minimum potential adverse impacts resulting from noise, not result in levels of noise exposure which would have a significant observed adverse effect, and maintain the character of tranquil areas (those areas that have remained relatively undisturbed by noise from human sources and are prized for their recreational and amenity value for this reason)'*.
- The National Planning Practice Guidance (NPPG) on noise [Ref 11-11] provides more detailed information on the relevance of noise to the planning process and on defining effect thresholds.

Local Planning Policy

- 11.4.2 The West Oxfordshire District Council Local Plan (adopted September 2018) [Ref 11-12] comprises various documents and policies are used in addressing planning applications within the district, two of which are relevant to the scope of this assessment:
- Policy EH6 (Decentralised and renewable or low carbon energy development); and
 - Policy EH8 (Environmental protection)

11.4.3 The strategy for the protection of the noise environment is laid out in the above policies; the key points of which are summarised as follows:

- with regards to low carbon/renewable energy generation sources, Policy EH6 (Decentralised and renewable or low carbon energy development) of the Local Plan considers solar amongst other sources, and the need for these developments to consider effects on residential amenity including noise; and
- the Local Plan highlights the need for considering sources of pollution (including noise) from new developments and minimise or avoid significant impacts on amenity within Policy EH8 (Environmental protection).

Relevant Industry Guidance

11.4.4 The British Standards (BSI) Institution, Highways England and the International Organisation for Standardisation (ISO) have published a suite of professional guidance of relevance to the scope of this assessment, summarised as:

- BS 5228:2009-A1:2014 '*Code of practice for noise and vibration control on construction and open sites – Part 1: Noise and Part 2: Vibration*' [Ref 11-13] provides guidance on a range of considerations relating to construction noise and vibration including general control measures, estimating likely levels and example criteria
- The Design Manual for Roads and Bridges (DMRB) '*LA111 – Noise and Vibration*'. [Ref 11-14] provides a methodology for assessing the impacts of noise and vibration associated with road traffic, both on a long- and short-term basis
- BS 4142 [Ref 11-1] provides an objective method for rating the likelihood of complaint from industrial and commercial operations. It also describes the means of determining noise levels from fixed plant installations and determining the background noise levels that prevail on a site. Current Government advice to local planning authorities in England refers to BS 4142 as being the appropriate guidance for assessing commercial operations and fixed building services plant noise. The standard also provides guidance on undertaking baseline noise surveys including consideration of suitable equipment, weather condition and other factors such that this survey can be representative of the noise climate generally experienced by the residential receptors considered; and
- Operational noise and its propagation will be modelled using the standard methodology set out in ISO 9613-2 [Ref 11-2].

11.4.5 The assessment of likely significant effects during the construction, operation (and maintenance) and decommissioning of the Proposed Development will be undertaken using relevant guidance in British Standards and other guidance documents.

11.5 Assessment Methodology

- 11.5.1 This assessment broadly follows the overarching EIA Methodology set out in **Chapter 4: EIA Methodology** of this EIA Scoping Report. This section sets out the discipline-specific assessment approach, effect significance criteria, and any assumption and limitations.

Assessment Approach

- 11.5.2 Construction activities can generate noise as well as localised vibration. These activities tend to be temporary and varied in nature and noise level, and the assessment will therefore focus on understanding the need for dedicated management measures and, if necessary, mitigation measures. Traffic associated with the Construction Phase may also increase traffic noise for receptors.
- 11.5.3 BS 5228 provides guidance on a range of considerations relating to construction noise and vibration including general control measures, estimating likely levels and example criteria. Predictions of construction noise levels will be made referencing typical activity emission levels and likely variations in noise levels at surrounding receptor locations, using the prediction methodology and source data for various construction plant and activities set out in BS 5228-1. Similarly, prediction of construction vibration associated with certain activities known to generate potentially perceptible levels of ground-borne vibration, such as ground compaction will be undertaken using guidance in BS 5228-2, also on a reasonable worst-case basis.
- 11.5.4 The assessment of construction noise and vibration will identify if and when predicted noise levels may be above standard guideline limits, taking into account the character of the area, as well as the potential duration and nature of the different activities.
- 11.5.5 Construction traffic noise will be assessed against relevant baseline levels on access routes using the methodology of '*Calculation of Road Traffic Noise*' (CRTN) [Ref 11-15], in cases where potentially large increase in traffic flows (and/or percentage of heavy vehicles) are predicted. Associated effects would be assessed in line with the guidance in DMRB, in addition to guidance in BS 5228, where relevant.
- 11.5.6 Operational noise from mechanical and electrical equipment associated with the Proposed Development could also affect neighbouring sensitive receptors.
- 11.5.7 BS 4142 provides an objective method for rating the likelihood of complaint from industrial and commercial operations. It also describes the means of determining noise levels from fixed plant installations and determining the background noise levels that prevail on a site.
- 11.5.8 The potential operational noise generated by the Proposed Development will be predicted based on typical noise emission levels using indicative manufacturer's noise emission datasheets and experience of similar

developments. Predicted noise levels at the nearest receptors will be assessed against relevant baseline noise levels in accordance with the methodology of BS 4142. Predictions will consider the potential tonal (“hum”) character of the noise, by applying a suitable penalty. The resulting ‘rating’ noise level predictions will be compared to representative background noise level measurements in the area, taking into account relevant contextual factors, in order to estimate the potential for adverse noise impacts and any mitigation necessary if required.

Significance Criteria

Receptor Sensitivity

- 11.5.9 In accordance with the principles of EIA, the sensitivity of receptors to noise or vibration impacts during Construction, Operation (and maintenance) or Decommissioning Phases have been defined. General guidance on sensitivity of receptors to noise and vibration is set out below in **Table 11-1**.

Table 11-1 - Sensitivity of Receptor

SENSITIVITY	DESCRIPTION	EXAMPLES OF RECEPTOR USAGE
High	Receptors where people or operations are particularly susceptible to noise or vibration.	Residential Schools/educational facilities in the daytime Hospitals/residential care homes Libraries Ecologically sensitive areas, for example Special Protection Areas (SPAs)
Medium	Receptors moderately sensitivity to noise or vibration where it may cause some distraction or disturbance	Public rights of way Offices Restaurants Sports grounds when spectator or noise is not a normal part of the event and where quiet conditions are necessary (e.g. tennis, golf)
Low	Receptors where distraction or disturbance of people from noise or vibration is minimal	Residences and other buildings not occupied during working hours Factories and working environments with existing high noise levels Sports grounds when spectator or noise is a normal part of the event.

- 11.5.10 The assessment will consider noise-sensitive residential receptors within the Study Area, which are considered highly sensitive to noise. An initial representative selection of receptors identified to date are shown in **Figure 11-1**.

- 11.5.11 Users of PRow within the Study Area would experience noise or vibration from the Proposed Development on a transient basis. Given this and the recreational nature of the use of these paths, these would not necessarily be considered in noise and vibration assessments. However, it is proposed to consider PRow in this instance in order to provide a precautionary assessment. For the reasons discussed above, they are considered to have a medium sensitivity to noise and vibration.
- 11.5.12 Receptors of low sensitivity, such as industrial and some commercial facilities, are proposed to be discounted from the analysis as significant effects are unlikely.

Magnitude of Impact

- 11.5.13 The magnitude of impact will be defined on the basis of the principles set out in the NPSE and NPPG guidance: this will be determined using thresholds of Lowest Observed Adverse Effect Level (LOAEL) and Significant Observed Adverse Effect Level (SOAEL). These thresholds will be based on the above-referenced guidance documents and measured baseline levels and will be defined in more detail at the assessment stage.
- 11.5.14 The sensitivity of the receptor and the magnitude of impact will both be used to determine the overall level of effect. The resulting significance of effects matrix for the assessment of noise impacts is set out in **Table 11-2**. Receptors of low sensitivity are unlikely to be associated with significant effects and are therefore not proposed to be included in the assessment.
- 11.5.15 Moderate or Major levels of effect are considered to be significant and mitigation will be considered where these effects are identified. Minor or Negligible effects are not considered significant, but enhancement measures will be considered to minimise the effects, where practicable.

Table 11-2 - Significance of potential effects

MAGNITUDE OF IMPACT	SENSITIVITY OF RECEPTOR	
	MEDIUM	HIGH
High	Moderate (Significant)	Major (Significant)
Medium	Minor (Not Significant)	Moderate (Significant)
Low	Minor (Not Significant)	Minor (Not Significant)
Negligible	Negligible (Not Significant)	Negligible (Not Significant)

Assessment of Cumulative Effects

- 11.5.16 The methodology for the assessment of cumulative effects is set out within **Chapter 5: Cumulative Effects Assessment** of this EIA Scoping Report. There is the potential for Noise and Vibration effects as a result of the Proposed Development to be experienced cumulatively with other nearby developments. The developments identified as having potential to give rise to cumulative effects in conjunction with the Proposed Development will be considered within

the Cumulative Effects Assessment chapter of the Environmental Statement (ES).

In-Combination Effects

- 11.5.17 Effect interactions between topics (in-combination effects) will also be detailed within the Cumulative Effects Assessment chapter of the ES, setting out the inter-relationship arising as a result of direct effects from other environmental topics. The effects concluded in the Noise and Vibration ES chapter will be considered in the preparation of this chapter, determining whether there are multiple effects from different topics on a shared receptor and explain what mitigation measures are proposed, and how such mitigation may have an in-combination effect across several topics.

Assumptions and Limitations

- 11.5.18 Electrical plant associated with energy generation will likely be distributed throughout the Site. As the exact equipment to be used and its location is not yet determined at this early stage, the assessment will consider different technology approaches which may be used, such as central or string inverter options, based on representative manufacturer noise emission data. The assessment will be based on a worst-case assumption that a centralised inverter approach is likely to be used as this will result in the highest potential noise levels.
- 11.5.19 Noise modelling will also be undertaken on a conservative basis which will not account for the screening from the PV Modules themselves. In addition, the body of the plant or machines themselves can shield noise propagation in practice, however, this will be discounted in this instance to present a conservative worst-case assessment in the absence of detailed information on their dimensions and layout.
- 11.5.20 For the construction and decommissioning works, in the absence of further details at this stage, reasonable worst-case working locations will be considered, and typical noise emissions of construction plant items will be referenced from BS 5228-1. These will be used to predict the average sound pressure level for the daily construction working period over different phases of construction for nearest respective receptors.
- 11.5.21 The Proposed Development will include different items of electrical plant, some of which are likely to have associated cooling equipment. As the final plant specification and approach is not known at this stage, an assessment of potential noise emissions will be based on an indicative plant layout and specification.

11.6 Potential Impacts

- 11.6.1 During the Construction and Decommissioning Phases of the Proposed Development, there is potential for noise impacts associated with construction

traffic vehicles, as well as noise and vibration from different construction activities, in particular piling of Solar PV Mounting Structures and/or employing trenchless methodologies for installation of Underground Cabling during the Construction Phase. Furthermore, during the Operational Phase of the Proposed Development there is potential for operational noise impacts from equipment and plant associated with the Site, BESS and Main and Collector Substations, as well as the replacement and upgrading of equipment such as PV Arrays and BESS, when required.

Construction Phase

Construction Traffic Noise

- 11.6.2 The traffic associated with the construction of the Proposed Development, in particular large heavy goods vehicles (HGVs), has the potential to create significant levels of traffic noise for some receptors that are not typically exposed to traffic-related noise, or those that may experience increases in traffic noise levels due to their location alongside existing roads.
- 11.6.3 For roads that already include moderate to high traffic levels, the potential for noticeable or significant noise effects due to changes in traffic flow associated with the construction or decommissioning would require large increases of 30% or more in the baseline traffic levels (overall or HGV only), which is considered unlikely for most A or B roads. This is based on guidance from the Institute of Environmental Management and Assessment [Ref 11-16].
- 11.6.4 For unclassified roads that currently include more limited levels of traffic, a traffic increase due to construction may be more noticeable, though absolute noise levels will also be considered. Construction traffic noise will be assessed using the guidance set out in the DMRB and BS 5228, taking into account the temporary nature of the traffic increase.
- 11.6.5 Where likely significant effects are identified, suitable additional mitigation and management measures may be recorded within and implemented through an Outline Construction Traffic Management Plan (OCTMP).

Construction Noise and Vibration

- 11.6.6 In assessing the impacts of Construction Phase noise and vibration, it is accepted that the phase is temporary and effects are therefore reversible.
- 11.6.7 Resultantly, the nature of most works to construct the Proposed Development are such that activities will generally be limited both in intensity and/or duration. As such, significant effects from the associated noise and vibration are considered unlikely based on relevant guidance and experience of similar activities. However, some activities associated with the Proposed Development including Underground Cabling, such as earthworks, cable trenching or trenchless work (such as horizontal drilling), which may be used, have the potential to cause significant effects either because of an increased intensity for the former or due to potential extended hours of operation for the latter.

- 11.6.8 The potential noise impacts associated with construction activities will be predicted by referencing typical activity emission levels and likely variations in noise levels at surrounding receiver locations, using the methodology set out in BS 5228. This standard also provides guidance on assessing the resulting noise levels based on a range of considerations including the absolute level of the noise and existing baseline noise levels.
- 11.6.9 Some construction activities, such as piling operations, drilling or vibratory rolling techniques, can generate elevated vibration levels in close proximity to their use (less than 50m typically); however, if employed in construction of the Proposed Development this would likely be for limited periods such that significant levels are unlikely. This will, however, be reviewed as part of the assessment. BS 5228-2 provides guidance on estimating vibration levels associated with these activities and threshold values associated with potential disturbance as well as building damage (which only occurs at higher exposure levels).
- 11.6.10 Where likely significant effects are identified, suitable additional mitigation and management measures will be considered and implemented as part of the Outline Construction Environmental Management Plan (OCEMP) and secured as a requirement of the DCO.
- 11.6.11 The potential effects of noise levels associated with construction activities on sensitive ecological receptors are addressed in **Chapter 8: Ecology and Biodiversity** of this EIA Scoping Report. Vibration effects on ecological receptors are unlikely due to the localised nature of vibration impacts relative to noise levels for the activities anticipated and so these do not require specific consideration.

Operational Phase

Operational Noise

- 11.6.12 Electrical and mechanical plant associated with the Proposed Development represent a source of potential operational noise effects. Whilst noise produced by the PV panels themselves is expected to be minimal, large electrical plant such as BESS and the Main and Collector Substations can generate noise, which can be tonal in nature, making it potentially more noticeable. Any ancillary cooling units will also require consideration.
- 11.6.13 Potential noise levels will be predicted on the basis of representative noise data for the plant units potentially installed, on a worst-case basis. The model will be developed using the ISO 9613-2 methodology based on the noise specification data, indicative layout information and experience of similar recent installations. These predicted levels will be assessed relative to the existing baseline background noise levels at the relevant receptors, accounting for the potential character of the noise, in accordance with BS 4142.

- 11.6.14 Embedded mitigation will involve adjusting the overall design of the Proposed Development to maximise (where practicable) the distances between noise-generating plant and noise-sensitive receptors.
- 11.6.15 Mitigation measures relevant to Noise and Vibration are also included in **Appendix 3-1: Commitments Register**.
- 11.6.16 The final detailed design of the Proposed Development, including final plant locations and selections, as well as any additional noise control measures such as screening or acoustic attenuation (if required), can be controlled through a requirement of the DCO on the basis of suitable noise limits determined in line with BS 4142.

Decommissioning Phase

Decommissioning Noise and Vibration

- 11.6.17 The works involved during the Decommissioning Phase are anticipated to be similar to that of the Construction Phase given the similar activities associated with both phases, though piling and trenchless methods relating to cable installation are not anticipated to occur during decommissioning of the Proposed Development. As such, impacts are likely to be of a lower magnitude and therefore have similar or lower level of effect and be subject to similar management or control procedures. On this basis, it is anticipated that the Construction Phase represents a worst-case scenario, such that the Decommissioning Phase does not require separate consideration. On this basis decommissioning noise and vibration impacts are scoped out of the EIA.

11.7 Proposed Scope

Scoped In

- 11.7.1 The noise and vibration effects to be assessed are:
- Construction Traffic Noise
 - Construction Noise and Vibration; and
 - Operational Noise – electrical and mechanical plant associated with the Site, BESS, Main Substation and Collector Substation.

Scoped Out

Construction, Operational and Decommissioning Traffic Vibration

- 11.7.2 The DMRB advises (Ref 11-14, paragraph 1.4 note) that significant vibration impacts from traffic using the road network is unlikely (although momentary vibration may be perceptible in some cases). The DMRB also references BS 5228-2 which does not consider vibration from vehicle movements as a notable source. Vibration impacts associated with road traffic during all phases of the Proposed Development are therefore scoped out of the EIA.

Operational Traffic Noise

- 11.7.3 Vehicular movements during the Operational Phase of the Proposed Development consisting of associated routine servicing and maintenance would be very limited and unlikely to result in any significant noise effects (as noted in NPS EN-3, paragraph 2.10.153). Furthermore, vehicle movements associated with the replacement and upgrading of PV Panels and BESS components would be undertaken on an ad-hoc basis. Suitable mitigation and management measures, including management of the number of associated trips, will be set out in the Outline Operational Traffic Management Plan (OOTMP) which will be implemented as part of the Operational Traffic Management Plan (OTMP) and secured as a DCO requirement. Operational traffic noise impacts are therefore scoped out of the EIA.

Operational Vibration

- 11.7.4 Based on experience of similar developments, the plant likely to be used in the Proposed Development, such as the PV panels and solar inverters associated with the Site, and the larger electrical plant and ancillary cooling units associated with the BESS and Main and Collector Substations, when operational, would generate insignificant levels of vibration with regards to relevant guidance for noise-sensitive receptors. Therefore, operational vibration impacts are scoped out of the EIA.
- 11.7.5 Although operational traffic noise effects relating to replacement and upgrade works are scoped in the EIA, the general traffic movements relating to routine maintenance and operation are expected to be very limited and will not require specific consideration in the assessment and is therefore scoped out of the EIA.
- 11.7.6 No new overhead line infrastructure is proposed. Underground Cabling will not generate any noise or vibration and therefore is proposed to be scoped out.

Decommissioning Noise and Vibration

- 11.7.7 As stated in **paragraph 11.6.17**, decommissioning noise and vibration impacts do not require separate consideration are scoped out of the EIA.

11.8 Consultation

- 11.8.1 Consultation has commenced with West Oxfordshire District Council's Environmental Health Department, which represents the only statutory consultee for this topic. This includes the requirements for baseline noise monitoring and potential survey locations and methodology. The views and requirements of this consultee as well as other non-statutory consultees (including in response to this EIA Scoping Report) will help determine the detailed assessment methodology and any required mitigation measures.

11.9 Summary of Matters Scoped In and Out

- 11.9.1 A summary of the proposed scope for the Noise and Vibration assessment is included in **Table 11-3**.

Table 11-3 Summary of Assessment Scope

ACTIVITY	CONSTRUCTION	OPERATION	DECOMMISSION- ING
Traffic Noise	Scoped In	Scoped Out	Scoped Out
Vibration resulting from traffic	Scoped Out	Scoped Out	Scoped Out
Noise as a result of construction/ decommissioning activities (excluding traffic)	Scoped In	Scoped Out	Scoped Out
Vibration as a result of construction/decommissioning activities (excluding traffic)	Scoped In	Scoped Out	Scoped Out
Noise resulting from operation of the Proposed Development, i.e. BESS, Main and Collector Substations and plant	Scoped Out	Scoped In	Scoped Out

11.10 References

- Ref 11-1 BS 4142:2014+A1:2019: 'Methods for rating and assessing industrial and commercial sound.'
- Ref 11-2 ISO 9613-2: International Standards Organisation (ISO, 1996), ISO 9613-2:1996 'Acoustics – Attenuation of sound during propagation outdoors – Part 2: General method of calculation'.
- Ref 11-3 Environmental Protection Act 1990: HMSO (1990): Environmental Protection Act, Part III.
- Ref 11-4 Control of Pollution Act: HMSO (1974): Control of Pollution Act, Part III.
- Ref 11-5 Planning Act 2008: HMSO (2008)
- Ref 11-6 Overarching National Policy Statement (NPS) for Energy (EN-1): Department for Energy Security & Net Zero, 2025
- Ref 11-7 NPS for Renewable Energy Infrastructure (EN-3): Department for Energy Security & Net Zero, 2026
- Ref 11-8 NPS for Electricity Networks Infrastructure (EN-5): Department for Energy Security & Net Zero, 2026
- Ref 11-9 Noise Policy Statement for England (NPSE): Department for Environment, Food and Rural Affairs (2010), Noise Policy Statement for England (NPSE).
- Ref 11-10 National Planning Policy Framework (NPPF): Ministry of Housing, Communities & Local Government (2026), Plan-making and national decision-making policies.
- Ref 11-11 National Planning Practice Guidance (NPPG) on noise: Department for Levelling Up, Housing and Communities (2014, updated 2019) - Planning Practice Guidance. [Online] Accessed via <https://www.gov.uk/guidance/noise--2> [accessed August 2026].
- Ref 11-12 West Oxfordshire District Council Local Plan (adopted September 2018).
- Ref 11-13 BS 5228: BSI (2014), BS 5228:2009-A1:2014, Code of practice for noise and vibration control on construction and open sites – Part 1: Noise and Part 2: Vibration.
- Ref 11-14 Design Manual for Roads and Bridges (DMRB): Highways England (2019): Design Manual for Roads and Bridges (DMRB) – LA111 – Noise and Vibration, Nov 2019.
- Ref 11-15 Calculation of Road Traffic Noise: HMSO Department of Transport (1988), Calculation of Road Traffic Noise (CRTN).
- Ref 11-16 Institute of Environmental Assessment: Institute of Environmental Assessment (IEA) (1992), Guidelines for the Environmental Assessment of Road Traffic.

12. TRANSPORT AND ACCESS

12.1 Introduction

- 12.1.1 This chapter sets out the proposed scope and methodology for assessing likely significant effects of the Proposed Development on transport and access during the Construction, Operation (and maintenance) and Decommissioning Phases.
- 12.1.2 The assessment will consider effects associated with changes in traffic flow and composition, permanent and temporary access and highway works, construction worker travel and the movement of abnormal loads.
- 12.1.3 The assessment will consider the Planning Inspectorate's Advice on Solar Farm Scoping (Nationally Significant Infrastructure Projects: Technical Advice Page for Scoping Solar Development prepared alongside the Planning Act 2008) [Ref 12-1], as well as the Institute of Sustainability and Environmental Professionals (ISEP), formerly known as the Institute of Environmental Management and Assessment, Guidelines: Environmental Assessment of Traffic and Movement (the 'IEMA Guidance' 2023) [Ref 12-2].
- 12.1.4 The principal effect categories for consideration are severance, driver delay, non-motorised user delay, non-motorised user amenity, fear and intimidation and road safety associated with increased traffic from the Proposed Development. For the remainder of this report, the former IEMA guidance will be referred to as ISEP guidance.
- 12.1.5 The full Environmental Statement (ES) transport chapter will describe the baseline, forecast construction traffic flows, identify sensitive receptors, assess the likely significant construction effects, set out mitigation and report residual and cumulative effects.
- 12.1.6 Detailed operational effects are proposed to be scoped out because routine operational activity is expected to be relatively low, however the operational workforce and servicing trip estimates will nevertheless be reported in the ES to substantiate that conclusion.
- 12.1.7 This chapter is supported by the following figures and appendices:
- **Figure 12-1:** Construction Routing Plan
 - **Figure 12-2:** Cycle Network
 - **Figure 12-3:** Collision Analysis (2020-2024)
 - **Appendix 12-1:** Routing Options and Survey Specification

12.2 Study Area

- 12.2.1 The preliminary Study Area for the assessment of transport and access effects comprises the highway links, junctions, access points, public rights of way (PRoW) and other routes used by non-motorised users where the Proposed

Development could result in a measurable change in traffic or movement conditions.

- 12.2.2 It includes the emerging construction access corridors between the Site and the strategic road network, the local roads serving the Site, and any locations where temporary or permanent highway works may be required to facilitate the Proposed Development.
- 12.2.3 The preliminary Study Area has been determined using a review of the available routes to the Site from the strategic road network, via the local road network. From this review, a series of routes have been identified. These are detailed within **Appendix 12.1 - TN02: Routing Options and Survey Specification**.
- 12.2.4 For construction routing purposes, the Site has been divided into three Parcel Groups, shown as Central, Eastern and Western on **Figure 12-1** and in **Appendix 12-1**. The Western Parcel comprises fields 1-10, and the Central and Eastern Parcels comprise the remaining fields (11-102). For the remainder of this chapter, for consistency with other chapters of this EIA Scoping Report, the parcels will be referred to as the northern and southern Site areas.
- 12.2.5 The three emerging strategic construction access routes are:
- Strategic Route 1: access from the north via the A40 and A361. This is currently the principal approach for the northern and southern Site areas and would allow construction vehicles to remain on higher-order roads for longer.
 - Strategic Route 2: access from the south via the A417, High Street through Lechlade and the A361. This is a secondary route, particularly for smaller construction vehicles, because of the constrained village environment in Lechlade.
 - Strategic Route 3: access from the east via the A40, Brize Norton, Bampton, Clanfield and the A4095, connecting to the Site via Langley Lane. The route would approach from the north because of the weight restriction and narrow bridge toward Radcot.
- 12.2.6 On the basis of the emerging route strategy, the preliminary Study Area is shown in **Figure 12-1** and includes:
- the A40 to the east and west of Burford and its connections to the wider strategic road network;
 - the A361 between the A40/Burford Roundabout and Lechlade, including links through or near Bradwell, Filkins, Broughton Poggs and Little Faringdon;
 - the A417 and the A361/High Street/Burford Street corridor through Lechlade;
 - the A4095 corridor, including Main Street and Clanfield Road, approached from the A40 via Brize Norton, Bampton and Clanfield;
 - Brize Norton Road, Manor Road, Station Road, Langley Lane and local roads near Grafton and Little Clanfield;

- Lechlade Road, Hardwick Lane, local roads near Fyfield and other named or unnamed rural roads serving the DCO Site Boundary; and
- any additional links or locations identified through consultation or the ISEP screening process, including links used by construction staff or affected by cumulative traffic.

- 12.2.7 The final ES Study Area will be confirmed after construction trip generation and assignment is available. It will include links meeting the ISEP screening criteria, high-sensitivity links that may experience smaller changes, and locations requiring effect-specific assessment for driver delay, road safety, noise or air quality.
- 12.2.8 The Study Area will therefore be capable of expanding beyond the routes shown on **Figure 12-1** where the evidence or consultation indicates this is necessary.

12.3 Baseline Conditions

Baseline Data Sources

- 12.3.1 The baseline will be characterised using desktop research, Geographic Information System analysis, site visits, route audits, available Department for Transport (DfT) count data, seven-day Automatic Traffic Counter (ATC) surveys and personal injury collision data.
- 12.3.2 Baseline data will distinguish total traffic and heavy vehicle flows and, where available, identify speeds, vehicle composition, temporal variation and the use of routes by pedestrians, cyclists, equestrians and public transport.
- 12.3.3 The proposed ATCs will operate continuously for seven days and record 24-hour traffic flows, vehicle classification and speeds. Surveys will be undertaken in a neutral or otherwise representative period where practicable. The final locations and any need for junction turning counts, pedestrian/cycle counts or seasonal surveys will be agreed with Oxfordshire County Council (OCC) and informed by the selected access strategy.

Pedestrian and PRow Network

- 12.3.4 The Site is in a predominantly rural area, where pedestrian activity on the surrounding road network is assumed to be generally low, given the lack of footway provision. Many local roads have no footway, are narrow or single track, and provide limited separation from moving traffic.
- 12.3.5 There are a number of PRow that pass alongside the boundaries between the individual fields that make up the Site, described in **Chapter 7: Landscape and Visual** of this EIA Scoping Report, and shown on **Figure 7-2**.
- 12.3.6 It is anticipated that equestrian users would utilise the existing PRow and bridleway network, as well as some of the local roads within the vicinity of the Site. The established PRow and bridleways represent existing suitable routes tailored for equestrian use.

Cycling Network

- 12.3.7 The rural road network is used by utility and recreational cyclists. Existing mapped cycle routes within and around the Study Area are shown on **Figure 12-2**. An identified route between Little Faringdon and the outskirts of Burford uses local roads that may also form part of the construction access strategy, including Lechlade Road. The status, use and condition of these routes will be verified for the ES.

Public Transport

- 12.3.8 Public transport provision is limited by the rural location. The initial desktop review identified bus stops on the A361 served by routes including the 64 and C77, providing connections toward Burford, Carterton and Witney. Services and timetables may change; the full ES will verify the current provision and identify any construction route interactions with bus stops, bus services or community transport.
- 12.3.9 There are no passenger rail stations within or in close proximity to the preliminary Study Area.

Highway Network

- 12.3.10 The A40 is the nearest higher-order east-west route. It connects the area toward the A429, M5 and M50 to the west and toward Oxford, the A34 and M40 to the east. The emerging access strategy assumes that the A40 will distribute the majority of construction traffic and that it is capable of accommodating larger vehicles, subject to detailed route checks for abnormal indivisible loads that will accompany the eventual ES.
- 12.3.11 The A361 connects with the A40 at Burford Roundabout and runs south between the northern and southern Site areas toward Lechlade. It is expected to be a principal distributor route. The route passes through rural and built-up environments with changing speed limits and includes locations where interaction with local traffic, on-street activity or vulnerable road users will require consideration.
- 12.3.12 The A417 provides an approach from the south but requires vehicles to pass through Lechlade. The A4095 provides an approach to the eastern side of the southern Site area from the A40 via Brize Norton, Bampton and Clanfield. A weight restriction and narrow bridge to the south near Radcot constrain access from that direction, so the emerging strategy assumes that construction traffic using the A4095 would approach from the north.
- 12.3.13 The local route network includes Brize Norton Road, Manor Road, Station Road, Langley Lane, Lechlade Road, Hardwick Lane and a number of minor or unnamed roads serving farms and the Site areas.

Collision Analysis

- 12.3.14 The initial collision review covers the five-year period 2020 to 2024 and is shown on **Figure 12-3**. The full ES will use the latest complete five-year personal injury collision dataset available from OCC or DfT STATS19 [Ref 12-3] sources and will review severity, causation patterns, clusters and route-specific constraints. It is not considered that the data is unduly impacted by the Covid-19 pandemic as it still includes data from the latest three-year period which was outside of any lockdowns or atypical highway conditions.
- 12.3.15 The initial review indicates a relatively low number of recorded collisions across the wide Study Area. Two slight collisions were identified on Lechlade Road near bends with restricted forward visibility, and two serious collisions were identified on Langley Lane, including one near the A4095 junction. These locations will be considered alongside route geometry, traffic speeds and the forecast increase in heavy vehicles.
- 12.3.16 No notable collision clusters were identified across most of the local road network

12.4 Overview of Legislation, Policy, and Guidance

- 12.4.1 The Transport and Access assessment will have regard to the legislation, national policy, local policy and professional guidance in force at the time the DCO application is submitted. The principal documents currently relevant to the scope are summarised below.

Legislation

- 12.4.2 The Planning Act 2008 provides the consenting framework for nationally significant infrastructure projects. The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 [Ref 12-4] set the requirements for assessment and reporting of likely significant environmental effects. The Planning and Infrastructure Act 2025 [Ref 12-5] will also be considered where its provisions are relevant to the DCO process and supporting assessment.

National Planning Policy

- 12.4.3 Overarching National Policy Statement for Energy (EN-1), 2025 [Ref 12-6], came into force on 6 January 2026. Section 5.14 of the Policy Statement requires the ES for a project with significant transport implications to include: a vision for transport and an assessment of potential transport impacts; consultation with National Highways (NH) and highway authorities as appropriate; preparation of a travel plan; and consideration of demand management measures including trip consolidation, re-timing and re-routing. It also requires construction transport impacts and residual cumulative network and safety effects to be appropriately mitigated.

- 12.4.4 The National Planning Policy Framework, published in August 2026 [Ref 12-7], promotes a vision-led approach to transport, with transport considerations to be fully integrated into the evolution and assessment of development proposals. Policy TR3 requires any significant adverse impacts on the transport network or highway safety to be mitigated to an acceptable degree using a vision-led approach, while Policy TR4 requires transport considerations to be integral to the design of development. Policy TR6 states that development proposals should be refused where they would result in a severe adverse impact on the transport network, including cumulative impacts, or an unacceptable impact on highway safety, taking into account proposed mitigation measures and wider network improvements

Local Planning Policy

- 12.4.5 Oxfordshire County Council's Local Transport and Connectivity Plan (LTCP), adopted in July 2022 [Ref 12-8], is the statutory local transport plan and supersedes LTP4. It seeks an inclusive, safe and net-zero transport system, with reduced car travel, greater use of walking, cycling, public and shared transport, and a long-term objective of eliminating or approaching zero road fatalities and life-changing injuries. The associated Freight and Logistics Strategy is also relevant to the safe and efficient movement of construction goods.
- 12.4.6 The West Oxfordshire Local Plan 2031 [Ref 12-9] was adopted in September 2018. Policy T1 requires development to be designed for safe movement and to minimise the effects of moving and parked vehicles; development with significant transport implications must provide a Transport Assessment and Travel Plan. Policy T2 requires safe access and an acceptable effect on the local highway network, with mitigation or infrastructure contributions where necessary. Policy T3 seeks safe and convenient movement for pedestrians, cyclists and other vulnerable road users.
- 12.4.7 West Oxfordshire District Council is preparing a new Local Plan to 2043. Relevant emerging policies and the weight that can be afforded to them will be reviewed when the ES is prepared.

Relevant Industry Guidance

- 12.4.8 The assessment will be undertaken in accordance with the Planning Inspectorate's Advice on Solar Farm Scoping (Nationally Significant Infrastructure Projects: Technical Advice Page for Scoping Solar Development [Ref 12-1], and the ISEP guidance.
- 12.4.9 The Planning Inspectorate's Advice provides the principal framework for defining affected parties and sensitive receptors, identifying the spatial and temporal scope, screening highway links, assessing the seven traffic and movement effect categories, applying professional judgement and coordinating traffic data with other ES topics.

- 12.4.10 The ISEP Guidance [Ref 12-2] identifies two broad rules-of-thumb which could be used as a scoping process to determine the scale and extent of assessment. These rules are summarised as follows:
- Rule 1 – include highway links where traffic flows will increase by more than 30% (or the number of heavy goods vehicles (HGVs) will increase by more than 30%); and
 - Rule 2 – include any other specifically sensitive areas where traffic flows may have increased by 10% or more (or there is a significant change in the mix of vehicles, such as an increase of more than 10% the number of HGVs).
- 12.4.11 With respect to the need for peak hour assessments or junction capacity modelling, whilst there is no set OCC guidance on thresholds for this, reference is made to the (now superseded) DfT 'Guidance on Transport Assessment' (2007) [Ref 12-10] which refers to a threshold of 30 two-way vehicle trips during a peak hour to warrant the need for junction capacity assessments.
- 12.4.12 It is not considered that the level of trip generation during the AM and PM peak hours will be significant enough to warrant detailed junction capacity assessments using these thresholds, although the requirements for this will be developed in consultation with the local highway authorities and included within the PEIR.
- 12.4.13 The ISEP Guidance [Ref 12-2] sets out the following transport and access assessment topics:
- Severance
 - Driver Delay
 - Pedestrian Delay
 - Non-motorised User Amenity
 - Fear and Intimidation
 - Road Safety; and
 - Hazardous and Large Loads
- 12.4.14 Severance is defined in the ISEP Guidance as the *“perceived division that can occur with a community when it becomes separated by a major traffic artery”*. The ISEP Guidance suggests changes in traffic flow or HGV flow by 30%, 60% or 90% can be considered as having a low, medium or high impact respectively on severance. In addition, the assessment will consider any effects from traffic flow changes as well as effects from formal diversions or closures required for network upgrades.
- 12.4.15 With respect to Driver Delay, the ISEP Guidance defines this as any delay which may occur to motorists. The ISEP Guidance states that any delays due to a Scheme are only likely to be significant when the network is close to or already at capacity. The ISEP Guidance goes on to state *“The assessment of driver delay will normally be based on the technical work reported within the Transport Assessment, which generally focuses on conditions in the network peak periods, with highway mitigation defined to ensure conditions with the*

development are not materially worse than would otherwise have been the case without the development and mitigation."

- 12.4.16 In relation to Pedestrian Delay, this is noted in the ISEP Guidance as being utilised as a proxy for other non-motorised user delay when crossing a road. In the ISEP Guidance, it is stated *"Given the range of local factors and conditions that can influence pedestrian and non-motorised user delay (e.g. a discrete delay may have a lesser impact in an urban environment than a rural setting), it is not considered wise to set down definitive thresholds. Instead it is recommended that the competent traffic and movement expert use their judgement to determine whether pedestrian delay constitutes a significant effect."*
- 12.4.17 For Non-motorised User Amenity, this is defined in the ISEP Guidance as *"the relative pleasantness of a journey and is considered to be affected by traffic flow, traffic composition and pavement width/separation from traffic"*. The ISEP Guidance suggests that a tentative threshold for judging the significance of changes in non-motorised user amenity would be where the traffic flow is halved or doubled which would lead to a high impact, although that any assessment should pay full regard to the local conditions.
- 12.4.18 The assessment of Fear and Intimidation is acknowledged within the ISEP Guidance, stating: *"A further environmental impact that affects people is the fear and intimidation created by all moving objects. While the traffic and movement assessment has to consider motorcycles, cars, lorries and buses, this scope of consideration is not exclusive – it also has to consider other modes of travel, including horses, cycles, mobility scooters, e-scooters and e-cycles, if appropriate"*. In the assessment of Fear and Intimidation, the IEMA guidance refers to an assessment of the 'degree of hazard' but acknowledges professional judgement should be used with reference to local conditions. The guidance also notes *"The movement of hazardous/large loads will heighten people's perception of fear and intimidation and, if this is likely to occur, it should be noted."*
- 12.4.19 In respect of Road Safety, the ISEP Guidance refers to the use of collision rates and identification of collision clusters to assess the implications of a development. The ISEP Guidance recommends consultation with local highway authorities to determine the significance of any Road Safety effects.
- 12.4.20 With respect to Hazardous and Large Loads, the ISEP Guidance states for Hazardous Loads that the assessment should *"include a risk or catastrophe analysis to illustrate the potential for an accident to happen and the likely effect of such an event."* The ISEP Guidance references any highway features that would pose a risk to any loads being transported, above the typical levels of risk that would generally be expected by utilising the highway network. For large loads (abnormal), the ISEP guidance acknowledges that this is regulated by NH in respect of the Strategic Road Network (SRN) and is subject to a separate agreement with all local highway authorities and the Police.

- 12.4.21 The assessment will also have due regards to the aims and objectives set out within the National Planning Practice Guidance 'Travel Plans, Transport Assessments and Statements' (2014) [Ref 12-11] and the Construction Logistics and Community Safety (CLOCS) (2024) [Ref 12-12], however quantitative assessment criteria will be derived from other relevant guidance.

12.5 Assessment Methodology

- 12.5.1 The methodology utilised within the assessment and stages followed can be summarised as follows:

- initial consultation with the relevant highway authorities and emergency services, including NH and OCC;
- procure and process baseline traffic data, arranging additional surveys where necessary in collaboration with key stakeholders and consultees;
- vehicle route feasibility assessments will be undertaken for vehicles for the construction, operational and decommissioning equipment and staff, including detailed observations of each of the proposed route options and identifying any sensitive receptors or constraints along the length of the routes.
- Department for Transport ('DfT') Trip End Model Presentation Program (TEMPO) [Ref 12-13] Growth Factors will be used to develop and assess the construction years, with an emphasis placed on assessing the peak construction year, the details of which will be set out within the ES;
- in consultation with the relevant stakeholders, route options would be explored and developed further to determine the feasibility of each route and whether they are acceptable or require further refinement;
- an initial assessment of traffic generation from the Proposed Development on the strategic and local road network, including routes between the different areas of the Proposed Development, will be undertaken alongside an initial assessment of effects;
- once this traffic assessment is complete, the assessment will be refined to reflect any changes in the design of the Proposed Development or consultation feedback, followed by an additional assessment of the effects. At this stage, the requirement for additional surveys or localised assessments, including junction capacity modelling, will be determined;
- following the outcomes of the additional assessments, there will be further consultation with key stakeholders and consultees;
- mitigation measures will be developed, both embedded and any additional mitigation, as appropriate, to mitigate any likely significant effects and residual impacts or concerns raised during consultation; and
- the assessment will be further refined to reflect this consultation feedback, with appropriate updates made to the assessment, as well as assessment of the cumulative effects of other developments within the area.

- 12.5.2 This assessment broadly follows the overarching EIA Methodology set out in **Chapter 4: EIA Methodology** of this EIA Scoping Report. This section sets out

the discipline-specific assessment approach, Study Area(s), effect significance criteria, and any assumption and limitations.

- 12.5.3 The ES will describe and assess the likely significant effects associated with any Highway Works. It is assumed network changes would be reinstated post-construction and decommissioning, with baseline conditions restored, unless it was identified as a benefit to the local area that could be retained. The assessment will consider potential effects from any permanent improvements.
- 12.5.4 The assessment will be undertaken primarily through a desktop-based assessment, which will be supported by a series of site visits that will be utilised to validate the findings of any vehicle routing strategy that is developed. It is proposed that traffic count locations will be identified and shared with stakeholders for review and comment prior to the undertaking of the traffic surveys.

Overview of Assessment Significance

Assessment Scenarios

- 12.5.5 The assessment will comprise an assessment of the daily Proposed Development traffic in the peak construction year against:
- Baseline (2026) daily flows; and
 - Future baseline peak construction year (without Proposed Development traffic).
- 12.5.6 The peak construction year is to be confirmed and presented within the ES once further information about the construction programme is known.

Determining Significance of Effect

- 12.5.7 Categories of receptor sensitivity have been defined from the principles set out in the ISEP Guidance guidelines and include the following:
- particular groups or locations which may be sensitive to changes in traffic conditions;
 - the list of affected groups and special interests set out in the ISEP Guidance; and
 - the identification of links or locations where it is felt that specific environmental problems may occur noting that such locations would include collision clusters, conservation areas, hospitals, links with high pedestrian flows etc.

Relevant Receptors

- 12.5.8 As per the relevant guidance, the following sensitive receptors will be considered within the assessment:
- non-motorised users;
 - public right of way users;

- motorists and freight vehicles;
- public transport users; and
- emergency services.

12.5.9 Any nearby Sites of Special Scientific Interest (SSSI) and Local Wildlife Sites (LWS) are also identified as sensitive receptors as they may be impacted by any construction traffic associated with the Proposed Development when navigating the strategic and local road network. The assessment of potential effects to ecology and biodiversity are detailed further in **Chapter 8: Ecology and Biodiversity**.

12.5.10 The roads and access routes identified within the Study Area will then be classified by receptor sensitivity, as shown within **Table 12-1**. These roads and access routes are referred to as 'links'. Their classification and sensitivity are determined based on proximity and connectivity to the identified sensitive receptors like SSSIs and LWS in accordance with the ISEP Guidance.

Table 12-1 Receptor Sensitivity Assessment Criteria

RECEPTOR SENSITIVITY	ASSESSMENT CRITERIA FOR DETERMINING THE SENSITIVITY OF THE RECEPTOR
High	Sensitivity to traffic such as: • Schools, colleges and other educational institutions • Retirement/care homes for the elderly or infirm • Roads used by pedestrians with no footways • Accident clusters at a regional scale
Medium	Sensitivity to traffic such as: • Hospitals, surgeries and clinics • Parks and recreation areas • Shopping areas • Public Rights of Way (PROW)/Bridleways at road crossings • Roads used by pedestrians with narrow footways • Accident clusters at a local scale
Low	Sensitivity to traffic such as: • Open space • Tourist/visitor attractions • Historical buildings • Churches • PROW/Bridleways away from road crossings • Roads used by pedestrians with standard footways • Residential areas

- 12.5.11 The determination of the magnitude of the impacts will be undertaken by establishing the parameters of the associated traffic that may cause an effect and then quantifying these effects.
- 12.5.12 The significance of the effect will be concluded following assessment against the thresholds defined in the ISEP Guidance. The criteria for determining the magnitude of impacts depends upon the effect being assessed. **Table 12-2** sets out the assessment criteria for determining the magnitude of change for each effect.

Table 12-2 Magnitude of Change Assessment Criteria

POTENTIAL IMPACT	ASSESSMENT CRITERIA FOR DETERMINING THE MAGNITUDE OF CHANGE
Severance	The ISEP Guidance sets out a range of indicators for determining the magnitude of severance effects. It suggests changes in traffic flows and associated magnitude of impacts as: • <30% - negligible magnitude of change; • 30% - 60% - small magnitude of change; • 60% - 90% - medium magnitude of change; and • >90% - large magnitude of change
Driver Delay	The ISEP Guidance does not provide set thresholds for determining when a change in driver delay is likely to be significant and instead refer to any junction capacity assessments that may be undertaken, alongside professional judgement. As there is unlikely to be any junction modelling undertaken for the DCO Application (given the anticipated levels of trip generation being low or restricted by way of requirement during the peak hours), it is proposed to use professional judgement and the overall changes in traffic flows with reference to the typical ISEP Guidance thresholds (<30% is negligible, 30-60% is small, 60-90% is medium and >90% is large), to determine whether there is likely to be any significant changes to driver delay.
Non-motorised Delay	The ISEP Guidance recommends the use of professional judgement to determine whether non-motorised delay is significant across individual links, taking into consideration the varying characteristics of local conditions within the Study Area. For the purposes of this assessment, the following thresholds related to changes in total traffic are applied alongside professional judgement and interpretations of the local conditions: • 0-30% - negligible magnitude of change; • 30% - 60% - small magnitude of change; • 60% - 90% - medium magnitude of change; and • greater than 90% - large magnitude of change.

POTENTIAL IMPACT	ASSESSMENT CRITERIA FOR DETERMINING THE MAGNITUDE OF CHANGE
Non-motorised User Amenity	The ISEP Guidance notes that a tentative threshold for determining significance of changes in non-motorised user amenity is when traffic flows are halved/doubled (which would lead to a high impact). A change of less than a quarter would represent a low impact and a change more than a quarter would present a medium impact. However, the guidance notes that any changes should be considered with professional judgement in light of the local conditions. It is proposed to use these thresholds alongside professional judgement taking into consideration the likely demand and provisions for non-motorised users across the links.
Fear and Intimidation	The ISEP Guidance refers to an assessment for the 'degree of hazard' in Table 3-1 of the guidance to assess fear and intimidation. Each road link in the Study Area will be assessed to determine the values of these parameters using traffic data. These values will then be compared to the thresholds defined in Table 3-1 to determine the degree of hazard score, from 0 up to 30. In determining the degree of hazard, the assessment will apply a score based on three parameters: • Average daily vehicle flows - This covers the total volume of all vehicles across an 18-hour period from a road link. Higher volumes indicate a greater hazard. • Total HGV flows - The total volume of heavy goods vehicles (HGVs) over an 18-hour day. A higher HGV volume represents a greater perceived hazard. • Average speeds - The mean speed of vehicles on the road link. Higher speeds are associated with greater hazard. Once calculated, the total hazard score will be presented to determine the level of fear and intimidation, as follows: • 0-20 - Small • 21-40 - Moderate • 41-70 - Great • 71+ - Extreme A comparison of the degree of hazard will be undertaken for the peak construction year with/without the construction flows and against the baseline traffic flows to determine any changes. Step changes are defined as increases in average daily traffic or heavy vehicle flow compared to baseline. A low step change is an increase of <400 vehicles/day or <500

POTENTIAL IMPACT	ASSESSMENT CRITERIA FOR DETERMINING THE MAGNITUDE OF CHANGE
	heavy vehicles/day. A medium step change is an increase of >400 vehicles/day or >500 heavy vehicles/day. A high step change is two increases in separate flow thresholds from baseline. The magnitude of impact will then be determined as follows: • Negligible - no step change from baseline • Low - one step change from baseline (<400 daily vehicle trip increase) • Medium - one step change from baseline (>400 daily vehicle trip increase) • High - two step changes from baseline
Road Safety	The ISEP Guidance suggests that the magnitude of Road Safety impacts will be related to identifying collision clusters and collision rates through a detailed review of baseline characteristics to determine road safety sensitivity. However, it does not provide any defined thresholds. Instead, the ISEP Guidance advises that professional judgement will be needed to assess the implications of local circumstances, or factors which may elevate or lessen risks of accidents occurring. In addition, the ISEP Guidance refers to the use of a Stage 1 Road Safety Audit to determine the suitability of any Transport and Access related works that are proposed.
Hazardous and Large Loads	The ISEP Guidance does not set specific thresholds for the consideration of Hazardous and Large loads, only that professional judgment should be utilised based on the frequency and nature of any Hazardous and/or Large loads.

- 12.5.13 It is noted throughout the ISEP Guidance that the assessment of environmental effects arising from road traffic is not an exact science and a degree of professional judgement is required in all instances. This is particularly the case for the assessments of effects on non-motorised users where local characteristics need to be fully considered.

Significance Criteria

- 12.5.14 In order to provide a consistent and comparable assessment of the degree of significance for each, **Table 12-3** presents a framework which is based on the magnitude of change compared to the sensitivity of receptor.

Table 12-3 Significance of Effect Matrix

MAGNITUDE OF CHANGE	SENSITIVITY OF RECEPTOR		
	High	Medium	Low

High	Major	Moderate	Minor
Medium	Major	Moderate	Minor
Low	Moderate	Minor	Negligible
Negligible	Negligible	Negligible	Negligible

- 12.5.15 For the purposes of this assessment, only those effects which are identified as 'Moderate' and 'Major' are considered significant and would require the consideration of further mitigation measures to reduce the effects to a lower level.

Assessment of Cumulative Effects

In-Combination Effects

- 12.5.16 A separate chapter will be presented within the ES which will provide a summary of effect interactions between topics (in-combination effects), setting out the inter-relationship arising as a result of direct effects from other environmental topics. The effects concluded in the Transport and Access ES chapter will be considered in the preparation of this chapter, determining whether there are multiple effects from different topics on a shared receptor and which will explain what mitigation measures are proposed, and how such mitigation may have an in-combination effect across several topics.

Cumulative Effects

- 12.5.17 The potential for cumulative Transport and Access effects is primarily associated with the uplift in vehicles from the baseline associated with the Proposed Development, as well as any physical highway works that may be required to facilitate access for these vehicles.
- 12.5.18 There is the potential for Transport and Access effects as a result of the Proposed Development to be experienced in-combination with effects from other nearby developments. A full list of nearby developments that have the potential for in-combination effects with the Proposed Development will be presented in the ES and assessed in detail where required.

Assumptions and Limitations

- 12.5.19 At this stage, it is anticipated that as a worst case during the peak construction period, peak 64 HGV deliveries/day (128 movements) and peak workforce 400 personnel/day. There would be noticeably fewer workers outside peak activities which would be an average of 100 staff per day. Operational traffic will be limited to maintenance visits.
- 12.5.20 The full ES will present the construction traffic forecast by phase, vehicle class and route, including HGVs, staff travel, peak daily and peak-hour movements and the peak construction period. It will also report the expected operational

workforce, maintenance and replacement trips, notwithstanding that detailed operational effects are proposed to be scoped out.

- 12.5.21 The detailed construction programme, assessment year, final Site access locations, route strategy, material origins, internal access-track design and highway works are still being developed. The ES will adopt a reasonable worst-case assessment and will explain how flexibility has been addressed.
- 12.5.22 The preliminary route and survey strategy is based on desktop review and initial feasibility work. Route suitability remains subject to detailed measurements, topographical information, swept-path analysis, structure and weight-limit checks, highway condition surveys, land availability and consultation. The Study Area and survey programme may therefore be revised.
- 12.5.23 Detailed junction capacity modelling is not assumed to be necessary at this stage because deliveries are expected to be managed outside network and school peak periods. The need for modelling will be reviewed once trip generation and baseline flows are available and will be agreed with OCC and other relevant highway authorities. Driver delay will still be assessed using appropriate evidence and professional judgement.
- 12.5.24 The Proposed Development has an expected 40-year design life. Decommissioning is currently expected to take approximately 24-36 months and could be undertaken in phases.
- 12.5.25 Construction is expected to represent the worst case for transport and movement, so a separate quantitative decommissioning assessment is proposed to be scoped out where decommissioning traffic would be no greater than construction traffic. This assumption will be reviewed in the ES and decommissioning will be controlled through an Outline Decommissioning Environmental Management Plan and a future Decommissioning Traffic Management Plan.

12.6 Potential Impacts

Construction Phase

- 12.6.1 The nature of the Proposed Development is such that the greatest impact is likely to occur during the Construction Phase. The peak Construction Phase is where the impact will be the greatest in terms of vehicles for delivery of construction equipment and staff.
- 12.6.2 Mitigation will primarily focus on reducing the impacts of the Construction Phase. It is anticipated this will primarily be through the development and implementation of an Outline Construction Traffic Management Plan (OCTMP), that will detail suitable mitigation measures to help reduce the impacts of construction. This will be supported by an Outline Travel Plan (TP) to mitigate the impacts of any staff travel to the Proposed Development. The OTP is likely to include measures such as car sharing initiatives, dedicated shuttle bus

services, incentives for walking/cycling, and promotion of sustainable travel options to reduce single occupancy vehicle trips.

- 12.6.3 There may be a need for local road improvements and widening to improve access to the Site although the detail of this will be developed in consultation with the local highway authorities and outlined within the DCO Application.

Operational Phase

- 12.6.4 During the Operational Phase of the Proposed Development, it is envisaged that the volume of traffic associated with the Proposed Development would be so low as to be considered negligible, with only occasional visits needing to be made to for routine maintenance and servicing purposes.
- 12.6.5 The vehicles used for these maintenance visits are likely to be a four-wheel drive off-road car, a van for monitoring and maintenance checks and, when needed, HGVs to access the Proposed Development to deliver replacement parts.
- 12.6.6 To ensure that the operational effects remain not significant in terms of Transport and Access, an Outline Operational Environmental Management Plan (OOEMP) and Outline Operational Traffic Management Plan (OOTMP) would be secured by way of requirement to detail how many operational trips associated with maintenance and replacement would be required annually, as well as providing details of any required mitigation measures such as local road improvements or widening that may be needed to facilitate replacement of the Proposed Development. Further details on the identified mitigation measures will be provided within the future Transport Assessment that will accompany the DCO Application.

Decommissioning Phase

- 12.6.7 With respect to the Decommissioning Phase, there is a high degree of uncertainty as engineering approaches and technologies evolve over the lifespan of the Proposed Development meaning there is a high degree of uncertainty in modelling future traffic flows.
- 12.6.8 However, the effects are predicted to be similar to, or of a lesser magnitude than the effects generated during the Construction Phase. The Construction Phase is therefore considered to represent a worst-case scenario. Whilst precise impacts cannot be accurately quantified at this stage, the assessment will provide a high-level evaluation of possible decommissioning traffic effects to acknowledge potential impacts based on the construction impacts.
- 12.6.9 A Decommissioning Traffic Management Plan (DTMP) will be prepared in consultation with stakeholders prior to the commencement of decommissioning. The requirement to prepare a DTMP will be set out in the Outline Decommissioning Management Plan submitted with the DCO Application.
- 12.6.10 Mitigation measures relevant to Transport and Access are also included in **Appendix 3-1: Commitments Register.**

12.7 Proposed Scope

Scoped In

- 12.7.1 Traffic generated during the Construction Phase of the Proposed Development will be assessed. The effect of the Decommissioning Phase is anticipated to be equivalent to or less than the Construction Phase and therefore it is considered that the Construction Phase presents a robust, worst-case assessment and therefore only an assessment of the Construction Phase needs to be scoped in.
- 12.7.2 The effects to be assessed during the Construction Phase of the Proposed Development on those links impacted by the traffic generated are as follows:
- Severance;
 - Driver Delay;
 - Non-motorised Delay;
 - Non-motorised User Amenity;
 - Fear and Intimidation; and
 - Road Safety.

Scoped Out

Alternative Modes of Construction Access (Excluding Road)

- 12.7.3 As the origin of materials and equipment to implement the Proposed Development is unknown, including the relevant port in the United Kingdom that it will arrive to, it is not proposed to assess the shipping of materials in the ES to the relevant port.
- 12.7.4 There are no viable alternative modes of transport to the Site for construction materials, such as a means of rail or river access. As such, only access by road for construction vehicles will be considered within the assessment.

Operational Phase

- 12.7.5 As outlined above, it is considered that the significance of the environmental effects during the Operational Phase of the Proposed Development would be negligible and not significant in EIA terms with respect to Transport and Access and therefore a detailed assessment of the Operational Phase of the Proposed Development is proposed to be scoped out of the ES.
- 12.7.6 It is assumed that any operational traffic flows would fall within the ISEP Guidance thresholds of less than a 30% change in total vehicle flows or 10% change in daily HGV flows and would therefore not be significant in EIA terms and not require further assessment. This would be secured by requirement through the eventual Operational Environmental Management Plan which would detail the expected levels of operational trips required each year for expected maintenance and replacement of the Proposed Development.

Decommissioning

- 12.7.7 As outlined above, it is assumed that the assessment of the Construction Phase would already present the worst-case in Transport and Access terms and capture all effects associated with the Decommissioning Phase. On that basis a separate assessment of the Decommissioning Phase is scoped out.

Hazardous and Large Loads

- 12.7.8 With respect to Hazardous Loads, analysis of the road network within the Study Area indicates that there are no particular features, such as significant vertical drops immediately beyond the carriageway, which would suggest that the transfer of materials poses a particular risk beyond that which would be expected on the general highway network. It is not expected that there would be any Hazardous Loads associated with the Proposed Development.
- 12.7.9 In addition, any Large Loads required will be managed by NH, the local highway authorities and the Police through the Electronic Service Delivery for Abnormal Loads (ESDAL) system, meaning there will be a limited effect on the Local Road Network (LRN) or SRN, outside of the standard abnormal load permitting system. The strategy for managing large loads will be set out within the Operational Construction Environmental Management Plan (OCEMP)
- 12.7.10 No likely significant effects in EIA terms are anticipated, and it is therefore proposed to scope Hazardous and Large Loads out of the ES.

12.8 Consultation

- 12.8.1 Initial consultation will be undertaken with OCC towards the end of 2026 to discuss the principles of the Proposed Development and outline the potential construction access routes.
- 12.8.2 The Vehicle Routing and Survey Scope included at **Appendix 12-1** will be issued to OCC for consideration and ongoing liaison regarding the scope of the baseline surveys will be undertaken to support the future assessment as part of the EIA process.
- 12.8.3 Additional consultation will be undertaken with the key stakeholders and those identified through the consultation process once further details are available on the requirements of the Proposed Development.

12.9 Summary of Matters Scoped In and Out

- 12.9.1 A summary of the matters scoped in and scoped out are shown in **Table 12-4**.

Table 12-4 Summary of Assessment Scope

ASPECT/ MATTER	CONSTRUCTION	OPERATION	DECOMMISSIONING
Severance	Scoped In	Scoped out	Scoped out

Driver Delay	Scoped In	Scoped out	Scoped out
Non-Motorised User Delay	Scoped In	Scoped out	Scoped out
Non-Motorised User Amenity	Scoped In	Scoped out	Scoped out
Fear and Intimidation	Scoped In	Scoped out	Scoped out
Road Safety	Scoped In	Scoped out	Scoped out
Hazardous and Large Loads	Scoped Out	Scoped Out	Scoped Out

12.10 References

- | | |
|-----------|---|
| Ref 12-1 | Nationally Significant Infrastructure Projects: Technical Advice Page for Scoping Solar Development |
| Ref 12-2 | Institute of Sustainability and Environmental Professionals (ISEP) formerly known as the Institute of Environmental Management and Assessment, Guidelines: Environmental Assessment of Traffic and Movement |
| Ref 12-3 | Department for Transport Road: safety data and statistics: STATS19 |
| Ref 12-4 | Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 |
| Ref 12-5 | The Planning and Infrastructure Act 2025 |
| Ref 12-6 | National Policy Statement for Energy (EN-1), 2025 |
| Ref 12-7 | National Planning Policy Framework 2026 |
| Ref 12-8 | Oxfordshire County Council's Local Transport and Connectivity Plan (LTCP) |
| Ref 12-9 | The West Oxfordshire Local Plan 2031 |
| Ref 12-10 | DfT 'Guidance on Transport Assessment 2007 |
| Ref 12-11 | National Planning Practice Guidance 'Travel Plans, Transport Assessments and Statements' (2014) |
| Ref 12-12 | Construction Logistics and Community Safety (CLOCS) (2024) |
| Ref 12-13 | Trip End Model Presentation Program (TEMPRO) |

13. SOCIO-ECONOMICS

13.1 Introduction

- 13.1.1 This chapter sets out the scope and methodology for the assessment of likely significant effects from the Proposed Development on socio-economics during the Construction, Operation (and maintenance), and Decommissioning Phases.
- 13.1.2 The Study Area and baseline conditions are first established through a desktop review, followed by the proposed methodology for the assessment of likely significant effects. The potential impacts are presented, together with the potential mitigation measures that may be implemented to manage impacts, which form the basis of the identification of the effects proposed to be scoped in and out of the Environmental Statement (ES).
- 13.1.3 This chapter is supported by the following figure:
- **Figure 13-1:** Land Uses Around the Site

13.2 Study Area

- 13.2.1 The Site is located within the Local Authority District (LAD) of West Oxfordshire, in the county of Oxfordshire and the South East region. It lies close to the administrative boundaries of the Vale of White Horse, Swindon and Cotswold LAD. Of these, Cotswold falls within Gloucestershire, while Swindon is a unitary authority; both of which are situated in the South West region. Vale of White Horse, meanwhile, is a district within Oxfordshire in the South East region.
- 13.2.2 Baseline conditions will be assessed across a range of geographic Study Areas. These will be defined in detail within the ES chapter and will vary depending on the effect being assessed. However, the Study Areas are likely, as a minimum, to include:
- the LAD of West Oxfordshire;
 - the Landscape and Visual Impact Assessment (LVIA) Study Area, defined in **Chapter 7: Landscape and Visual** as the land within the Site and within a 3km radius from the DCO Site Boundary, in the context of tourism and Public Rights of Way (PRoW);
 - the combined LAD of West Oxfordshire, Vale of White Horse, Swindon and Cotswold;⁵
 - a 60-minute travel time to the Site (Labour Catchment Area (LCA)), comprising the LAD of West Oxfordshire, Vale of White Horse, Swindon, Cotswold, Oxford and Cheltenham; and⁶

⁵ Although the Site is wholly within West Oxfordshire, it lies close to the boundary with Cotswold, Vale of White Horse and Swindon. Where socio-economic effects are assessed at LAD level, it may be appropriate to consider data for West Oxfordshire, Cotswold, Vale of White Horse and Swindon separately, and in some cases, to consider a combined assessment. This approach will be set out in the relevant sections of the ES Chapter.

⁶ This geography reflects a reasonable time in which workers would commute to the Site.

- the County of Oxfordshire, the region (South East), and the nation (England) where required for comparative purposes only.^{7,8}

13.3 Baseline Conditions

- 13.3.1 The socio-economic baseline provides the context for considering the potential effects of the Proposed Development and informs the scope of the socio-economic assessment. It identifies the relevant conditions against which potential effects can be considered, including effects that may ultimately be scoped in or scoped out of the assessment.
- 13.3.2 The baseline information is presented by topic and has been used, alongside the characteristics of the Proposed Development and the relevant assessment guidance, to determine which potential socio-economic effects require assessment.
- 13.3.3 The key socio-economic indicators considered at this stage are summarised below and comprise:
- population and deprivation;
 - employment;
 - education and skills;
 - tourism; and
 - crime and community safety.
- 13.3.4 Baseline information has been drawn from relevant Office for National Statistics datasets relating to the indicators and topics outlined above. Information on the visitor economy has been drawn from The Economic Impact of West Oxfordshire's Visitor Economy report [Ref 13-1].

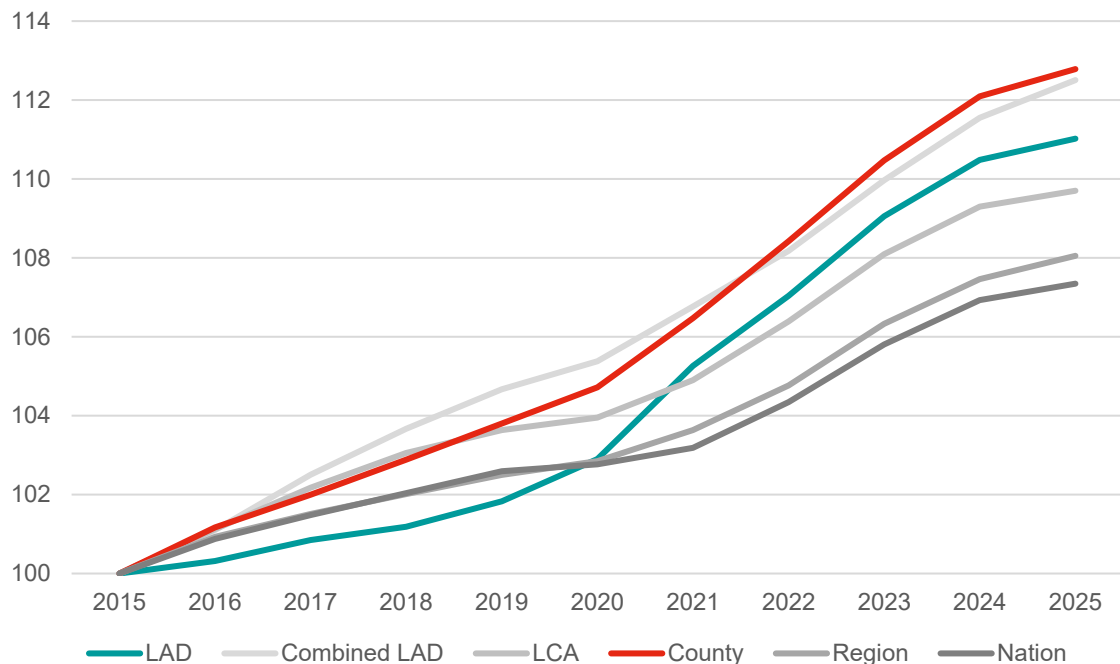
Population and deprivation

- 13.3.5 West Oxfordshire's population was approximately 121,000 in 2025, accounting for 15.8% of the County [Ref 13-2]. Between 2015 and 2025, West Oxfordshire saw a population increase of 11.0%. This was lower than the growth recorded across the County (12.8%) but higher than that in the LCA (9.7%), the South East (8.1%) and England overall (7.3%). This is shown in **Plate 13-1**.

⁷ Although the Site is wholly within Oxfordshire, it lies close to the boundary with Gloucestershire. County-level geographies are included for contextual and comparative purposes only; socio-economic effects will not be assessed at this geographic level.

⁸ Although the Site is wholly within the South East region, it lies close to the boundary with the South West region. Regional geographies are included for contextual and comparative purpose only; socio-economics will not be assessed at this geographical level.

Plate 13-1 Indexed population growth across study area, 2015-2025 (2015=100)



Source: ONS (2026). Population estimates – local authority based by single year of age

13.3.6 The 2025 Index of Multiple Deprivation ranks all LSOAs, and all local authorities, across the nation to assess relative levels of deprivation. Areas with a ranking closer to one indicate the highest levels of deprivation. West Oxfordshire performs relatively strongly, ranking 270th out of England's 296 local authority areas, indicating low levels of deprivation [Ref 13-3]. As demonstrated in **Table 13-1**, West Oxfordshire is less deprived than Cotswold (243rd) and Swindon (180th), but more deprived than the Vale of White Horse (280th). West Oxfordshire is ranked 271st for income deprivation, 275th for employment deprivation, 279th for health deprivation and disability, and 285th for crime deprivation. Its comparatively lower domain rankings relate to barriers to housing and services, for which it ranks 118th.

13.3.7 No LSOA in West Oxfordshire is within the top 10% most deprived nationally on the overall, income, employment, health deprivation and disability and crime domains. However, 14.7% of LSOAs within West Oxfordshire are within the 10% most deprived nationally for barriers to housing and services, while 8.8% are within the 10% most deprived for the living environment domain. A further 1.5% of LSOAs are within the 10% most deprived nationally for education, skills and training.

Table 13-1 Deprivation, 2025 (rank out of 296 local authorities)

	West Oxfordshire	Cotswold	Vale of White Horse	Swindon
Overall	270	243	280	180
Income	271	270	259	146
Employment	275	278	263	172

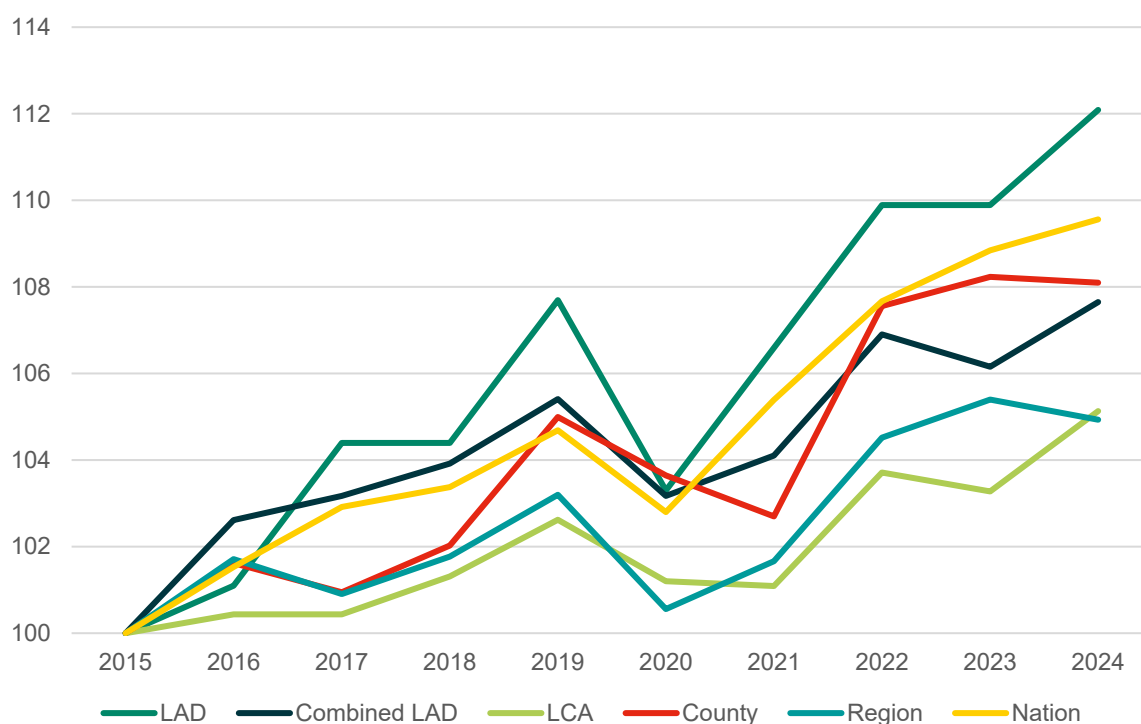
	West Oxfordshire	Cotswold	Vale of White Horse	Swindon
Education, Skills and Training	223	263	235	103
Health Deprivation and Disability	279	282	284	174
Crime	285	270	283	169
Barriers to Housing and Services	118	50	124	189
Living Environment	260	107	289	263

Source: MHCLG (2025). *English Indices of Deprivation*

Employment

- 13.3.8 Employment in West Oxfordshire was approximately 51,000 in 2024, accounting for 12.8% of total employment across the county [Ref 13-4]. Between 2015 and 2024, West Oxfordshire saw an increase of 12.1% in total employment which is the highest among all comparator areas, as shown in **Plate 13-2**.

Plate 13-2 Indexed employment growth across study areas, 2015-2024 (2015=100)



Source: ONS (2026). *Business Register and Employment Survey*.

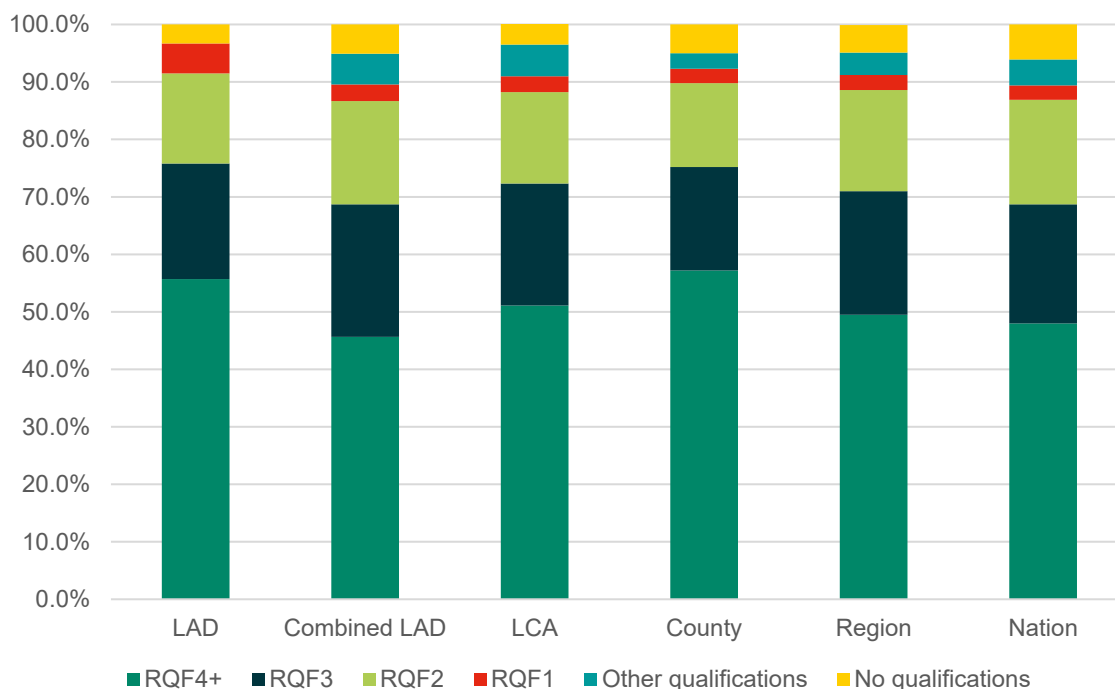
- 13.3.9 The largest employment sector in West Oxfordshire in 2024 was manufacturing, accounting for 11.7% of total employment. This is followed by education and professional, scientific and technical activities, each accounting for 9.3% of employment. The sector structure differs from the combined LAD area, where professional, scientific and technical activities was the largest sector, accounting for 12.0% of employment, followed by health (10.0%) and accommodation and food services (8.3%). Across Oxfordshire, education was the largest employment sector, accounting for 15.7% of employment, followed by professional, scientific and technical activities (13.1%) and health (12.5%).
- 13.3.10 More specifically, the LCA, which forms the study area for construction employment (see **paragraph 13.2.2**), contains approximately 19,000 construction workers. This represents around 5% of all construction workers across the South East and South West. Both regions have been considered as the LCA includes LADs within each. Although construction workers would not be expected to travel from across the full extent of both regions, the LCA nevertheless contains a relatively high proportion of the combined regional construction workforce.

Education and skills

- 13.3.11 West Oxfordshire performs relatively strongly in terms of the proportion of economically inactive residents and those in unemployment. For the period of April 2025 to March 2026, West Oxfordshire had an unemployment rate of 3.1% [Ref 13-5]. This was lower than the combined LAD area rate of 4.5%, the LCA (4.0%), the South East rate of 3.6% and the England rate of 4.7%, although it was slightly above the Oxfordshire rate of 2.9%. The economic inactivity rate in West Oxfordshire over the same period was significantly lower, at 9.1%, compared with the combined LAD area (16.5%), the LCA (16.6%), Oxfordshire (14.0%), the South East (18.1%) and England (20.5%) [Ref 13-6]. These figures suggest a relatively tight labour market, with limited spare capacity among the working-age population.
- 13.3.12 **Plate 13-3** shows that West Oxfordshire has a slightly higher-skilled workforce compared with geographical comparators. As of December 2025, 55.7% of West Oxfordshire residents held qualifications at Regulated Qualifications Framework Level 4 or above (RQF4+) [Ref 13-7].⁹ This was higher than the corresponding proportions across the combined LAD area (45.6%), the South East (49.5%) and England (48.0%), but slightly below Oxfordshire (57.2%). The proportion of West Oxfordshire residents with no qualifications was 3.3%, compared with 5.1% in the combined LAD area, 4.8% in the South East and 6.1% across England.

⁹ RQF is the system used in England to classify educational qualifications. RQF4+ include apprenticeships, degrees above. For reference, RQF1 includes GCSE grades 3 to 1, RQF2 includes GCSE grades 9 to 4 and RQF3 includes A-levels.

Plate 13-3 Qualification levels across the study areas, January 2025 to December 2025



Source: ONS (2026). Annual Population Survey

- 13.3.13 In line with qualification levels, the occupational profile of West Oxfordshire residents includes a relatively high proportion in the highly skilled occupations of managers, directors, professionals and associate professionals.¹⁰ In 2025, 62.4% of residents were employed in these occupations, compared with 54.6% across the combined LAD area, 59.7% across Oxfordshire and 56.2% across the South East [Ref 13-8]. Lower skilled occupations accounted for 10.8% of employment among West Oxfordshire residents, compared with 14.9% across the combined LAD area, 12.5% in the South East and 14.4% across England.¹¹

Tourism

- 13.3.14 Tourism is also an important source of economic activity within West Oxfordshire. In 2023, the LAD received approximately 513,000 staying visitor trips (83% domestic, 17% overseas), generating 1.5 million visitor nights and £124.6 million in expenditure, alongside three million day visits contributing a further £105.0 million. Combined with second home and host-related spending, total visitor-related expenditure reached £245.0 million, supporting an estimated £278.5 million in business turnover, led by catering, retail and accommodation sectors [Ref 13-9].
- 13.3.15 Overall, tourism sustained approximately 3,750 jobs (2,750 full-time equivalents), accounting for around 5% of employment in West Oxfordshire. Notable tourism assets near the Site include the National Trust's Buscot and

¹⁰ Highly skilled occupations comprise the occupations of managers, directors, senior officials, professional occupations and associate professional occupations.

¹¹ Lower skilled occupations comprise the occupations of process, plant and machine operatives as well as elementary occupations.

Coleshill Estates as well as Kelmscott Manor, situated to the south of the Site. There are also a number of PRoW that cross in and around the Site, providing pedestrian links between neighbouring settlements.

13.3.16 In addition, a review of existing accommodation stock has been undertaken to help inform the scoping of temporary worker accommodation. The following sources are used to inform the temporary accommodation baseline:

- Hotel and serviced accommodation stock is sourced from CoStar, which provides the number of rooms in the area [Ref 13-10]. This analysis also provides occupancy rates for such establishments, and as such, peak occupancy rates are applied to the annual accommodation stock to provide a worst-case assessment. Occupancy data are not available for serviced apartments; therefore, hotel occupancy rates have been applied as a worst-case assumption.
- Campsites are another form of temporary accommodation that could be used by construction workers.¹² Therefore, the stock figure is based on the VisitBritain (2026) survey for campgrounds which does not include bed spaces [Ref 13-11]. To reflect this, and recognising that not all campsites are authorised or appropriate for housing workers, given variations in local planning policies, zoning regulations, and site-specific circumstances, a 75% reduction has been applied to the total number of camp grounds. This adjustment accounts for the fact that not all campsite accommodation would be practical or permissible for worker use.

13.3.17 **Table 13-2** shows that there are an estimated 1,910 available bed spaces within the LCA, and 290 within West Oxfordshire alone when accounting for max occupancy rates at each study area.

Table 13-2 Tourism accommodation stock in West Oxfordshire and LCA

TOURISM ACCOMMODATION		ROOMS	MAX OCCUPANCY	REMAINING ROOMS
West Oxfordshire	Hotel	1,690	89%	185
	Serviced accommodation	-	0%	-
	Caravan campsites	455	70%	105*
	Total	2,145	N/A	290
LCA	Hotel	11,810	88%	1,430
	Serviced accommodation	165	88%	20
	Caravan campsites	2,040	70%	460*
	Total	14,015	N/A	1,910

Sources: CoStar (2026); Visit Britain (2026). England Accommodation stock audit; Frontline (2019). 2019 Economic Benefit Report: Holiday Parks and Campsites England Note: Figures may not sum due

¹² Campsites and caravan parks are occasionally utilised to accommodate construction workers during major infrastructure projects in the United Kingdom. Such uses are therefore considered realistic and have been included in this assessment.

*to rounding. *A 75% reduction in campsite bed spaces has been applied to reflect uncertainty about the existing stock of such accommodation and its suitability for temporary workers*

Crime and community safety

- 13.3.18 Thames Valley Police, which covers the area where the Site is located, reported 169,175 crimes between April 2025 and March 2026 [Ref 13-12]. This is equivalent to 61.4 crimes per 1,000 residents, which is significantly below the regional (70.5 crimes per 1,000 residents) and national (83.4 crimes per 1,000 residents) levels. Additionally, more locally, the Site and surrounding area within 3km has a crime rate of just 47.6 crimes per 1,000 residents, lower than the regional and national averages [Ref 13-13].¹³ This indicates that the surrounding area of the Site benefits from relatively low levels of crime.

Social infrastructure assets

- 13.3.19 While there are no residential properties, community facilities, tourism attractions or development land allocations located within the Site itself, several sensitive receptors lie in close proximity (see **Figure 13-1**). In addition, there are also various allotments that border the Site. Nearby villages, including Langford, Little Faringdon and Broughton Poggs, along with isolated farms and rural properties, represent the closest residential receptors. Langford hosts the closest nearby community facilities (St Christopher's Church of England School and St Matthew's church).

13.4 Overview of Legislation, Policy, and Guidance

- 13.4.1 The below legislation, policy and guidance have been taken into consideration in order to establish the proposed approach to the assessment of socio-economics.

Legislation

- 13.4.2 There is no applicable legislation specific to the assessment of socio-economics.

National Planning Policy

National Planning Policy Framework (NPPF)

- 13.4.3 The NPPF sets out the Government's planning policies for England and how these should be applied in the preparation of plans and determination of planning applications [Ref 13-14].
- 13.4.4 Chapter 10 'Securing clean energy and water' of the NPPF sets out the decision-making and plan-making policy in support of renewable and low-

¹³ The crime rate for the LVIA has been estimated using a best-fit statistical geography comprising the LSOA of West Oxfordshire 012A, Cotswold 009D and Cotswold 009F. These LSOA were chosen as more than 50% of each LSOA lies within the LVIA boundary.

carbon energy development. Policy W3 requires decision makers to give 'substantial weight' to the benefits of improving energy security, supporting economic development and/or the transition to a net zero future, reflecting the Government's commitment to the delivery of clean power by 2030.

- 13.4.5 Policy E1 of the NPPF sets out the plan-making policy for providing the conditions for long-term economic growth. To support business investment and employment, development plans should set out a clear economic vision and strategy which takes a positive, proactive and realistic approach to encourage sustainable economic growth in both urban and rural areas, having regard to the Government's Industrial Strategy and any relevant strategic and local strategies for economic development and regeneration, taking into account both local business needs and wider needs and opportunities for economic growth and investment.
- 13.4.6 In addition, Chapter 16 'Promoting healthy communities' emphasises the importance of healthy, inclusive and safe places. Plan-making policy HC1 highlights the need to encourage social interaction, promote healthy lifestyles, and ensure that local facilities and services, including community, health and education facilities, are provided to meet the needs of the community, contributing to overall well-being and social cohesion.

National Policy Statements For Energy

- 13.4.7 The assessment is informed by the planning policy requirements set out within the Overarching National Policy Statement (NPS) for Energy (EN-1), which identifies the potential beneficial and adverse socio-economic impacts that should be considered as a result of energy developments [Ref 13-15]. The national policy for energy infrastructure outlines the guidance for likely scope and geographical coverage for energy infrastructure developments, including the associated likely socio-economic impacts. It states that all relevant socio-economic impacts should be considered. The policy also states that the Applicant is strongly encouraged to carry out engagement with relevant local authorities early on to better understand issues and opportunities.
- 13.4.8 The National Policy Statement for renewable energy infrastructure (EN-3) and electricity networks infrastructure (EN-5), in conjunction with EN-1, provide the primary policy basis for decisions by the Secretary of State on applications for nationally significant renewable energy infrastructure and electrical networks infrastructure, including solar [Ref 13-16]. Key policy from EN-3 relating to socio-economics includes that applicants should set out where there may be socio-economic benefits. I.e. it states that the Secretary of State should take into account the economic (and other) benefits of the best and most versatile agricultural land and ensure the applicant puts forward appropriate mitigation measures to minimise the impacts on soils or soil resources.
- 13.4.9 In addition, paragraph 2.6.2 of EN-3 states that where flexibility is sought in the consent, the likely worst-case social and economic effects of the Proposed Development should be assessed. Key policy from EN-5 relating to socio-economics states that though decarbonisation is a priority for the government,

the development of new infrastructure must minimise costs to consumers and limit community and environmental impacts where possible.

Local Policy

13.4.10 Relevant regional and local strategies and policies that will be reviewed include the West Oxfordshire Local Plan (2018), the emerging West Oxfordshire Local Plan 2043 (currently at the Regulation 18 Stage), the Cotswold District Local Plan 2011-2031 (2018) and the Cotswold Local Plan Review (currently at the Regulation 18 Stage). In addition, relevant Supplementary Planning Guidance (SPG) and associated evidence base documents will also be reviewed. These include but are not necessarily limited to:

- West Oxfordshire District Council Plan 2023 to 2027;
- West Oxfordshire Community Employment Plan Evidence Paper;
- West Oxfordshire District Council Developer Contributions Supplementary Planning Document;
- Cotswold District Council Corporate Plan 2024 to 2028;
- Cotswold District Council Green Economic Growth Strategy;
- Oxfordshire County Council Plan 2025 to 2028; and
- Oxfordshire's Strategic Economic Plan 2023-33.

Guidance

Homes and Communities Agency (HCA) Additionality Guide

13.4.11 In addition, the Homes and Communities Agency (HCA) Additionality Guide is also used, which provides a framework for estimating displacement, multiplier and leakage factors for employment estimates [Ref 13-17].

Institute of Sustainability and Environmental Professionals Guidance – Social Impact Assessment in environmental impact assessment in the UK and Ireland

13.4.12 Institute of Sustainability and Environmental Professionals (ISEP) guidance on Social Impact Assessment has informed the approach to identifying and assessing social impacts. This includes consideration of effects on local communities, wellbeing, social infrastructure and different population groups [Ref 13-18].

Ministry of Housing, Communities and Local Government Appraisal Guide

13.4.13 Ministry of Housing, Communities and Local Government (MHCLG) appraisal guidance has been considered in assessing the likely socio-economic effects of the Proposed Development. The guidance supports a proportionate assessment of impacts, including how effects may be distributed across different areas and communities [Ref 13-19].

Fields in Trust Guidance

- 13.4.14 Fields in Trust guidance has been used as a benchmark when considering PRoW. It assists in assessing the accessibility and quality of existing and potential PRoW [Ref 13-20].

13.5 Assessment Methodology

- 13.5.1 This assessment broadly follows the overarching EIA Methodology set out in **Chapter 4: EIA Methodology** of this EIA Scoping Report. This section sets out the discipline-specific assessment approach, effect significance criteria, and any assumptions and limitations.

Significance Criteria

- 13.5.2 The approach to the assessment of the significance is outlined below. There is no UK legislation or guidance for assessing the socio-economic effects of a solar farm. Therefore, the approach to the socio-economic assessment is based on professional judgement, previous experience and best practice. It is informed by the planning policy requirements set out within the designated NPS and local planning policy.
- 13.5.3 Effects are identified from the interaction between the magnitude of impacts and the sensitivity of receptors. Specifically, the assessment of likely significant effects is based on the magnitude of the predicted change to the baseline position, as well as the sensitivity of the socio-economic receptors. It also takes into consideration any embedded mitigation that forms part of the Proposed Development.
- 13.5.4 Embedded mitigation refers to mitigation measures integrated into the Proposed Development's design to avoid, reduce and, if possible, offset adverse effects. The presence of embedded mitigation can influence the likely significance of the effects. Additional mitigation refers to measures outside the Proposed Development's design, implemented to further minimise or enhance impacts.
- 13.5.5 A summary of all mitigation measures and how they will be secured, either inherently through the Proposed Development design, or through control documents, or requirements within the DCO, are set out in the Commitments Register, which will be kept under review as the Proposed Development progresses.
- 13.5.6 With respect to phasing, an assessment will be undertaken to assess the impact of the Proposed Development on the baseline socio-economic conditions, at both (i) the Construction and Decommissioning phases and (ii) the Operation (and maintenance) phase, based on the core assessment years, which will be confirmed within the ES.
- 13.5.7 The Proposed Development is expected to operate for a 40-year lifespan, with the Decommissioning phase of the Proposed Development then taking place.

The decommissioning of the Proposed Development would generate further direct and indirect socio-economic effects similar to those generated during the Construction Phase. Given that the socio-economic impacts during the Construction and Decommissioning phases are likely to be very similar, these phases will be assessed against the same proposed scope.

Relevant Receptors

13.5.8 Receptors are likely to include, but may not be limited to, current and future:

- residents;
- workers;
- businesses, including agricultural operations; and
- visitors.

13.5.9 Consideration will also be given to the physical socio-economic assets that these receptor groups utilise.

Receptor Sensitivity

13.5.10 The receptor sensitivity will be assessed on a case-by-case basis, using professional judgement informed by the baseline statistics. To assist with this assessment, broad definitions of the receptor sensitivities are given in **Table 13-3**.

Table 13-3 Receptor Sensitivity Criteria

Sensitivity	Evidence for sensitivity assessment
High	High responsiveness of a receptor to changes in baseline conditions, characterised by low capacity or high scarcity of a socio-economic indicator when compared to targets or other geographies. The receptor is very sensitive to most temporary or permanent changes. For example, if all residents in an area were unemployed and looking for a job, then they would be highly sensitive to a change in provision of new employment opportunities.
Medium	Moderate responsiveness of a receptor to changes in baseline conditions. For example, if slightly more residents in an area were unemployed and looking for a job compared to comparator geographies, then residents in that area would have a moderate sensitivity to a change in the provision of new employment opportunities.
Low	Limited responsiveness of a receptor to changes in baseline conditions. For example, if a lower proportion of residents in an area were unemployed and looking for a job than in comparator geographies (and such geographies were performing well relative to historic trends), then residents in that area would have a lower sensitivity to a change in the provision of new employment opportunities.

Magnitude of Impact

13.5.11 Magnitude of impacts will be determined with reference to the baseline conditions, using the criteria provided in **Table 13-4** and classified by high, medium, low or negligible. The assessment will aim to be objective by quantifying the magnitude of impacts where possible. Where quantification is not possible, qualitative assessments based on professional judgement will be made and justified.

13.5.12 Impacts will be identified as either beneficial or adverse.

Table 13-4 Magnitude of Impact Criteria

Magnitude of Impact	Description
High	Total loss or major/substantial alteration to key elements/features of the baseline (pre-development) conditions such that the post-development character/composition/attributes will be fundamentally changed.
Medium	Loss or alteration to one or more key elements/features of the baseline conditions such that post-development character/composition/attributes of the baseline will be materially changed.
Low	A minor shift away from baseline conditions. Change arising from the loss or alteration will be discernible/detectable but not material. The underlying character/composition/attributes of the baseline condition will be similar to the pre-development circumstances/situation.
Negligible	Very little change from baseline conditions. Change barely distinguishable, approximating to a 'no change' situation.

13.5.13 Socio-economic effects are a reflection of the relationship between the sensitivity of the affected receptor and the magnitude of the impact. **Table 13-5** shows how the assessment of the significance of effects has been determined.

Table 13-5 Significance Matrix

Magnitude of impact	Sensitivity		
	High	Medium	Low
High	Major	Major	Moderate
Medium	Major	Moderate	Minor
Low	Moderate	Minor	Negligible
Negligible	Minor	Negligible	Negligible

13.5.14 Moderate or Major effects are generally classified as 'significant'. Minor and Negligible effects are classified as 'not significant'.

Assessment of Cumulative Effects

- 13.5.15 The methodology for the assessment of cumulative effects is set out within **Chapter 5: Cumulative Effects Assessment** of this EIA Scoping Report. The developments identified as having potential to give rise to cumulative effects in conjunction with the Proposed Development would be considered within the Assessment of Cumulative Effects chapter of the ES.
- 13.5.16 It is anticipated that effects on Construction and Decommissioning employment, and changes to local tourism assets, are most likely to change in significance as a result of the cumulative effects of nearby projects.

Assumptions and Limitations

- 13.5.17 The assessment of socio-economic impacts is carried out against a benchmark of current socio-economic baseline conditions within the identified Study Area. As with any data set, the baseline data will change over time. The most recent published data sources are used for all baseline conditions. Wherever future baseline information is available, this is used and clearly set out to update the position from the current to the estimated future baseline. It is also recognised that some datasets may still reflect the economic and social effects of the pandemic, which may influence certain indicators such as employment, and commuting patterns.
- 13.5.18 There are wider impacts which can result from schemes that are difficult to quantify, such as displacement, leakage and multiplier impacts. Whilst accepted methods of quantification are used wherever possible, expert judgement is applied where necessary. Where professional judgement is used, justification and explanation are provided.

13.6 Potential Impacts

- 13.6.1 Potential socio-economic effects have been determined by considering what types of impacts the Proposed Development may generate during Construction, Operation (and maintenance), and Decommissioning phases within the relevant socio-economic Study Areas. Consideration of potential effects has been determined through the use of past experience, professional knowledge and a review of the socio-economic scope of previous (or current) solar farm projects across the UK.
- 13.6.2 The potential socio-economic effects under consideration during Construction, Operation (and maintenance) and Decommissioning are as follows:
- provision of direct, indirect and induced jobs;
 - provision of education, training and skills programmes;
 - changes in demand for temporary worker accommodation;
 - changes to local tourism assets and access to PRoW;
 - spending associated with the workers;
 - impact on local property value;

- disruption to local businesses; and
- changes in crime and community safety.

Mitigation

13.6.3 Embedded mitigation measures will be incorporated into the design of the Proposed Development, where practical, to avoid, prevent or reduce effects on socio-economic receptors. Further details of measures relevant to amenity effects on assets will be provided in the relevant ES chapters, including:

- **Chapter 7: Landscape and Visual;**
- **Chapter 10: Soils and Agriculture;**
- **Chapter 11: Noise and Vibration;**
- **Chapter 12: Transport and Access;** and
- **Chapter 16: Other Environmental Matters.**

13.6.4 An Outline Construction Environmental Management Plan (OCEMP), which will accompany the DCO Application, will describe the mitigation measures and best practice guidance to be employed during the Construction Phase. The OCEMP will form the framework for a detailed Construction Environmental Management Plan (CEMP) that will be agreed with the LPA prior to construction. The aim of the CEMP is to reduce impacts and promote best practice such as those listed below:

- use of land for temporary laydown areas;
- construction traffic (including parking and access requirements) and changes to access and temporary road or footpath closure (if required);
- noise and vibration;
- utilities diversion;
- dust generation and mitigation measures;
- ecological mitigation;
- water pollution prevention measures; and
- waste generation.

13.6.5 Further mitigation measures will be described in the following documents:

- an Outline Operational Environmental Management Plan (OOEMP);
- an Outline Decommissioning Environmental Management Plan (ODEMP);
- an Outline Landscape and Ecological Management Plan (OLEMP) which would set out the principles for how the land would be managed throughout the Operation (and maintenance) phase, following completion of construction;
- an Outline Construction Traffic Management Plan (OCTMP);
- an outline Operation Traffic Management Plan;
- an outline Battery Safety Management Plan;
- an outline Soil Management Plan;
- an outline Waste Management Plan (to be included within the OCEMP); and
- an outline Employment, Skills and Supply Chain Strategy (oESSCS).

- 13.6.6 Mitigation measures relevant to Socio-economics are also included in **Appendix 3-1: Commitments Register**.

13.7 Proposed Scope

Scoped In

Construction and Decommissioning

Provision of direct, indirect, and induced jobs

- 13.7.1 The Proposed Development would create direct, indirect and induced jobs during the Construction and Decommissioning phases. The Proposed Development would likely require a large construction workforce. Whilst the number of construction workers that would be required during the Construction and Decommissioning phases is not known yet, high-level estimates can be found by analysing similar schemes. Through this method, it is estimated that the Proposed Development would require approximately 400 construction jobs at the peak of the Construction Phase. The indirect and induced jobs will be derived using the Additionality Guide, leading to a higher overall impact.
- 13.7.2 Some construction workers will be specialists with highly specialised skills and are likely to be sourced from a range of locations. It is conservatively estimated that 25% of the construction workforce would come from outside of the LCA.¹⁴ The extent to which the Proposed Development can utilise local supply chains will be assessed. As such, this effect is scoped in at the LCA level.

Provision of education, skills and training

- 13.7.3 The Proposed Development would provide employment, skills and training opportunities for local residents, particularly during the Construction Phase. Although the LAD has a relatively high proportion of residents qualified to RQF4+ and employed in higher-skilled occupations, the wider labour market area includes communities with comparatively lower qualification levels and a higher proportion of lower-skilled occupations, including construction-related roles (as identified within **paragraphs 13.3.11 and 13.3.13**). The Proposed Development may also support education and training initiatives, such as school engagement programmes, adult learning opportunities and apprenticeships, which will be developed as the Proposed Development progresses. Given the potential for these initiatives to support access to employment and skills development within the LAD, this effect is scoped into the assessment.

¹⁴ This assumption is informed by the workforce mobility and skills in the UK construction sector 2025 report, produced by CITB (2026). It indicates that 11% of construction workers in the South East are staying within temporary accommodation. This figure has been used as starting point; a higher proportion (25%) is considered appropriate given the specialist skills associated with solar farm installation and therefore it is likely that a proportion of the construction workforce will be sourced from outside the LCA.

Changes to local tourism assets and access to PRow

- 13.7.4 **Figure 13-1** identifies the tourism assets and PRow in and around the Site. The nearest tourism assets are the National Trust's Buscot and Coleshill Estates and Kelmscott Manor, which are located to the south of the Site. The figure also identifies 23 PRow within or crossing the Site. These routes generally cross agricultural fields or follow field boundaries and existing access routes, and provide connections between nearby settlements, including Langford, Broughton Poggs and Grafton, and the surrounding countryside.
- 13.7.5 During the Construction and Decommissioning phases, temporary effects on tourism assets and PRow users could arise through increased traffic on local roads, short-term visual and noise disturbance, changes to the rural setting, and the presence of construction compounds and associated infrastructure.
- 13.7.6 Construction and decommissioning activities, including vehicle movements, temporary storage of materials and the installation or removal of infrastructure, could also result in temporary closure, diversion, restriction or changes to the amenity experienced by PRow users. PRow may be used by local residents, visitors and recreational users for walking, cycling and access to the countryside.
- 13.7.7 The Applicant will seek to retain existing PRow and maintain access where reasonably practicable. Where PRow pass through or alongside construction or operational areas, appropriate separation measures, including fencing and suitable offsets, would be incorporated into the design.
- 13.7.8 West Oxfordshire's emerging Local Plan identifies tourism as an important contributor to the local economy, supporting employment, small businesses and local supply chains, particularly in rural areas. It also recognises the importance of the District's natural, built and heritage assets, and the potential for visitor activity to place pressure on local communities, infrastructure, services and environmental assets [Ref 13-21]. Given the potential for temporary effects on tourism assets, and access to PRow during the Construction and Decommissioning phases, together with the number of PRow within the Site and the anticipated construction duration of up to 48 months, changes to local tourism assets and access to PRow are scoped in.

Operation (and maintenance)

Provision of education, skills and training

- 13.7.9 The Proposed Development would provide employment, skills and training opportunities for local residents, particularly during the Operation (and maintenance) phase. Given the potential for these initiatives to support access to employment and skills development within the LAD, this effect is scoped into the assessment.

Changes to local tourism assets and access to PRow

- 13.7.10 During the Operation (and maintenance) phase, the Proposed Development has the potential to affect the experience of visitors and recreational users of tourism assets and PRow within or adjacent to the Site. Longer-term effects could arise through changes to the visual character, perceived rural character and tranquillity of the landscape resulting from solar arrays, fencing, inverter stations, security infrastructure and associated landscaping. These effects may be experienced by visitors to nearby tourism assets, including the National Trust's Buscot and Coleshill Estates and Kelmscott Manor, as well as by users of PRow and other recreational routes.
- 13.7.11 The PRow would be retained where reasonably practicable. The detailed design would seek to maintain appropriate separation between PRow and operational infrastructure, including through the use of fencing, offsets and landscaping where appropriate. While the Proposed Development is not expected to result in the closure of PRow during the Operation (and maintenance) phase, users of routes within or adjoining the Site may experience changes to views, landscape character, tranquillity and the overall amenity of the routes.
- 13.7.12 West Oxfordshire's emerging Local Plan identifies tourism as an important contributor to the local economy and recognises the importance of the District's natural, built and heritage assets in supporting tourism [Ref Ref 14-21]. Given the importance of tourism to the local economy, the number of PRow within and surrounding the Site, the potential for longer-term effects on tourism assets and the amenity of PRow during the Operation (and maintenance) phase is considered relevant. As such, changes to local tourism assets and access to PRow is scoped in.

Scoped Out

Construction and Decommissioning

Changes in demand for temporary worker accommodation

- 13.7.13 The construction and installation of a solar farm requires workers with specific skills and experience, including in electrical installation, civil engineering, groundworks and specialist plant operation [Ref 13-22]. While the majority of construction workers are anticipated to be sourced from within the LCA, some workers may originate outside the LCA to cater for these specialised roles and therefore, may require temporary accommodation during the Construction Phase. As identified within the baseline, the LCA benefits from a substantial and well-established visitor economy, which supports a significant stock of accommodation as identified within the baseline.
- 13.7.14 At the peak of the Construction Phase, it is estimated that 400 workers would be on site. The Construction Industry Training Board (CITB) Workforce Mobility and Skills in the UK Construction 2025 report identifies that 11% of construction workers within the South East require temporary accommodation [Ref 13-23].

Applying this to the estimated peak construction workforce of 400 workers, approximately 44 workers may require temporary accommodation. This would equate to 2% of the approximately 1,910 available bed spaces within the LCA.

- 13.7.15 A further conservative sensitivity test has been undertaken to account for the specialist skills required during construction of the Proposed Development. As set out in **paragraph 13.7.2**, some construction workers would be required for highly specialised roles and may therefore need to be sourced from a wider geographic area. It is conservatively assumed that up to 25% of the construction workforce could originate from outside the LCA and require temporary accommodation.¹⁵ At the peak workforce of 400 workers, this would equate to 100 workers and represent around 5% of all the available bed spaces within the LCA. This is considered a reasonable worst-case scenario, as it assumes all workers originating from outside the LCA would require overnight accommodation throughout the peak construction period.
- 13.7.16 The assessment adopts several conservative assumptions relating to the proportion of workers based outside the LCA, the geographic area affected, accommodation occupancy rates throughout the year, and peak workforce numbers.
- 13.7.17 Given the relatively small proportion of the available labour pool requiring temporary accommodation, the wide geographic area from which workers could be drawn, and the scale of existing visitor accommodation capacity within the LCA relative to the maximum potential workforce, the effect on demand for temporary workforce accommodation is not considered likely to be significant. This potential effect is therefore scoped out.

Spending associated with the workers

- 13.7.18 At its peak, the construction period would support approximately 400 workers, with this level of employment sustained for less than six months. Construction employment is typically mobile, and it is uncertain where workers' earnings would be spent. While some expenditure may occur in the area surrounding the Site, a proportion is likely to be retained in workers' home locations or distributed across the wider LCA. The nearest towns, Lechlade and Carterton, provide a range of food, retail and other services; however, the scale of additional expenditure is not expected to be substantial.
- 13.7.19 Based on Construction Industry Joint Council allowances, construction workers would receive £53.69 per night for accommodation and food [Ref 13-24]. As set out at **paragraph 13.7.14**, up to approximately 44 workers at peak construction may require temporary accommodation. Assuming 220 working days per year and that the peak workforce is sustained for six months, this could generate expenditure of approximately £260,000 on accommodation and food. This expenditure would be distributed across the local area and wider LCA,

¹⁵ This assumption is informed by the workforce mobility and skills in the UK construction sector 2025 report, produced by CITB (2026). It indicates that 11% of construction workers in the South East are staying within temporary accommodation. This figure has been used as starting point; a higher proportion (25%) is considered appropriate given the specialist skills associated with solar farm installation and therefore it is likely that a proportion of the construction workforce will be sourced from outside the LCA.

depending on the location of available accommodation and services. Under the reasonable worst-case scenario, in which 25% of the peak workforce (approximately 100 workers) requires temporary accommodation, associated expenditure is estimated to be approximately £590,000.¹⁶

- 13.7.20 To illustrate the relative scale of impact, if all expenditure under the reasonable worst-case scenario were concentrated within West Oxfordshire alone, it would represent just 0.4% of annual convenience goods spending (£159.6 million in 2012, according to the latest available retail study) [Ref 13-25]. In practice, the spending would be spread across a much wider area, making the effect even less likely to be significant.
- 13.7.21 Given the relatively small scale of this additional expenditure compared to the size of the local economy, this effect is unlikely to be significant and has therefore been scoped out of the assessment.

Impact on local property value

- 13.7.22 Construction activity has the potential to affect residential amenity temporarily through increased construction traffic and HGV movements, changes in access, noise, vibration, dust and temporary visual disturbance. In principle, such effects could influence perceptions of an area and, indirectly, housing-market behaviour. However, residential property values are influenced by a wide range of interacting factors, including the characteristics and condition of individual properties, local supply and demand, access to facilities and services, interest rates, wider economic conditions and purchaser preferences. It would therefore be difficult to isolate and reliably attribute any change in the sale price of an individual dwelling to the construction or decommissioning of the Proposed Development.
- 13.7.23 The relevant pathways through which temporary construction activity could affect local residents will be assessed directly within the relevant chapters and associated construction-management documentation outlined above (see **paragraphs 13.6.4 and 13.6.5**).
- 13.7.24 The available UK research concerning renewable-energy development and residential property values does not provide a separate, transferable estimate of the effect of temporary construction activity, such as traffic movements, noise, dust or access disruption, on nearby house prices. A UK-wide study by Jarvis found no significant effects for solar projects on nearby residential property values [Ref 13-26]. Currently, there is no consensus in the academic evidence on which to robustly predict a project-specific effect of the Proposed Development on local residential property values. On this basis, this effect is unlikely to be significant and has therefore been scoped out of the assessment.

¹⁶ This assumption is informed by the workforce mobility and skills in the UK construction sector 2025 report, produced by CITB (2026). It indicates that 11% of construction workers in the South East are staying within temporary accommodation. This figure has been used as starting point; a higher proportion (25%) is considered appropriate given the specialist skills associated with solar farm installation and therefore it is likely that a proportion of the construction workforce will be sourced from outside the LCA.

Disruption to local businesses, including agricultural operations

- 13.7.25 One of the Site's landowners leases approximately 4–6 acres of land outside of the DCO Site Boundary to a local horse owner. In addition, The Glebe Farm is occupied under a one-year rolling Farm Business Tenancy, which is a legal rental agreement between the landowner and a farm for agricultural land and/or buildings.
- 13.7.26 During construction, the Proposed Development would require access to, and use of, land within the Site that is subject to lease and tenancy arrangements with the relevant landowners. Any potential effects on individual landowners, the horse owner and the Farm Business Tenant, including temporary disruption to existing land use or agricultural activity, would be addressed through the terms of the relevant land agreements and, where necessary, associated compensation arrangements. These effects would principally be financial and commercial matters affecting the individual land interests directly involved in the Proposed Development and would not represent likely significant environmental effects requiring assessment within this chapter.
- 13.7.27 Potential effects on businesses beyond the land subject to the Proposed Development, for example from construction traffic would be assessed in **Chapter 12: Transport and Access**. These impacts would be localised and managed through embedded mitigation measures, including the OCEMP and OCTMP. No likely significant effects on local businesses are anticipated during construction and decommissioning. This matter is therefore proposed to be scoped out.

Changes in crime and community safety

- 13.7.28 As described in the baseline, the Site has a low crime rate per 1,000 residents compared with relevant geographic comparators. In addition, Thames Valley Police reported no recorded crime at the Site itself.
- 13.7.29 In relation to crime, the Proposed Development would incorporate security measures during the Construction, Operation and Decommissioning phases, including secure perimeter fencing and CCTV coverage. Given the Site's existing low crime rate and the proposed security measures, no significant effects on crime or community safety are anticipated as a result of the Proposed Development. This matter has therefore been scoped out of further assessment.

Operation (and maintenance)

Provision of direct, indirect, and induced jobs

- 13.7.30 The Proposed Development would increase employment during its operation through direct on-site employment. However, solar farms are not worker-intensive developments, and while some indirect and induced jobs in the wider economy are expected to be supported by the Proposed Development's economic activity, it is unlikely to significantly support a large number of these jobs (estimated to be between 10 and 20). The Proposed Development would

also require temporary staff for periodic replacement of infrastructure, such as the panels and the Battery Energy Storage System (BESS), though these activities are not expected to necessitate a substantial workforce. As the number of direct, indirect, induced and temporary operational workers is expected to be very low, particularly in the context of the LCA's employment base of 482,175 jobs, the effect is considered negligible and is therefore scoped out.

Changes in demand for temporary worker accommodation

- 13.7.31 The Proposed Development is not expected to require a large number of full-time employees once operational, as set out above. Accordingly, operational employment requirements are not anticipated to generate a material demand for temporary worker accommodation. Any temporary accommodation needs associated with occasional maintenance or specialist activities would be limited in scale and duration and could be met through existing local provision. Therefore, the effect relating to temporary worker accommodation is scoped out.

Spending associated with workers

- 13.7.32 It is not anticipated that there would be large amounts of operational employment. Additionally, while temporary staff will be required for periodic replacement activities of the Proposed Development's infrastructure such as the panels, and the BESS, these activities are not expected to necessitate a substantial workforce or extend over a prolonged period of time. Therefore, it is not anticipated that there would be large amounts of worker expenditure during the Operation (and maintenance) phase. As such, this effect is scoped out.

Impact on local property value

- 13.7.33 Residential property values may be relevant to the economic interests of local residents. However, sale prices are influenced by a wide range of interacting factors, including the characteristics and condition of individual properties, local housing supply and demand, access to facilities and services, interest rates, wider economic conditions and purchaser preferences. It is therefore difficult to isolate and reliably attribute any change in the sale price of an individual dwelling to the Proposed Development.
- 13.7.34 As mentioned above (**paragraph 13.7.24**), the available UK evidence on solar development and nearby property values is limited and mixed. The studies do not establish a consistent, generally applicable or transferable relationship that would support a robust, project-specific prediction of a significant socio-economic effect on local residential property values.
- 13.7.35 The potential pathways through which the Proposed Development could affect residential amenity and, indirectly, local property values, including effects on landscape and visual amenity, will be assessed within **Chapter 7: Landscape and Visual**. The Proposed Development would incorporate the embedded mitigation measures identified above, including the retention of existing

vegetation and the provision of landscape planting and screening. The effectiveness of these measures, and the significance of any residual effects on nearby residential receptors, will be assessed within that chapter.

- 13.7.36 Overall, it is not likely that the Proposed Development would have a significant impact on property value in the area. As such, this effect is scoped out.

Disruption to local businesses, including agricultural operations

- 13.7.37 During the Operation (and maintenance) phase, the land within the Site would be used as a solar farm and would no longer be available for its existing agricultural uses. The financial and commercial implications of this change in land use for the directly affected landowners' businesses would be addressed through the agreed lease terms and any associated compensation arrangements. The change in use of the land is therefore a matter of private commercial agreement between the Applicant and the relevant land interests. It is not considered to give rise to likely significant environmental effects in respect of individual landowners within this assessment.
- 13.7.38 In addition, once operational, the Proposed Development would generate very limited traffic and require only periodic inspection, maintenance, vegetation management and occasional repair works. It would not be expected to result in material disruption to the access, operation or viability of businesses outside the Site. Therefore, there are no likely significant effects on local businesses and as such this matter is proposed to be scoped out of this assessment.

Changes in crime and community safety

- 13.7.39 A security fence would enclose the Site, including the Substation(s) and BESS area. Perimeter fencing around Solar PV Arrays would comprise wooden post and metal wire stock fencing, driven into the ground at a maximum depth of 1.5m and measuring up to 3.0m in height.
- 13.7.40 Security fencing, expected to be metal palisade fencing, associated with the Main and Collector Substations and other electrical infrastructure may be up to 4.0 m in height. Pole mounted closed circuit television (CCTV) systems, infrared cameras, and motion sensors are also likely to be deployed around the perimeter of the operational areas of the Site at heights of up to 5m in height.
- 13.7.41 As such, it is not anticipated that the Proposed Development would create any material changes to the amount of crime or the level of community. As such, this effect is scoped out.

Consultation

- 13.7.42 Consultation with statutory consultees will be undertaken as part of the Environmental Impact Assessment (EIA) process following submission of this EIA Scoping Report. This will include engagement with the relevant local authority socio-economics teams, employment and skills leads, and other stakeholders with an interest in employment, training and skills outcomes.

13.8 Summary of Matters Scoped In and Out

Table 13-6 Summary of Assessment Scope

ASPECT/ MATTER	CONSTR-UNCTION	OPERATION	DECOMMISSION- ING
Provision of direct, indirect and induced jobs	Scoped In	Scoped Out	Scoped In
Provision of education, skills and training	Scoped In	Scoped In	Scoped In
Changes in demand for temporary worker accommodation	Scoped Out	Scoped Out	Scoped Out
Changes to local tourism assets and access to PRow	Scoped In	Scoped In	Scoped In
Spending associated with the workers	Scoped Out	Scoped Out	Scoped Out
Impact on local property value	Scoped Out	Scoped Out	Scoped Out
Disruption to local businesses, including agricultural operations	Scoped Out	Scoped Out	Scoped Out
Changes in crime and community safety	Scoped Out	Scoped Out	Scoped Out

13.9 References

- Ref 13-1 West Oxfordshire District Council (2024). The Economic Impact of West Oxfordshire's Visitor Economy 2023.
- Ref 13-2 ONS (2026). Population estimates – local authority based by single year of age.
- Ref 13-3 MHCLG (2025). English Indices of Deprivation 2025.
- Ref 13-4 ONS (2026). Business Register and Employment Survey.
- Ref 13-5 ONS (2026). Annual Population Survey.
- Ref 13-6 ONS (2026). Annual Population Survey.
- Ref 13-7 ONS (2026). Annual Population Survey.
- Ref 13-8 ONS (2026). Annual Population Survey.
- Ref 13-9 West Oxfordshire District Council (2024). The Economic Impact of West Oxfordshire's Visitor Economy 2023.
- Ref 13-10 CoStar (2026). Volterra analysis
- Ref 13-11 Visit Britain (2026). England accommodation stock audit.
- Ref 13-12 ONS (2026). Crime In England and Wales: year ending March 2026.
- Ref 13-13 Police.UK (2026). Street-level crime.
- Ref 13-14 MHCLG (2026). National Planning Policy Framework
- Ref 13-15 Department for Energy Security and Net Zero (2025). Overarching National Policy Statement for Energy (EN-1).
- Ref 13-16 Department for Energy Security and Net Zero (2023). National Policy Statement for Renewable Energy Infrastructure (EN-3); Department for Energy Security and Net Zero (2023). National Policy Statement for Electrical Networks Infrastructure (EN-5);
- Ref 13-17 HCA (2014). Additionality Guide – Fourth Edition.
- Ref 13-18 ISEP (2025). Social Impact Assessment in Environmental Impact Assessment in the UK and Ireland
- Ref 13-19 MHCLG (2026). The MHCLG Appraisal GuideBook
- Ref 13-20 Fields in Trust Standards (2024). Planning Policy Context for England
- Ref 13-21 West Oxfordshire District Council (2026). ANNEX A – Draft West Oxfordshire Local Plan 2043.
- Ref 13-22 Department for Energy Security and Net Zero (2025). Assessment of the clean energy skills challenge.
- Ref 13-23 CITB (2026). Workforce mobility and skills in the UK construction sector 2025.
- Ref 13-24 HMRC (2026). EIM71325 – Tax treatment of working rule agreements: rates of allowances paid under particular agreements: the Construction Industry Joint Council
- Ref 13-25 West Oxfordshire District Council (2012). West Oxfordshire Retail Needs Assessment Update.
- Ref 13-26 Jarvis, S. (2025), "The Economic Costs of NIMBYism: Evidence from Renewable Energy Projects," Journal of the Association of Environmental and Resource Economists

14. CLIMATE CHANGE

14.1 Introduction

- 14.1.1 This chapter sets out the scope and methodology for the assessment of likely significant effects arising from the Proposed Development on climate (comprising a greenhouse gas (GHG) assessment, a climate change risk assessment (CCRA) and an in-combination climate change impact (ICCI) assessment) during the Construction, Operation and Decommissioning Phases.
- 14.1.2 The purpose of the assessment will be to identify and characterise relevant climate change factors, to consider the nature and scale of potential impacts arising from and on the Proposed Development, and to assess the significance of any likely effects. This will include the effects of GHG emissions from the Proposed Development on the climate, the impact of climate change on the Proposed Development, and the combined impact of the Proposed Development and climate change on receptors identified within other technical chapters of the environmental statement (ES).
- 14.1.3 There are no supporting technical figures or technical appendices to this chapter.

14.2 Study Area

- 14.2.1 The geographical study area for the Climate Change assessments is the Site, described in **Chapter 2: Site Context and Description**.
- 14.2.2 The assessment scope for the GHG assessment considers all direct GHG emissions arising from activities undertaken within the Site during the construction, operation and maintenance, and decommissioning of the Proposed Development. It also includes indirect emissions usually arising outside the Site such as emissions embedded within the construction materials arising as a result of the energy used for their production, as well as emissions arising from the transportation of materials, waste and construction workers. The study area also considers activities that may be avoided or displaced as a result of the Proposed Development such as other grid electricity production activities.
- 14.2.3 The assessment scope for the CCRA will be the area within the DCO Site Boundary of the Proposed Development, with the receptors including all components of the Proposed Development itself and any associated users.
- 14.2.4 The assessment scope for the ICCI assessment is as defined in the relevant environmental assessments within the ES and includes all environmental receptors that could be impacted by changing climate, as identified within the

assessments undertaken by the environmental disciplines for the purposes of this Environmental Impact Assessment (EIA).

14.3 Baseline Conditions

Greenhouse Gas Assessment

- 14.3.1 The baseline condition for the lifecycle GHG assessment is a ‘business as usual’ scenario where the Proposed Development does not go ahead. The current land use within the site and the local area consists predominately of agricultural fields mainly under arable production with a mix of semi-improved and improved grassland and fields of a medium-to-large scale bounded by hedgerows. The current land use has relatively low levels of land use GHG emissions in the context of the overall emissions in the wider area as it is largely arable land. Baseline agricultural GHG emissions are dependent on types of soil and vegetation present, fuel use for the operation of vehicles and machinery, and other inputs such as fertiliser and pesticide use. Agricultural emissions displaced from the Proposed Development are not considered, as it is assumed that these agricultural activities would continue either on site or in a new location hence no reduction.
- 14.3.2 The future baseline comprises existing carbon stock and sources of GHG emissions resulting from the existing activities within the study area, as well as the existing emissions from the generation of grid electricity if the Proposed Development does not go ahead.
- 14.3.3 The GHG assessment will be informed through a desk-based assessment of existing conditions, relevant policy and decarbonisation trajectories.

Climate Change Risk Assessment

- 14.3.4 The existing baseline condition is the historic and current climate as defined in terms of temperature, rainfall and other climatic factors. Existing baseline data will be gathered using historic climatic data obtained from the Met Office’s UK Climate Projection 2018 (UKCP18) [Ref 14-1] for the 12km grid cell in which the Proposed Development is located, as detailed in **Table 14-1**. The baseline utilises the climate average data for the period 1981-2010. The future climatic baseline for the design life of the Proposed Development will also be determined through the Met Office’s UKCP18 as presented in **Table 14-2**.

Table 14-1 Historic Climate Data (1981 - 2010)

CLIMATE VARIABLE	BASELINE (1981-2010)
Mean annual temperature (°C)	10.22
Mean annual maximum temperature (°C)	14.40
Mean summer maximum temperature (°C)	21.20
Mean winter minimum temperature (°C)	1.58
Highest temperature for baseline period (°C)	21.86

CLIMATE VARIABLE	BASELINE (1981-2010)
Lowest temperature for baseline period (°C)	1.23
Mean annual rainfall (mm)	601.7
Mean summer rainfall (mm)	127.7
Mean winter rainfall (mm)	169.6
Wettest month on average (mm)	December (68.62)
Driest month on average (mm)	February (38.05)

14.3.5 Examples of past extreme weather events near the Proposed Development that will inform the baseline include:

- July 2022 Heatwave [Ref 14-2]; – Oxfordshire experienced record-breaking temperatures, reaching up to 36.8°C;
- February 2022 Storm Eunice [Ref 14-3] – This storm was accompanied by heavy rainfall and wind speeds, resulting in numerous fallen trees, damages to buildings and infrastructure and power outages across the county; and
- February 2020 Storms Ciara and Dennis [Ref 14-4] – Back-to-back named storms that brought heavy rains and strong winds, causing rivers to burst their banks and resulting in flooding of surrounding low-lying areas.

14.3.6 In addition to these extreme weather events, 2026 has seen an increase in the frequency and duration of periods of exceptionally hot and dry weather across Oxfordshire. The sustained hot and dry conditions have increased drought risks and wildfires, demonstrating an increased trend in the frequency and severity of climate related hazards, and will be used to inform the climate resilience of the Proposed Development.

14.3.7 The future climatic baseline for the design life of the Proposed Development will be determined through the Met Office's UKCP18 [Ref 14-1] and UK Climate Risk Indicators (UKCRI) [Ref 14-5], for the 12 km grid cell in which Proposed Development is located. The following changes to the climate, relative to the 1981-2010 baseline (**Table 14-1**), are expected under the Representative Concentration Pathway (RCP) 8.5, up until 2071-2100. These future projections are presented in **Table 14-2**.

14.3.8 These future projections have been based on the RCP8.5 scenario, a high-emissions pathway developed by the Intergovernmental Panel on Climate Change (IPCC) that represents an upper-bound climate change scenario. RCP8.5 has been used for the purposes of this assessment as a conservative worst-case scenario, enabling the assessment of potential climate risks under severe future climate conditions.

Table 14-2 Future Climate Baseline Data

CLIMATE VARIABLE	BASELINE (1981-2010)	PROJECTED ANOMALY RCP 8.5 (2021-2050)	PROJECTED ANOMALY RCP 8.5 (2041-2070)	PROJECTED ANOMALY RCP 8.5 (2071-2100)	PROJECTED TREND
Mean annual temperature (°C)	10.2	11.4 (10.8 to 12.0)	12.3 (11.3 to 12.2)	14.1 (12.5 to 15.8)	↑
Mean annual maximum temperature (°C)	14.4	15.6 (15.0 to 16.2)	16.6 (15.6 to 17.6)	18.5 (16.8 to 20.3)	↑
Mean summer maximum temperature (°C)	21.2	22.7 (21.9 to 23.6)	23.9 (22.5 to 25.4)	26.6 (24.0 to 29.1)	↑
Mean winter minimum temperature (°C)	1.6	2.6 (1.9 to 3.3)	3.3 (2.2 to 4.5)	4.7 (2.9 to 6.6)	↑
Highest temperature for baseline period (°C)	21.9	23.6 (22.4 to 24.7)	24.9 (23.1 to 26.8)	27.9 (24.7 to 31.1)	↑
Lowest temperature for baseline period (°C)	1.2	2.2 (1.4 to 2.3)	3.0 (1.7 to 4.4)	4.5 (2.4 to 6.8)	↑
Mean annual rainfall (mm)	601.7	612.6 (572.6 to 651.6)	603.7 (555.5 to 653.7)	600.7 (534.0 to 677.1)	↑↓
Mean summer rainfall (mm)	127.7	116.9 (94.6 to 137.2)	103.6 (75.8 to 130.2)	81.5 (48.6 to 117.1)	↓
Mean winter rainfall (mm)	169.6	181.0 (165.1 to 198.6)	188.7 (165.7 to 215.2)	206.8 (170.3 to 251.1)	↑

In-Combination Climate Change Impacts Assessment

- 14.3.9 The receptors for ICCI are receptors within the surrounding environment that will be impacted by the Proposed Development in combination with future climatic conditions. Baseline climatic conditions for the ICCI assessment are determined using the climate change projections data.
- 14.3.10 The historic baseline and future climate baseline data will be the same as the CCRA.

14.4 Overview of Legislation, Policy, and Guidance

- 14.4.1 The below legislation, policy and guidance have been taken into consideration in order to establish the proposed approach to the assessment of climate change.

Legislation

- The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017: Section 5(2) and Schedule 4, paragraphs 4 and 5 [Ref 14-6].
- The Climate Change Act 2008 (as amended by the Climate Change Act 2008 (2050 Target Amendment) Order 2019 [Ref 14-7]. The Climate Change Act 2008 set a legally binding target for the UK to reduce its GHG emissions from 1990 levels by at least 80% by 2050. This target is supported by a system of legally binding five-year carbon budgets and an independent body to monitor progress, the Climate Change Committee (CCC). The UK carbon budgets restrict the amount of GHG emissions the UK can legally emit in a defined five-year period. The Act was amended in 2019 to revise the existing 80% reduction target and legislate for Net Zero emissions by 2050, i.e. a 100% reduction by 2050.
- UK Nationally Determined Contribution (2020) [Ref 14-8].
- UK Updated Nationally Determined Contribution (2022) [Ref 14-9].
- The Carbon Budget Order 2011 (sets the carbon budget for the 2023–2027 budgetary period [Ref 14-10].
- The Carbon Budget Order 2016 (sets the carbon budget for the 2028–2032 budgetary period) [Ref 14-11].
- The Carbon Budget Order 2021 (sets the carbon budget for the 2033-2037 budgetary period) [Ref 14-12].
- The Carbon Budget Order 2026 (sets the carbon budget for the 2038–2042 budgetary period) [Ref 14-13].
- The Paris Agreement (2015) is a legally binding agreement within the United Nations Framework Convention on Climate Change (UNFCCC) dealing with GHG emissions mitigation, adaptation and finance starting in the year 2020. It requires all signatories to set a target, known as a nationally determined contribution (NDC) and to strengthen their climate change mitigation efforts to keep global warming to well below 2°C this century and to pursue efforts to limit global warming to 1.5°C. The agreement contains a ‘ratchet’

mechanism by which NDCs must be strengthened every five years [Ref 14-14].

- The Seventh Carbon Budget (2038-2042), adopted by the UK Government, sets the level of the seventh carbon budget and provides a statutory emissions reduction pathway towards achieving the UK's Net Zero target by 2050 [Ref 14-15].

National Planning Policy

- UK Climate Change Risk Assessment (2022) - as required by the Climate Change Act 2008, the UK government completed the third five-year assessment of the risks of climate change on the UK. This is based on the Independent Assessment of the UK Climate Risk, the statutory advice provided by the CCC, commissioned by the UK government and devolved administrations [Ref 14-16].
- Net Zero Strategy: Build Back Greener (2022) which sets out policies and proposals for meeting the carbon budget targets and its vision for a decarbonised economy by 2050. The document states that low carbon power is expected to become the predominant form of energy in 2050 [Ref 14-17].
- Energy white paper: Powering our Net Zero future (2020), details the Government's revised ambitions, setting 2035 as the date by which all the UK's electricity will need to come from low carbon sources, subject to security of supply, whilst meeting a 40-60% increase in demand [Ref 14-18].
- National Infrastructure Strategy (2020) [Ref 14-19].
- Overarching National Policy Statement for Energy (NPS EN-1) (Updated January 2024) with particular reference to paragraphs 4.10.1 to 4.10.4 in relation to climate impacts and adaptation; paragraphs 4.10.14 to 4.10.17 in relation to adaptation measures in response to climate projections; and paragraphs 5.8.5 to 5.8.12 in relation to climate projections, flood risk and the importance of relevant mitigation [Ref 14-20].
- National Policy Statement for Renewable Energy Infrastructure (NPS EN-3) (Updated December 2025), specifically paragraph 1.1.2 which underlines the importance of the generation of electricity from renewable sources, and paragraph 2.10.9 which refers to the government's commitment to sustained growth in solar capacity [Ref 14-21].
- National Policy Statement for Electricity Networks Infrastructure (NPS EN-5) (Updated January 2024) – paragraph 2.3.1 regarding NPS EN-1 and the importance of climate change resilience, and paragraph 2.3.3 in relation to ES requirements regarding climate change resilience [Ref 14-22].
- National Planning Policy Framework (December 2024) – specifically chapter 14 which sets out the need to support renewable and low carbon energy infrastructure to meet the challenge of climate change [Ref 14-23].
- Powering Up Britain: Net Zero Growth Plan (2023) [Ref 14-24].
- UK Infrastructure: A 10-Year Strategy (2025) – Chapter 1 which mentions commitments to improve the resilience of infrastructure and the reliability of services, Chapter 4 in relation to delivery of clean power by 2030 and net

zero and Chapter 6 highlighting investment in green infrastructure and streamlining environmental planning assessment. [Ref 14-25]

Local Planning Policy

- West Oxfordshire District Council Local Plan 2031 (adopted September 2018), which establishes the planning framework for the district and includes policies that support sustainable development, climate change mitigation and adaptation, renewable and low-carbon energy generation, and the delivery of energy-efficient development [Ref 14-26].
- West Oxfordshire District Council Plan 2023-2027, which identifies climate action as a key corporate priority and commits to supporting the transition to a low-carbon economy, improving energy efficiency, increasing renewable energy generation, and building resilience to the impacts of climate change across the district [Ref 14-27].
- West Oxfordshire District Council Climate Change Strategy 2025-2030, which sets out the Council's approach to achieving district-wide net zero emissions by 2050 and increasing climate resilience. The Strategy recognises the need for both climate mitigation and adaptation and promotes measures including decarbonisation, renewable energy deployment, sustainable transport, nature recovery, and resilience to climate-related risks such as flooding, heatwaves and drought [Ref 14-28].
- West Oxfordshire District Council Carbon Action Plan 2024-2030, which supports the implementation of the Climate Change Strategy through a programme of actions aimed at reducing emissions from council operations and facilitating wider district-wide decarbonisation in support of local and national net zero objectives [Ref 14-29].
- West Oxfordshire District Council emerging Local Plan 2043, which identifies climate change as a central theme of future development within the district. Draft Core Policy 1 (Climate Change) seeks to ensure that new development contributes towards climate mitigation and adaptation objectives, supporting the transition to a net zero and climate-resilient future [Ref 14-30].
- Oxfordshire Council Climate Action Framework provides the Council's overarching framework for responding to the climate and ecological emergency. The Framework sets out priorities and actions to support the reduction of greenhouse gas emissions, increase climate resilience, promote renewable energy generation, enhance biodiversity, and facilitate the transition to a net-zero carbon future across Oxfordshire [Ref 14-31].

Relevant Industry Guidance

- Planning Practice Guidance – Climate Change, which advises how to identify suitable mitigation and adaptation measures in the planning process to address the impacts of climate change [Ref 14-32].

- Institute of Sustainability and Environmental Professionals (ISEP)¹⁷ Guide to: Assessing Greenhouse Gas Emissions and Evaluating their Significance (2nd Edition, 2022) and Assessing Greenhouse Gas Emissions and Evaluating their Significance with Supplementary Guidance (Edition 2.1, 2026) [Ref 14-33][Ref 14-34].
- Institute of Sustainability and Environmental Professionals (ISEP)¹⁷ Environmental Impact Assessment Guide to: Climate Change Resilience and Adaptation (2020) [Ref 14-35].
- The British Standards Institution (BSI) (2023) Publicly Available Specification (PAS) 2080:2023 [Ref 14-36].
- World Business Council for Sustainable Development (WBCSD) and World Resources Institute (WRI) Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition, 2004), which provides internationally recognised principles and methodologies for accounting, quantifying and reporting greenhouse gas emissions [Ref 14-37].

14.5 Assessment Methodology

- 14.5.1 This assessment broadly follows the overarching EIA Methodology set out in **Chapter 4: EIA Methodology** of this EIA Scoping Report. This section sets out the discipline-specific assessment approach, study area(s), effect significance criteria, and any assumption and limitations.

Assessment Approach

Greenhouse Gas Assessment

- 14.5.2 The receptor for the GHG assessment is the global climate. The assessment will follow a project lifecycle approach to calculate estimated GHG emissions arising from the Construction, Operation (and maintenance) and Decommissioning Phases of the Proposed Development and to identify GHG 'hot spots' (i.e., emissions sources likely to generate the largest amount of GHG emissions). This will enable the identification of priority areas for mitigation in line with the principles set out in ISEP guidance [Ref 14-33].
- 14.5.3 In line with the World Business Council for Sustainable Development and World Resources Institute GHG Protocol guidelines [Ref 14-37], the GHG assessment will be reported as tonnes of carbon dioxide equivalent (tCO₂e) and will consider the seven Kyoto Protocol gases:
- Carbon dioxide (CO₂);
 - Methane (CH₄);
 - Nitrous oxide (N₂O);
 - Sulphur hexafluoride (SF₆);
 - Hydrofluorocarbons (HFCs);
 - Perfluorocarbons (PFCs); and

¹⁷ Institute of Sustainability and Environmental Professionals (ISEP), formerly known as Institute of Environmental Management and Assessment (IEMA).

- Nitrogen trifluoride (NF₃).

14.5.4 Expected GHG emissions arising from the construction activities, embodied carbon in materials and operational and decommissioning emissions of the Proposed Development, as well as baseline emissions, will be quantified using a calculation-based methodology as per the following equation, and aligned with the GHG Protocol:

$$\text{Activity data} \times \text{GHG emissions factor} = \text{GHG emissions}$$

- 14.5.5 The UK carbon budgets will also be used to contextualise the impact of the Proposed Development. The UK is currently in the 4th Carbon Budget period, which runs from 2023 to 2027, as detailed in **Table 14-3**. The 3rd, 4th, and 5th Carbon Budgets reflect the previous 80% reduction target by 2050. The 6th Carbon Budget is the first to align with the legislated 2050 net zero commitment.
- 14.5.6 The CCC released their recommended 7th Carbon Budget in February 2025 and advised the UK Carbon Budget to be set at 535 MtCO₂e, which the UK government has accepted in June 2026 and is now set in law. In order to illustrate the Proposed Development's trajectory towards net zero by 2050, it is recommended that the CCC Balanced Net Zero Pathway is used post-2037 in the absence of any nationally legally binding carbon budgets beyond that date.
- 14.5.7 The CCC Balanced Net Zero Pathway is recommended to be divided into five-year periods post-2037 to match the previous legally binding UK national carbon budgets. The proposed carbon budget periods derived from the net zero pathway encompass the 8th, and 9th indicative budget periods up to 2050 in line with the UK's 1.5°C trajectory as detailed.

Table 14-3 UK Carbon Budgets

UK CARBON BUDGET	POWER SECTOR BUDGET BASED UPON THE CARBON BUDGET DELIVERY PLAN (MTCO ₂ E)	TOTAL BUDGET (MTCO ₂ E)	INDICATIVE CARBON BUDGETS BASED UPON THE CCC'S BALANCED NET ZERO PATHWAY (MTCO ₂ E)
3rd (2018-2022)	-	2,544	-
4th (2023-2027)	143	1,950	-
5th (2028-2032)	63	1,725	-
6th (2033-2037)	42	965	-
7th (2038-2042)	23	535	-
8th (2043-2047)	12.4	-	220
9th (2048-2050)	4	-	22

- 14.5.8 It is noted that the supplementary carbon budgets beyond 2042 have not been formally adopted by the UK Government or ratified by Parliament and can only

be used as an indicative measure to contextualise the Proposed Development's progress toward the national net zero trajectory.

- 14.5.9 To offer further contextualisation, the GHG assessment will compare the emissions intensity of the Project to the existing (2026) average carbon intensity of the UK electricity grid.

Climate Change Risk Assessment

- 14.5.10 The receptor for CCRA is the Proposed Development itself including its Construction, Operation (and maintenance), and Decommissioning Phases. The CCRA will provide a description of how the Proposed Development will be designed to be more resilient to the climate change effects identified during the review of the UKCP 2018 data.
- 14.5.11 A detailed assessment of climate change projections will be conducted for the study area boundary as part of the ES. The CCRA will qualitatively assess the Proposed Development's resilience to climate change considering climate parameters using UKCP 18 projections. This will be completed in liaison with the Proposed Development design team and the other EIA technical disciplines by considering the climate change projections for the geographical location and timeframe of the Proposed Development. Potential climate change impacts on the Proposed Development and associated receptors will be identified, and the potential consequence and likelihood of occurrence of the impacts will be considered, taking account of the measures incorporated into the design of the Proposed Development.
- 14.5.12 The methodology for the CCRA will use a combination of quantitative information on climate change projections and qualitative information related to potential impacts.
- 14.5.13 The overall risk of different impacts will be assessed both initially, then after mitigation and resilience measures are accounted for. In accordance with the ISEP guidance, a risk assessment type process will be adopted to assess Proposed Development resilience to climate change impacts. An initial risk profile is developed to assess the risks due to climate change in the development's lifecycle. **Table 14-4** and **Table 14-5** show the methods and criteria used to assess the likelihood, magnitude of consequence of the identified climate risks for the assessment.

Table 14-4 Likelihood Descriptions

LIKELIHOOD TERM	QUALITATIVE	QUANTITATIVE
Rare	Highly unlikely to occur	5%
Unlikely	Unlikely to occur	20%
Moderate	As likely to occur as not	50%
Likely	Likely to occur	80%
Almost certain	Very likely to occur	95%

Table 14-5 Magnitude of consequence of risk assessment

RISK AREAS	MAGNITUDE OF CONSEQUENCE				
	INSIGNIFICANT	MINOR	MODERATE	MAJOR	CATASTROPHIC
Asset damage, engineering, operational	Impact can be absorbed through normal activity	Adverse event that can be absorbed by taking business continuity actions	A serious event that requires additional emergency business continuity actions	A critical event that requires extraordinary / emergency business continuity action	Disaster with the potential to lead to shut down or collapse or loss of the asset / network
Health and safety	First aid case	Minor injury, medical treatment	Serious injury or lost work	Major or multiple injuries, permanent injury or disability	Single or multiple fatalities
Environment	No impact on baseline environment. Localised in the source area. No recovery required	Localised within site boundaries. Recovery measurable within one month of impact	Moderate harm with possible wider effect Recovery in one year	Significant harm with local effect Recovery longer than one year. Failure to comply with environmental regulations / consent	Significant harm with widespread effect. Recovery longer than one year.
Social	No negative social impact	Localised, temporary social impacts	Localised, long term social impacts	Failure to protect poor or vulnerable groups. National, long term social impacts	Loss of social licence to operate. Community protests
Financial	< 2% of turnover	2-10% of turnover	10-25% of turnover	25-50% of turnover	> 50% of turnover

RISK AREAS	MAGNITUDE OF CONSEQUENCE				
	INSIGNIFICANT	MINOR	MODERATE	MAJOR	CATASTROPHIC
Reputational	Localised, temporary impact on public opinion	Localised, short-term impact on public opinion	Local, long-term impact on public opinion with adverse local media coverage	National, short-term impact on public opinion. Negative national media coverage	National, long-term impact with potential to affect the stability of the government
Cultural Heritage and cultural premises	Insignificant impact	Short term impact. Possible recovery or repair.	Serious damage with wider impact to tourism industry	Significant damage with national and international impact	Permanent loss with resulting impact on society

In-Combination Climate Change Impacts Assessment

- 14.5.14 The ICCI assessment considers the ways in which projected climate change will influence the significance of the impact of the Proposed Development on receptors in the surrounding environment by taking into account the existing and projected future climate conditions for the geographical location and assessment timeframe. It identifies the extent to which identified receptors in the surrounding environment are potentially vulnerable to and affected by these factors. The impacts will be assessed in liaison with the technical specialists responsible for preparing other technical chapters.
- 14.5.15 Once the potential ICCI have been identified in relation to the Proposed Development through liaison with technical disciplines, criteria used to determine the likelihood of an event occurring, based on its probability and likelihood of occurrence, are detailed below.
- 14.5.16 In consideration of the likelihood of the climate risk occurring, and the sensitivity of the receptor, the likelihood of an impact occurring to the receptor is then defined. This includes consideration of any embedded mitigation measures and good practices. These classifications are defined earlier in **Table 14-4**.
- 14.5.17 The likelihood of a climate hazard occurring is done in alignment with the CCRA as defined in **Table 14-6** and the likelihood of an impact on a receptor is then combined to determine the likelihood of an ICCI occurring.

Table 14-6 Likelihood Criteria for ICCI Assessment

LEVEL OF LIKELIHOOD OF ICCI OCCURRING	DEFINITION OF LIKELIHOOD
High	Likelihood of climate hazard occurring is high and impact is always/ almost always going to occur.
Medium	Likelihood of climate hazard occurring is high and impact occurs often or the likelihood of climate hazard occurring is moderate and impact is likely to occur always/almost always.
Low	Likelihood of climate hazard occurring is high, but impact rarely occurs or the likelihood of climate hazard occurring is moderate and impact sometimes occurs or the likelihood of climate hazard occurring is low and impact is likely to occur always/almost always.
Very low	All other eventualities – highly unlikely but theoretically possible.

- 14.5.18 Once the likelihood of an ICCI has been identified, the assessment will consider how this will affect the significance of the identified effects.
- 14.5.19 The ICCI consequence criteria are defined in **Table 14-7** and are based on the change to the significance of the impact already identified by the technical discipline. To assess the consequence of an ICCI, each discipline will assign a level of consequence to an impact based on the criteria description and the discipline assessment methodology.

Table 14-7 Consequence Criteria for ICCI Assessment

CONSEQUENCE	CONSEQUENCE CRITERIA
High	The climate change parameter in-combination with the effect of the Proposed Development causes the significance of the impact of the Proposed Development on the resource/receptor, as defined by the discipline, to increase from very low, low, or medium to major.
Medium	The climate change parameter in-combination with the effect of the Proposed Development causes the effect defined by the discipline to increase from very low or low, to medium.
Low	The climate change parameter in-combination with the effect of the Proposed Development causes the significance of effect defined by the topic, to increase from very low to low.
Very low	The climate change parameter in-combination with the effect of the Proposed Development does not alter the significance of the effect defined by the topic.

Significance Criteria

Greenhouse Gas Assessment

- 14.5.20 For the purposes of this assessment, it has been considered that any increases in GHG emissions compared to the baseline has the potential to have an impact, due to the high sensitivity of the receptor (global climate) to increases in GHG emissions. This is in line with the ISEP guidance, which states that the combined environmental effect of GHG is environmental degradation, and that this degradation is reaching a defined limit. Therefore, any GHG emissions or reductions from a Proposed Development might be considered to be significant. As such, the application of the standard EIA significance matrix is not considered to be appropriate for GHG assessments.

- 14.5.21 While all new GHG emissions contribute to a negative environmental impact, some projects will replace existing developments or baseline activity that has a higher GHG impact. The significance of a Proposed Development's emissions should therefore be based on its net impact over its lifetime, which may be positive, negative or negligible, considering its contribution to reduce GHG emissions relative to a comparable baseline consistent with a trajectory towards net zero by 2050.
- 14.5.22 The level of significance associated with the GHG impact of a Proposed Development is to be contextualised and assigned through the professional judgement of the appropriate practitioner in accordance with the ISEP guidance. The magnitude GHG impacts of the Proposed Development will be put into context of the UK's five-year carbon budgets, which set legally binding targets for GHG emissions. GHG impacts will also be put into context for the sub-sectoral budgets for energy generation.
- 14.5.23 For further context, the net GHG emissions from the Proposed Development will be assessed in the context of the UK electricity grid by comparing the carbon intensity of the Proposed Development with that of the average carbon intensity of the existing UK power grid. This comparison will provide an indication of the potential emissions benefits of associated with generating low-carbon electricity and understand the Proposed Development's contribution towards UK's decarbonisation and net zero objectives.
- 14.5.24 Essentially, the emissions intensity of the Proposed Development may be compared to the average carbon intensity of the existing power grid, and the associated reduction in emissions can be quantified by multiplying the lifetime generation in MWh by the difference between the carbon intensity of the Proposed Development and that of the existing power grid.
- 14.5.25 **Table 14-8** below presents the different significance levels as per the latest version of the ISEP guidance for assessing GHG emissions. This guidance emphasises that *"a project that follows a 'business-as-usual' or 'do minimum' approach and is not compatible with the UK's net zero trajectory, or accepted aligned practice or area-based transition targets, results in a significant adverse effect. It is down to the practitioner to differentiate between the 'level' of significant adverse effects e.g. 'moderate' or 'major' adverse effects"*.

Table 14-8 Significance Criteria

LEVEL OF EFFECT	SIGNIFICANCE CRITERIA	SIGNIFICANCE
Major Adverse	The Proposed Development's GHG impacts are not mitigated or are only compliant with do-minimum standards set through regulation, and do not provide further reductions required by existing local and national policy for projects of this type. A project with major adverse effects is locking in	Significant Adverse

LEVEL OF EFFECT	SIGNIFICANCE CRITERIA	SIGNIFICANCE
	emissions and does not make a meaningful contribution to the UK's trajectory towards net zero.	
Moderate Adverse	The Proposed Development's GHG impacts are partially mitigated and may partially meet the applicable existing and emerging policy requirements but would not fully contribute to decarbonisation in line with local and national policy goals for projects of this type. A project with moderate adverse effects falls short of fully contributing to the UK's trajectory towards net zero.	Significant Adverse
Minor Adverse	The Proposed Development's GHG impacts would be fully consistent with applicable existing and emerging policy requirements and good practice design standards for projects of this type. A project with minor adverse effects is fully in line with measures necessary to achieve the UK's trajectory towards net zero.	Not Significant
Negligible	The Proposed Development's GHG impacts would be reduced through measures that go well beyond existing and emerging policy and design standards for projects of this type, such that radical decarbonisation or net zero achieved well before 2050. A project with negligible effects provides GHG performance that is well 'ahead of the curve' for the trajectory towards net zero and has minimal residual emissions.	Not Significant
Beneficial	The Proposed Development's net GHG impacts are below zero and it causes a reduction in atmospheric concentration, whether directly or indirectly compared to the without project baseline. A project with beneficial effects substantially exceeds net zero requirements with a positive climate impact.	Significant Beneficial

Climate Change Risk Assessment

14.5.26 The approach outlined below is aligned with existing guidance, provided by ISEP [Ref 14-35]. Climate parameters which will be considered in the CCRA across all lifecycle stages include the following:

- Extreme weather events (storms, wildfire and drought);
- Precipitation change (flooding);
- Temperature change;
- Sea level rise;
- Sea temperature rise; and
- Wind.

14.5.27 The following key terms and definitions relating to the CCR Assessment will be used:

- Climate hazard – a weather or climate related event, which has potential to do harm to environmental or community receptors or assets, for example, extreme storm events;
- Climate change impact – an impact from a climate hazard which affects the ability of the receptor or asset to maintain its function or purpose, for example, surface water flooding; and
- Consequence – any effect on the receptor or asset resulting from the climate impact, for example, prevention of access to site due to flooded access tracks.

14.5.28 The likelihood of a climate impact occurring is based on the likelihood of the hazard occurring combined with the vulnerability of the Proposed Development, using professional judgement and in discussion with the design team for the Proposed Development. Embedded mitigation measures will also be taken into account and a likelihood rating assigned as described earlier in **Table 14-4**.

14.5.29 Following the identification of climate hazards, the potential consequences will be assessed according to categories and descriptions adapted from the European Union (EU) Technical note on Climate Proofing Infrastructure [Ref 14-38] as presented in **Table 14-9**.

Table 14-9 Consequence Descriptions for CCRA

CONSEQUENCE	QUALITATIVE
Insignificant	Impact can be absorbed through normal activity
Minor	An adverse event that can be absorbed by taking business continuity actions
Moderate	A serious event that requires additional emergency business continuity actions

CONSEQUENCE	QUALITATIVE
Major	A critical event that requires extraordinary / emergency business continuity actions
Catastrophic	Disaster with the potential to lead to shut down or collapse or loss of the asset / network

14.5.30 The rating of consequence will also consider wider potential impacts on health and safety, environment and social impacts, financial damages, and reputational risks.

14.5.31 To identify the level of significance, the likelihood of a climate impact occurring is considered along with the consequence of the impact. **Table 14-10** presents how the significance is determined.

Table 14-10 Identification of significance (“S” Significant “NS” Not Significant)

CONSEQUENCE						
Likelihood		Insignificant	Minor	Moderate	Major	Catastrophic
	Rare	Low (NS)	Low (NS)	Medium (NS)	High (S)	Extreme (S)
	Unlikely	Low (NS)	Low (NS)	Medium (NS)	High (S)	Extreme (S)
	Moderate	Low (NS)	Medium (NS)	High (S)	Extreme (S)	Extreme (S)
	Likely	Medium (NS)	High (S)	High (S)	Extreme (S)	Extreme (S)
	Almost certain	High (S)	High (S)	Extreme (S)	Extreme (S)	Extreme (S)

In-Combination Climate Change Impact Assessment

14.5.32 The significance of the ICCI assessment is determined as a function of the likelihood of a climate impact occurring and the consequence to the receptor if the impact occurs. The significance of potential effects is determined using the matrix in **Table 14-11**. If significant ICCI effects are assessed, then appropriate additional mitigation measures (secondary mitigation) would be identified.

Table 14-11 ICCI Significance Criteria

LIKELIHOOD OF CLIMATE-RELATED IMPACT OCCURRING				
Level of consequence	Very low	Low	Medium	High

Very low	Very low (NS)	Low (NS)	Low (NS)	Low (NS)
Low	Low (NS)	Low (NS)	Low (NS)	Medium (S)
Medium	Low (NS)	Low (NS)	Medium (S)	High (S)
High	Low (NS)	Medium (S)	High (S)	High (S)

Assessment of Cumulative Effects

- 14.5.33 The general methodology for the assessment of cumulative effects is set out within **Chapter 5: Cumulative Effects Assessment** of this EIA Scoping Report. The developments identified as having potential to give rise to cumulative effects in conjunction with the Proposed Development will be considered within the Cumulative Effects Assessment chapter of the ES.

Assumptions and Limitations

- 14.5.34 Should any limitations arise due to the availability or quality of data required to undertake the assessment, these will be clearly identified and discussed within the ES.
- 14.5.35 Where quantitative data are unavailable, reasonable and evidence-based assumptions will be developed in consultation with the project team and applied within the assessment.
- 14.5.36 Where it is not possible to obtain sufficient data or develop robust assumptions, a qualitative assessment will be undertaken using professional judgement and relevant industry guidance.

14.6 Potential Impacts

Greenhouse Gas Assessment

- 14.6.1 The impact of the Proposed Development is defined as the net change in GHG emissions resulting from the Construction, Operation (and maintenance) and Decommissioning Phases of the Proposed Development. While the Proposed Development will generate some GHG emissions throughout its lifecycle, it will also generate renewable electricity, reducing reliance on more carbon-intensive forms of electricity generation and contributing to national and local decarbonisation objectives.
- 14.6.2 **Table 14-12** below provides the lifecycle stages, related activities and primary emission sources from the Proposed Development that will be considered in the GHG assessment, in line with the PAS 2080:2023 – carbon management in buildings and infrastructure.

- 14.6.3 GHG emissions from the Proposed Development will be placed within the context of alternative electricity generation sources. The assessment will consider the emissions associated with electricity generation from solar photovoltaic (PV) and the grid balancing function of the Battery Energy Storage System (BESS) compared with a baseline scenario based on the current grid carbon intensity.
- 14.6.4 This approach is informed by recent Secretary of State decision letters for solar farm developments. It should be noted that the life cycle assessment will include embodied GHG emissions associated with the manufacture and replacement of solar panels. These emissions are not reflected within grid carbon intensity factors and, therefore, the comparison is not based on equivalent assessment boundaries. As a result, the comparison is likely to underestimate the benefits of renewable electricity generation, particularly as the carbon intensity of the grid continues to decrease over the operational life of the Proposed Development.
- 14.6.5 It should also be recognised that the 'without Proposed Development' baseline is unlikely to be represented by the existing grid during the operational life of the Proposed Development. The Proposed Development would contribute towards the additional low-carbon generating capacity identified within National Energy System Operator (NESO) future energy pathways, including the substantial increase in electricity generation of 231GW of capacity required between 2030 and 2039 to support the UK's transition to net zero. Consequently, electricity generated by the Scheme would be expected to contribute towards meeting additional demand arising from the electrification of transport, heating and industrial processes, rather than solely displacing existing grid generation. Whilst it is not possible to identify a single causal counterfactual against which to assess these effects, the use of current grid carbon intensity is likely an underestimate of the carbon savings compared to the reality of electrifying transport, domestic heating or other industrial activity.
- 14.6.6 A Construction Environmental Management Plan (CEMP) will be prepared and implemented by the selected Principal Contractor to include a range of good practice construction measures including measures to reduce carbon emissions. An OCEMP will be submitted with the Development Consent Order (DCO) application.
- 14.6.7 Further measures to mitigate GHG impacts during construction, operation and decommissioning will be included in the OCEMP, OOEMP and ODEMP. These may include but are not limited to:
- Increasing recyclability by segregating construction waste to be re-used and recycled where reasonably practicable;
 - Designing, constructing and implementing the Proposed Development in such a way as to minimise the creation of waste and maximise the use of alternative materials with lower embodied carbon, such as locally sourced products and materials with a higher recycled content where feasible;

- Reusing suitable infrastructure and resources where possible to minimise the use of natural resources and unnecessary materials (e.g. reusing excavated soil for fill requirements);
- Liaising with construction personnel for the potential to implement staff minibuses and car sharing options;
- Implementing a Travel Plan in the Construction Traffic Management Plan (CTMP) to reduce the volume of construction staff and employee trips to the Proposed Development, while encouraging the use of lower carbon modes of transport by identifying and communicating local bus connections and pedestrian/cycle access routes to/from the Proposed Development to all construction staff, and providing appropriate facilities for the safe storage of bicycles;
- Switching vehicles and plant off when not in use and ensuring construction vehicles conform to current EU emissions standards; and
- Conducting regular planned maintenance of the construction plant and machinery to optimise efficiency.

14.6.8 Mitigation measures relevant to Climate Change are also included in **Appendix 3-1: Commitments Register**.

Table 14-12 Potential sources of GHG emissions

LIFECYCLE STAGE	PAS 2080:2023 MODULE	PROPOSED TO BE SCOPED IN/OUT?	ACTIVITY	PRIMARY EMISSION SOURCES
Pre-construction	A0	In	Land and associated fees/advice.	Emissions associated with energy use and transportation demands from preliminary studies and work.
Product stage	A1 – A3	In	Raw material extraction and manufacturing of products are required to build the equipment for the Proposed Development. Transportation of materials for such processes/manufacturing (where available).	Embodied GHG emissions from energy use in the extraction of materials and manufacture of components and equipment. Emission of potent GHGs during manufacture, such as SF6. GHG emissions from the transportation of products and materials during their processing and manufacture. Due to the nature of the equipment, this could require shipment of certain aspects over significant distances.
Construction process stage	A4	In	Transportation of construction materials to the Development Site. Due to the nature of the equipment required, this could require shipment of certain aspects over significant distances.	Transport of materials to the Development Site is included under the construction process stage, where these are not included in embodied GHG emissions.
	A5	In	On-site construction activity, including emissions from construction compounds.	Energy (e.g., electricity, fuel) consumption from plant and vehicles, generators on-site, and construction worker commuting.

			Transportation of construction workers to and from the Development Site. Disposal of any waste generated by the construction processes. Land use change. Water use.	GHG emissions from disposal and transportation of waste. GHG emissions are from the net loss of carbon sinks. Provision of potable water, and treatment of wastewater.
Operation stage	B1 – B8	In	Operation of the Proposed Development. Maintenance of the Proposed Development.	GHG emissions are from energy consumption, the provision of potable water, and the treatment of wastewater. These operational aspects are expected to be negligible in the context of overall GHG emissions of the Proposed Development's lifecycle. Leakage of potent GHGs during operation, such as SF6. GHG emissions from energy consumption, material use and waste generation as a result of Development Site maintenance.
Decommissioning stage	C1 – C4	In	On-site decommissioning activity. Transportation and disposal of waste materials. Transportation of workers.	Energy (e.g., electricity, fuel) consumption from plant, vehicles, and generators within the Development Site. GHG emissions from disposal and transportation of waste. GHG emissions from the transportation of workers to the Development Site.

Climate Change Risk Assessment and In-Combination Climate Change Impact Assessment

- 14.6.9 During its construction and operation, the Proposed Development may be vulnerable to impacts from various climatic parameters such as extreme weather events and temperature change, leading to flood risk, overheating or other damage. To understand the vulnerability of the Proposed Development to climate change, the CCRA and ICCI will identify any potential climate risks and the likelihood and consequences of their impact. Where necessary, appropriate adaptation measures will be identified.

14.7 Proposed Scope

Greenhouse Gas Assessment

- 14.7.1 The GHG assessment will consider the impact of the Proposed Development to the climate throughout the three phases (Construction, Operation (and maintenance), and Decommissioning). The lifecycle stages from the Proposed Development that will be considered in the GHG assessment are summarised in **Table 14-12** above.

Climate Change Risk Assessment

- 14.7.2 The CCRA will consider the three phases of the Proposed Development (Construction, Operation, and Decommissioning). The potential climate change impact will be assessed based on the UKCP18 projections for the climate parameters described in **Table 14-13**.

Table 14-13 Climate Parameters for the CCRA of the Proposed Development

PARAMETER	SCOPED IN/OUT	RATIONALE FOR SCOPING CONCLUSION
Extreme weather events	In	The Proposed Development may be vulnerable to extreme weather events such as storm damage and storm surge impacts to structures and assets.
Precipitation changes (including flooding)	In	The Proposed Development may be vulnerable to changes in precipitation, for example, pressure on water supply during periods of reduced rainfall, and damage to structures and drainage systems during periods of heavy precipitation.
Temperature change	In	Increased temperatures may increase cooling requirements, alter the power efficiency of the Proposed Development, and could impact on the structural integrity of materials.

PARAMETER	SCOPED IN/OUT	RATIONALE FOR SCOPING CONCLUSION
Sea level rise	Out	Potential effects from rising sea levels have been scoped out of the assessment, as sea level rise is not expected to present a material risk to the Proposed Development.
Sea temperature rise	Out	Potential effects from rising sea temperatures have been scoped out of the assessment, as sea temperature rise is not expected to present a material risk to the Proposed Development
Wind	In	Currently, there is no evidence of compelling trends when considering maximum gust speed in the UK wind network over the last five decades [Ref 14-39]. However, the effects of increased wind strength will be considered qualitatively in the CCRA.

- 14.7.3 The CCRA will qualitatively assess the Proposed Development's resilience to climate change. This will be completed in liaison with the project design team and the other EIA technical disciplines by considering the climate projections for the geographical location and timeframe of the Proposed Development.
- 14.7.4 A statement will be provided within the ES to describe how the Proposed Development will be adapted to improve its resilience to future climate conditions.

In-Combination Climate Change Impact Assessment

- 14.7.5 The ICCI assessment will consider how the resilience of various receptors in the surrounding environment is affected by the Proposed Development in combination with future climatic conditions. The impacts are considered for the construction, operation, and demolition stages. UKCP18 projections for the geographical location and lifetime of the Proposed Development and the receptors that will be identified by technical disciplines will be considered in this assessment.
- 14.7.6 A ICCI assessment is proposed to be scoped into the climate change assessment based on climate parameters relevant to the development as detailed in **Table 14-14**.

Table 14-14 Climate Parameters for the In-Combination Climate Change Impact

PARAMETER	SCOPED IN/OUT	RATIONALE FOR SCOPING CONCLUSION
Extreme weather events	In	An increase in the likelihood and severity of extreme weather events could lead to damage to ecosystem stability.

PARAMETER	SCOPED IN/OUT	RATIONALE FOR SCOPING CONCLUSION
		The likelihood and severity of acute environmental impacts from extreme weather such as erosion, loss of habitats, destabilisation, and damage to infrastructure may be exacerbated by the Proposed Development.
Precipitation change (including flooding)	In	Climate change may lead to both an increase in substantial precipitation, flooding and drought events. The combination of the Proposed Development and climate change may cause increased risk of impacts.
Temperature change	In	Fluctuating temperatures may lead to: - Increase in likelihood and severity of heat waves which might have a negative impact on biodiversity and health; and - Increase in likelihood and severity of freezes which might have a negative impact on biodiversity and health.
Sea level rise	Out	Potential effects from rising sea levels have been scoped out of the assessment, as sea level rise is not expected to present a material risk to the Proposed Development.
Sea temperature rise	Out	Potential effects from rising sea temperatures have been scoped out of the assessment, as sea temperature rise is not expected to present a material risk to the Proposed Development
Wind	In	Currently, there is no evidence of compelling trends when considering maximum gust speed in the UK wind network over the last five decades [Ref 14-39] . However, the effects of increased wind strength in combination with the Proposed Development will be considered qualitatively by technical disciplines.

14.8 Consultation

- 14.8.1 Consultation with statutory consultees and stakeholders will be undertaken as part of the EIA process following submission of this EIA Scoping Report. This is expected to include West Oxfordshire District Council, Oxfordshire County Council, Natural England, the Environment Agency and other relevant consultees, as appropriate.

14.9 Summary of Matters Scoped In and Out

- 14.9.1 A summary of the elements scoped into and out of the climate change chapter is presented in **Table 14-15**.
- 14.9.2 GHG Assessment is scoped in and will cover all aspects of the Proposed Development from raw products and manufacture of materials, through to construction, operation and maintenance, and decommissioning.
- 14.9.3 CCRA is scoped in and will consider the vulnerability of the Proposed Development to extreme weather events and changes in temperature, precipitation and wind patterns. Sea level rise and sea temperature rise is proposed to be scoped out as the Proposed Development is not in an area susceptible to sea level rise.
- 14.9.4 As set out in **Table 14-15**, ICCI Assessment is scoped in, except Sea level rise and sea temperature rise is proposed to be scoped out considering the inland location and geography of the Proposed Development.

Table 14-15 Summary of Assessment Scope

ELEMENT		SCOPED IN/SCOPED OUT
GHG Assessment	In	Product stage – Raw material extraction, manufacturing and transport of products required to build the equipment for the Proposed Development.
		Construction process stage – On-site construction activity including emissions from construction compounds.
		Operation and maintenance stage – Operation and maintenance of the Proposed Development.
		Decommissioning stage – on-site decommissioning activity.
CCRA	In	Extreme weather events. Precipitation change. Temperature change. Wind.
	Out	Sea level rise. Sea temperature rise.
ICCI Assessment	In	Extreme weather events. Precipitation change. Temperature change. Wind.
	Out	Sea level rise. Sea temperature rise.

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15. AIR QUALITY

15.1 Introduction

- 15.1.1 This chapter sets out the scope and methodology for the assessment of likely significant effects arising from the Proposed Development on Air Quality during the Construction, Operation and Decommissioning Phases.
- 15.1.2 The purpose of the scoping exercise is to identify and characterise potential Air Quality constraints and consider the nature and scale of potential for likely significant effects and how these will be put forward within the Air Quality Chapter Assessment.
- 15.1.3 This chapter should be read in conjunction with:
- **Chapter 3: The Proposed Development;**
 - **Chapter 8: Ecology and Biodiversity;** and,
 - **Chapter 12: Transport and Access.**
- 15.1.4 This chapter is supported by the following figure:
- **Figure 15-1: Monitoring Locations Within the Vicinity of the Site**

15.2 Study Area

- 15.2.1 The Study Area will cover a wide zone of influence to consider the impacts from fugitive dust impacts (up to approximately 250m from the DCO Site Boundary in line with Institute of Air Quality Management (IAQM) Guidance on the Assessment of Dust from Demolition and Construction [Ref 15-1] and road networks affect by road vehicle emissions from the Construction, Operational and Decommissioning Phases at nearby sensitive human and ecological air quality receptors (up to approximately 3km from the DCO Site Boundary covering the closest receptors to the Site anticipated to be affected by construction traffic).
- 15.2.2 If construction traffic exceeds the criteria within the Environmental Protection UK (EPUK) and Institute of Air Quality Management (IAQM) criteria of more than 500 Light Duty Vehicles (LDVs) and/or more than 100 Heavy Duty Vehicles (HDVs) Annual Average Daily Traffic (AADT) outside of an Air Quality Management Area (AQMA) [Ref 15-2], then detailed dispersion modelling may be undertaken for the Construction Phase and will be included within this zone of influence.

15.3 Baseline Conditions

- 15.3.1 The Site is located within West Oxfordshire District Council (WODC) administrative area, within 100m of the Cotswold Council (CDC) and within 1.2km of Vale of White Horse District Council (VWHDC) administrative areas.

- 15.3.2 The Site is not located within or near an Air Quality Management Area (AQMA), with the closest AQMA being the Witney AQMA located 12km north-east of the Site.

Local Air Quality Management

- 15.3.3 The closest automatic monitor to the Site is located approximately 24km away. As such, automatic monitoring data for nitrogen dioxide (NO₂) and particulate matter (PM₁₀ and PM_{2.5}) has not been included within this review.
- 15.3.4 A review of the most recent monitoring data available has shown that there is a total of four passive diffusion tubes monitoring NO₂ in the baseline year of 2024 located within 6km of the Site. Recent monitoring results are shown in **Table 15-1** and are illustrated within **Figure 15-1**.

Table 15-1 Passive Diffusion Tube Monitoring Data (2020 - 2024)

Diffusion tube ID	Site Type	Local Authority	Dist. from DCO Site Boundary (km)	Annual mean concentration (µg/m ³)				
				2020	2021	2022	2023	2024
NAS38	Urban Centre	CDC	2.0	23	29	29	18	20
NAS37	Urban Centre	CDC	2.0	22	23	25	15	20
NAS25 A	Urban B'ground	WODC	4.4	-	-	13	11	9
VS34	Kerbside	VWHDC	5.7	7	8	8	7	6
'-' = No data available Concentrations within the WODC, CDC and VWHDC Annual Status Reports rounded to the nearest whole number [Ref 15-3] [Ref 15-4] [Ref 15-5]								

- 15.3.5 As listed in **Table 15-1**, there were no exceedances of the annual mean NO₂ AQO recorded within 6km of the Site in 2024, the most recent year of available data.
- 15.3.6 The location with the highest concentration was passive diffusion tubes NAS37 and NAS38, both of which monitored annual mean NO₂ concentration of 20 µg/m³ or 50% of the annual mean objective. As such, it is considered likely that no exceedances of the annual mean NO₂ AQO (40 µg/m³) will be experienced within the locale of the Site.

- 15.3.7 In line with Local Air Quality Management Technical Guidance 2022 (LAQM.TG(22)) [Ref 15-6], an annual mean concentration of 60 µg/m³ or above is often used to indicate a possible exceedance of the 1-hour mean NO₂ AQO. In 2024, none of the passive diffusion tubes within 6 km of the Site have recorded an exceedance of 60 µg/m³ and, therefore, no exceedance of the 1-hour mean NO₂ AQO is expected.

Defra Predicted Background Concentrations

- 15.3.8 The Defra predicted background concentrations have been obtained from the national maps published by Defra. These estimated concentrations are produced on a 1km by 1km grid basis for the whole of the UK. Due to the size of the Site, it falls into 25 grid squares. The minimum and maximum Defra predicted background concentrations for the Site for NO₂, PM₁₀ and PM_{2.5} concentrations are provided in Table 15-2 for 2024, the most recent year of available data and 2026, the current year.

Table 15-2 Estimated annual mean background concentrations

Year	Background Concentrations (µg/m ³)		
	NO ₂	PM ₁₀	PM _{2.5}
2024	4.2 – 5.8	12.2 - 12.7	6.2 - 6.6
2026	4.0 – 5.5	12.0 - 12.6	6.1 – 6.4

- 15.3.9 As shown in **Table 15-2**, the Defra predicted background concentrations are below the relevant annual mean objective levels for NO₂, PM₁₀ (40 µg/m³) and PM_{2.5} (20 µg/m³) in 2024 and 2026.

15.4 Overview of Legislation, Policy, and Guidance

- 15.4.1 The below legislation, policy and guidance have been taken into consideration in order to establish the proposed approach to the assessment of Air Quality.

Legislation

- The Environment Act [Ref 15-7]
- The Air Quality Strategy [Ref 15-8]
- The Air Quality (England) Regulations 2000 [Ref 15-9]
- The Air Quality (England) (Amendment) Regulations 2002 [Ref 15-10]
- The Air Quality Standards Regulations 2010 [Ref 15-11]
- The Air Quality Standards (Amendment) Regulations 2016 [Ref 15-12]
- The Environmental Improvement Plan (EIP) [Ref 15-13]
- Part III of the Environmental Protection Act (EPA) 1990 (as amended) [Ref 15-14]
- The Clean Air Strategy (CAS) [Ref 15-15]
- Part F of the Building Regulations (2021) [Ref 15-16]

National Planning Policy

- The National Planning Policy Framework (NPPF) 2026 [Ref 15-17]
- The Planning Practice Guidance (PPG) [Ref 15-18]
- National Policy Statement (NPS) EN-1 [Ref 15-19]
- National Policy Statement (NPS) EN-3 [Ref 15-20]
- National Policy Statement (NPS) EN-5 [Ref 15-21]

Local Planning Policy

- West Oxfordshire Local Plan 2031 [Ref 15-22]

Relevant Industry Guidance

- Defra's Local Air Quality Management Technical Guidance (LAQM.TG(22)) [Ref 15-6]
- EPUK and IAQM Air Quality Planning Guidance [Ref 15-2]
- The IAQM 'Guidance on the assessment of dust from demolition and construction' [Ref 15-1]
- National Highways Design Manual for Roads and Bridges (DMRB) [Ref 15-23]

15.5 Assessment Methodology

- 15.5.1 This assessment broadly follows the overarching EIA Methodology set out in **Chapter 4: EIA Methodology** of this EIA Scoping Report. This section sets out the discipline-specific assessment approach, effect significance criteria, and any assumption and limitations.

Significance Criteria

Relevant Receptors

- 15.5.2 IAQM Construction Guidance advises the need for a construction dust assessment if there are human receptors within 250m of the DCO Site Boundary or within 50m of the routes used by construction vehicles up to 250m from the DCO Site Boundary, and if there are ecological receptors within 50m of the DCO Site Boundary or within 50m of the routes used by construction vehicles, up to 250m from the DCO Site Boundary.
- 15.5.3 There are sensitive human receptors within 50m of the DCO Site Boundary and within 50m of the potential construction vehicle routes up to 250m from the DCO Site Boundary; however, there are no ecological sites within the 50m distance of the Site or trackout routes up to 250 m from the site entrance.
- 15.5.4 The impacts from road emissions during the Construction, Operational and Decommissioning Phases at sensitive human receptors along construction routes will be considered where the change in traffic flows exceed the relevant EPUK and IAQM criteria within the EPUK and IAQM Planning Guidance.

- 15.5.5 The impacts from road emissions during the Construction and Operational Phases at ecological receptors along construction routes will be considered where the cumulative change in traffic flows exceed the relevant DMRB criteria of 1,000 AADT.

Magnitude of Impact

- 15.5.6 If construction and/or operational traffic flows exceed the EPUK and IAQM Planning Guidance criteria and detailed dispersion modelling is required, the significance of effects at sensitive receptors will be described as Major, Moderate, Minor or Negligible.
- 15.5.7 The EPUK and IAQM Planning Guidance impact descriptor of 'Substantial' corresponds to a 'Major' effect, a 'Moderate' impact corresponds to a 'Moderate' effect, a 'Slight' impact corresponds to a 'Minor' effect, and a 'Negligible' impact corresponds to a 'Negligible' effect.

Assessment of Cumulative Effects

- 15.5.8 The methodology for the assessment of cumulative effects is set out within **Chapter 5: Cumulative Effects Assessment** of this EIA Scoping Report. The developments identified as having potential to give rise to cumulative effects in conjunction with the Proposed Development will be considered within the Assessment of Cumulative Effects chapter of the ES.

Assumptions and Limitations

- 15.5.9 It is assumed that due to the nature of the Proposed Development, that there will be no receptors on-site when operational, further to those that would attend the site for maintenance purposes.
- 15.5.10 Traffic flows provided at this early stage represent the worst case in terms of potential construction phasing and routing. Traffic data will be kept under review throughout design.
- 15.5.11 The highest level of dust risk has been assumed, and appropriate mitigation will be included within an outline Construction Environmental Management Plan (OCEMP) to ensure no significant effects from construction dust.

15.6 Potential Impacts

- 15.6.1 It is not considered necessary to undertake any surveys in respect of air quality due to the desktop nature of the assessment relying on existing local monitoring data, which have been undertaken by WODC, CDC and VWHDC.
- 15.6.2 During both the Construction and Decommissioning Phases of the Development, there is potential for air quality impacts associated with fugitive dust emissions as well as road traffic emissions associated with vehicles. Mitigation measures relevant to Air Quality are set out within the following text and included in **Appendix 3-1: Commitments Register**.

15.6.3

Construction Phase

Construction Dust

- 15.6.4 The works being undertaken during the Construction Phase that have the potential to emit dust include earthworks and construction with vehicle trackout expected from construction vehicles. It is considered that the greatest risk of dust emissions will be from construction activities as outlined within **Chapter 3: The Proposed Development**.
- 15.6.5 Dust and particulate matter emissions produced during Construction Phase activities would be controlled through the implementation of an OCEMP.
- 15.6.6 It is considered that due to the size and proximity of the Proposed Development to nearby sensitive human receptors that the highest risk of impact, 'high risk', has been assumed at this stage, in line with the IAQM Guidance on the Assessment of Dust from Demolition and Construction, and therefore associated high risk mitigation measures will be implemented and included the OCEMP.
- 15.6.7 There are no ecological receptors located within approximately 50m of the DCO Site Boundary; as such, dust soiling impacts on ecological receptors as a result of the Construction and Decommissioning Phase are not considered.

Construction vehicles

- 15.6.8 Construction traffic generation may require modelling in order to assess the air quality impacts from road emissions produced by construction vehicles.
- 15.6.9 It is expected that during peak construction (expected to be 6 months), there will be 128 HDV movements on the local network. In addition, there are expected to be 400 personnel onsite, however, the LDV trips associated with this is not currently quantified. It is noted that there would be noticeably fewer workers outside peak activities which would be an average of 100 staff per day. During the peak of construction, this change exceeds the HDV criteria, and has the potential to exceed the LDV criteria, in the EPUK and IAQM planning guidance document, (greater than 500 LDV and/or 100 HDV AADT for outside of an AQMA).
- 15.6.10 It is expected that the vehicle movements associated with the Construction Phase will be dispersed across the network and may fall below the EPUK and IAQM screening criteria. It should be noted that the strategic routing options of the construction vehicles have been set out within **Chapter 12: Transport and Access**, however, the exact routing has not been finalised at the time of writing. As a result, it is currently unknown if construction vehicles will utilise the same access roads for entering and leaving the Site.
- 15.6.11 If required, dispersion modelling will be used to predict concentrations of NO₂, PM₁₀ and PM_{2.5} at sensitive receptors adjacent to roads affected by the

Proposed Development. Modelling will be carried out following industry guidance and using an appropriate model (ADMS-Roads). Dispersion modelling calculations will be verified using data gathered in the baseline air quality survey and Local Authority monitoring stations, where appropriate.

- 15.6.12 Predicted concentrations of NO₂, PM₁₀ and PM_{2.5} at sensitive receptors from dispersion modelling calculations would be compared to the current statutory standards and objectives. The air quality impacts at existing sensitive human and ecological receptors will be described using terms outlined in the EPUK and IAQM Planning Guidance. These terms are derived from the percentage change in concentration relative to the air quality assessment level and with the total long-term average concentration during the peak construction of the Proposed Development. The EPUK and IAQM Planning Guidance impact descriptors are Substantial, Moderate, Slight and Negligible.

Non-Road Mobile Machinery Vehicle Exhausts

- 15.6.13 Pollutants emitted by non-road mobile machinery (NRMM) that may have the most significant potential effects on local air quality are NO_x/NO₂, PM₁₀ and PM_{2.5}. Typical NRMM vehicles include, but are not limited to, excavator, cranes, generators and forklift trucks, of which these are anticipated at the Site during the Construction Phase.
- 15.6.14 However, the IAQM Construction Guidance states that *“Experience of assessing the exhaust emissions from on-site plant (also known as non-road mobile machinery or NRMM) and site traffic suggests that they are unlikely to make a significant impact on local air quality, and in the vast majority of cases they will not need to be quantitatively assessed.”*

Ecological receptors

- 15.6.15 The strategic routing of the construction vehicles has been set out within **Chapter 12: Transport and Access**, however, the exact routing has not been finalised at the time of writing. This may require modelling in order to assess the cumulative air quality impacts on nitrogen deposition from road emissions produced by construction vehicles.
- 15.6.16 The Cotswold Waterpark Site of Special Scientific Interest (SSSI) is located approximately 270m south of the Site, and within 50m of the potential route for construction traffic.
- 15.6.17 If the cumulative change in traffic flow exceeds the criteria in the DMRB Guidance Manual of 1,000 AADT, then the impact of the construction related traffic on nearby ecological sites will be assessed quantitatively, using dispersion modelling.

Operational Phase

Operational Vehicles

- 15.6.18 The Operational Phase traffic for the Development will likely include vehicles associated with routine maintenance and replacement activities, as outlined within **Chapter 3: The Proposed Development**.
- 15.6.19 However, the impacts to air quality at sensitive human and ecological receptors from the Operational Phase of the Proposed Development are anticipated to be not significant, as operational road traffic flows are expected to be less than the traffic flow generated by the Construction and Decommissioning Phases and therefore fall below the EPUK and IAQM Planning Guidance.

Site Suitability

- 15.6.20 Based on the baseline monitoring data review, on site pollutant concentrations are anticipated to be below the relevant AQOs for the proposed use. Despite this, a site suitability assessment is unlikely to be needed as the Site will be unoccupied.

Battery Energy Storage Systems and Substations

- 15.6.21 The proposed Battery Energy Storage System (BESS) has the potential for air quality impacts in the unlikely event of a fire. Therefore, an air quality assessment will include point source emissions modelling of a worst-case scenario of pollutants, in the event of a fire, and predict concentrations at nearby sensitive receptors. The result of the assessment can be used to inform the potential mitigation measures where required. A standalone Air Quality Plume Assessment will be undertaken to determine the potential impacts on the local area and inform the Outline Battery Safety Management Plan (OBSMP).
- 15.6.22 There are no air quality impacts associated with the Main and Collector Substation whilst in operation.

Decommissioning Phase

- 15.6.23 The impacts of the Decommissioning Phase are expected to be similar to, or of a lesser magnitude than the concentrations generated during the Construction Phase. Therefore, decommissioning will not be assessed separately as the Construction Phase assessment is considered to represent a worst-case assessment for Decommissioning Phase impacts.

Scoped In

- 15.6.24 It is anticipated that no issues will be required to be scoped in.

Scoped Out

Construction and Decommissioning Dust

- 15.6.25 The works being undertaken during the Construction and Decommissioning Phase include earthworks, construction, demolition and trackout. It is anticipated that dust and particulate matter emissions produced during Construction and Decommissioning Phase activities would be controlled through the implementation of the Outline Construction Environmental Management Plan (OCEMP) and Outline Decommissioning Environmental Management Plan (ODEMP). Therefore, the effects of dust and particulate matter emissions released during the Construction and Decommissioning Phases of the Proposed Development from on-site activities are unlikely to be considered significant and have been scoped out of the ES.

NRMM

- 15.6.26 Impacts to air quality at sensitive human and ecological receptors from NRMM as emissions of NO_x/NO₂, PM₁₀ and PM_{2.5} will be required to adhere to emissions standards, therefore the effects of construction and decommissioning plant on local air quality would be insignificant.

Construction and Decommissioning Traffic

- 15.6.27 It is anticipated that the construction and decommissioning traffic movements will be controlled through the implementation of a Construction Transport Management Plan (CTMP) and further mitigation measures set out within an ODEMP. The CTMP and ODEMP are to include details on construction logistics and construction worker travel, alongside providing information to guide the delivery of material, plant, equipment, and staff during the Construction Phase.
- 15.6.28 It is not expected that construction traffic flows will exceed the EPUK and IAQM screening criterion [Ref 15-2] for either sensitive human or ecological receptors therefore the effects of traffic emissions would be non-significant for the Construction Phase and are proposed to be scoped out of the ES.
- 15.6.29 However, if the change due to the construction traffic flows exceeds the criteria in the EPUK and IAQM guidance document (500 LDVs and/or more than 100 HDVs) [Ref 15-2], then the impact of the traffic emissions on existing receptors will be assessed quantitatively and set out within the Other Environmental Matters chapter of the ES.

Operational Traffic

- 15.6.30 It is not expected that operational traffic flows will exceed the screening criterion for either sensitive human or ecological receptors, therefore, the effects of traffic emissions would be non-significant for the Operational Phase and is proposed to be scoped out of the ES.

Battery fire risk

- 15.6.31 A standalone Air Quality Plume Assessment will be undertaken to determine the potential impacts on the local area and inform the OBSMP.

15.7 Consultation

- 15.7.1 Consultation with Environmental Health Officer (EHO) will be undertaken as part of the Environmental Impact Assessment (EIA) process following the submission of this EIA Scoping Report, in order to confirm the number of construction vehicles and agree the proposed air quality assessment methodology, if required. This would provide an opportunity for the local authority to provide feedback on the approach.

15.8 Summary of Matters Scoped In and Out

Table 15-3 Summary of Assessment Scope

ASPECT/ MATTER	CONSTRUCTION	OPERATION	DECOMMISSIONING
Dust and Particulate Matter	Scoped out – a construction dust assessment will support the DCO application.	Scoped out	Scoped out
Vehicle Exhaust Emissions	Scoped out	Scoped out	Scoped out
NRMM	Scoped out	Scoped out	Scoped out
Ecological Impacts	Scoped out	Scoped out	Scoped out
BESS Emissions	Scoped out	Scoped out	Scoped out

15.9 References

- Ref 15-1 Institute of Air Quality Management (2024) Guidance on the assessment of dust from demolition and construction v2.2 – [online], (Last accessed: 19/08/2026)
- Ref 15-2 Environmental Protection UK and Institute of Air Quality Management (2017), Land-Use Planning & Development Control: Planning For Air Quality v1.2 – [online] (Last accessed: 19/08/2026)
- Ref 15-3 West Oxfordshire District Council (2026) Air Quality – [online], (Last accessed: 19/08/2026), Available at: <https://www.westoxon.gov.uk/environment/noise-pests-pollution-and-air-quality/air-quality/>
- Ref 15-4 Cotswold District Council (2026) Air Quality – [online], (Last accessed: 19/08/2026), Available at: <https://www.cotswold.gov.uk/environment/noise-pests-pollution-and-air-quality/air-quality/>
- Ref 15-5 Vale of White Horse District Council (2026) Air Quality – [online], (Last accessed: 19/08/2026), Available at: <https://www.whitehorsedc.gov.uk/vale-of-white-horse-district-council/environment-and-neighbourhood-issues/air-quality/air-quality/>
- Ref 15-6 Defra (2022) Local Air Quality Management Technical Guidance (TG22) – [online] (Last accessed: 19/08/2026)
- Ref 15-7 The Stationary Office (2021) Statutory Instrument 2021, The Environment Act 2021, London
- Ref 15-8 Defra (2007) The Air Quality Strategy for England, Scotland, Wales and Northern Ireland – [online]
- Ref 15-9 The Stationery Office (2000) Statutory Instrument 2000, No 928, The Air Quality (England) Regulations 2000, London
- Ref 15-10 The Stationery Office (2002) Statutory Instrument 2002, No 3043, The Air Quality (England) (Amendment) Regulations 2002, London
- Ref 15-11 The Stationery Office (2010) Statutory Instrument 2010, No 1001, The Air Quality Standards Regulations 2010, London
- Ref 15-12 The Stationery Office (2016) Statutory Instrument 2016, No 1184, The Air Quality Standards (Amendment) Regulations 2016, London
- Ref 15-13 Department for Environment, Food & Rural Affairs (2025) Environmental Improvement Plan 2025 – [online], (Last accessed: 19/08/2026), Available at: <https://www.gov.uk/government/publications/environmental-improvement-plan-2025/environmental-improvement-plan-eip-2025>
- Ref 15-14 The Stationery Office (1990) Environmental Protection Act 1990 - [online] (Last accessed: 09/08/2026), Available at: legislation.gov.uk/ukpga/1990/43/part/III

- Ref 15-15 Defra (2019) The Clean Air Strategy – [online] (Last accessed: 09/08/2026), Available at: www.gov.uk/government/publications/clean-air-strategy-2019
- Ref 15-16 HMSO (2021). The Building Regulations 2021. Approved Document Part F: Ventilation
- Ref 15-17 Department for Housing, Communities & Local Government, (2026) National Planning Policy Framework, London. Available: https://assets.publishing.service.gov.uk/media/6a8334c03bd75b81e2329ac4/National_Planning_Policy_Framework.pdf
- Ref 15-18 Ministry of Housing, Communities & Local Government (2019) Planning Practice Guidance, London
- Ref 15-19 Department for Energy Security & Net Zero Overarching National Policy Statement for Energy (EN-1) [online] (Last accessed: 19/08/2026)
- Ref 15-20 Department for Energy Security & Net Zero National Policy Statement for Renewable Energy Infrastructure (EN-3) [online] (Last accessed: 19/08/2026)
- Ref 15-21 Department for Energy Security and Net Zero (2025) National Policy Statement for Electricity Networks Infrastructure (EN-5) – [online] (Last accessed: 19/08/2026). Available at: gov.uk/government/publications/national-policy-statement-for-electricity-networks-infrastructure-en-5-2025
- Ref 15-22 West Oxfordshire District Council (2026) Local Development Framework – [online], (Last accessed: 19/08/2026), Available at: <https://www.westoxon.gov.uk/planning-and-building/planning-policy/local-development-framework/>
- Ref 15-23 National Highways (2026) Design Manual for Roads and Bridges (DMRB) – [online], (Last accessed: 19/08/2026), Available at: <https://nationalhighways.co.uk/work-with-us/suppliers/design-standards-and-specifications/design-manual-for-roads-and-bridges-dmrb/>

16. OTHER ENVIRONMENTAL MATTERS

16.1 Introduction

- 16.1.1 This chapter provides a summary of other environmental matters which are not considered to warrant individual chapters, either due to the limited nature of the assessment or due to the potential for less than significant effects associated with the Proposed Development.
- 16.1.2 It is considered appropriate for these topics to be addressed adequately and in a proportionate manner within the 'Other Environmental Matters' chapter of the ES associated with the Proposed Development. The Other Environmental Matters chapter of the ES will include a brief assessment of each of the topics covered below, supported by cross referencing to where relevant matters are addressed elsewhere in the application, ES and/or within the technical notes/assessments that will be appended to the ES, containing further information that evidences the conclusion for each topic. Where technical notes are required, this is set out in the topic sections below. The generic EIA methodology set out in **Chapter 4** of this EIA Scoping Report does not apply to the Other Environmental Matters chapter.
- 16.1.3 For clarity, those topics covered below are proposed to be scoped out of the EIA as standalone chapters unless otherwise stated. The topics included within this chapter are:
- Electromagnetic Fields (EMF);
 - Glint and Glare;
 - Health;
 - Waste;
 - Risk of Major Accidents and Disasters;
 - Ground Conditions and
 - Utilities and Telecommunications.
- 16.1.4 Mitigation measures relevant to the above topics are also included in **Appendix 3-1: Commitments Register**.

16.2 Electromagnetic Fields (EMF)

Introduction

- 16.2.1 This section sets out the scope and methodology for the assessment of likely significant effects arising from the Proposed Development on Electromagnetic

Fields (EMF) during the Construction, Operation (and maintenance) and Decommissioning Phases.

- 16.2.2 Electric fields occur as a result of voltages applied to electrical conductors and equipment. These are easily blocked by vegetation, fencing, buildings and other infrastructure. EMFs are created by the flow of electric current and can either be produced by natural sources or by certain man-made appliances. Unlike electric fields, most materials do not readily block magnetic fields, though the intensity of both electric and magnetic fields diminishes with distance from the source.
- 16.2.3 There is potential for human exposure to EMFs to cause health problems if they are persistent or of high strength.

Study Area

- 16.2.4 It is considered that there is potential for EMFs around any components of the Proposed Development. Consequently, the Study Area for the assessment of EMFs is the DCO Site Boundary (see **Figure 1-1**).

Baseline Conditions

- 16.2.5 The Site is predominantly used for agricultural purposes in a rural area. As such, existing sources of EMF are limited to the immediate regions around existing electrical infrastructure, which includes the 400kV overhead lines (OHL) which cross the majority of the Site in a south-east to north-west direction, and OHL rated at 11kV and 33kV located throughout the Site. No other notable sources of EMFs have been identified.

Assessment Methodology

- 16.2.6 Within the PINS Technical Advice Page for Scoping Solar Development [Ref 16-1], the following guidance is provided:
- 16.2.7 *Where proposed cables are over 132kV, an EMF assessment should be provided in an appendix to the Environmental Statement. This should include the location, routing and voltages of any cables over 132kV and a risk assessment to any human and ecological sensitive receptors within the Zone of Influence.*
- 16.2.8 In accordance with the above guidance, it is proposed that a technical appendix will be prepared that adequately considers the risk to human and ecological receptors presented by EMF. As the electrical components of the Proposed Development will be live only during operation, the assessment presented within the technical appendix will only consider Operational phase effects. This technical appendix will be appended to the ES.
- 16.2.9 The technical appendix will take into account relevant legislation, policy, and guidance, including but not limited to:
- National Policy Statement (NPS) EN-1 [Ref 16-2];

- The International Commission of Non-Ionizing Radiation Protection (ICNIRP) reference levels [Ref 16-3];
- National Grid guidance [Ref 16-4]; and
- The Energy Networks Association (ENA) Guidelines [Ref 16-5].

- 16.2.10 In March 2004, the UK adopted the 1998 guidelines published by the ICNIRP and this policy was reaffirmed by a Written Ministerial Statement in October 2009. These guidelines also form the basis of a European Union Recommendation on public exposure and a Directive on occupational exposure. The ICNIRP 'reference levels' for the public are 100 microteslas for magnetic fields. According to ICNIRP, *"These are the levels above which more investigation is needed if this level of exposure is likely to occur; the permitted levels of exposure are somewhat higher, 360 microteslas and 9000 volts per metre. They apply where the time of exposure is significant. These guidelines are designed to ensure that electromagnetic fields do not interfere with nerves, but were set after examining all the evidence, including the evidence on cancer. The occupational limits are five times higher"*.
- 16.2.11 Adopting a reasonable worst-case scenario, it is proposed that the lower 'reference level' of 100 microteslas is used in the assessment presented within the technical appendix as the threshold at which potentially significant effects could occur.

Potential Impacts

- 16.2.12 EMFs arise from the generation, transmission, distribution and use of electricity and occur around all electrical infrastructure, and consist of both electric and magnetic fields. EMF can have detrimental effects on human health and ecology.
- 16.2.13 In this instance, the most significant EMF sources within the Proposed Development are the Main Substation, Collector Substations, BESS and cables. The National Grid Substation is not currently included within the DCO application; it will be considered cumulatively.
- 16.2.14 The Proposed Development will include Underground Cabling; no overhead electricity cables form part of the Proposed Development.
- 16.2.15 Potential effects from EMF could be experienced by local residents, people located in non-residential properties, members of the public near or on the Site using public highways or Public Rights of Way (PRoW), or ecological receptors.
- 16.2.16 Whilst potential risks associated with EMFs will be considered further within the technical appendix that will be appended to the ES, no significant effects are anticipated to result from EMFs as a result of the Proposed Development. The rationale for this is as follows:
- Cable sheathing and surrounding soil almost completely filter out electric fields from buried cabling. Electric fields can therefore be scoped out of the assessment, as it is clear these will not result in a significant effect.

- The Department for Energy Security and Net Zero (DESNZ) (formerly Department of Energy and Climate Change (DECC)) guidance [Ref 16-6] states that underground cables at voltages up to and including 132kV are not considered capable of exceeding the ICNIRP exposure guidelines for magnetic fields. Therefore, compliance with exposure guidelines for such equipment can be assumed unless evidence is brought to the contrary in specific cases. Whilst there is potential for exceedances of 132kV where infrastructure overlaps, cumulative effects with other existing or proposed electricity infrastructure will be considered as part of the assessment and potential effects will be identified.
- The Proposed Development will be designed to mitigate EMF impacts on human health and ecology through the separation, i.e. by employing minimum offsets, between electrical components and receptors, where practicable. As electric fields are easily blocked, they will be minimal out with a facility boundary. Magnetic fields decrease sharply with distance from the source.

16.2.17 As a result of the above, it is not anticipated that any infrastructure associated with the Proposed Development would exceed the 'worst-case scenario' reference level of 100 microteslas. As a consequence, no likely significant effects on any receptor are expected to occur.

16.2.18 A separate high-level magnetic interference assessment will be prepared, considering the risk to human and ecological receptors presented by EMF arising from the Proposed Development.

Proposed Scope

16.2.19 A summary of the scope in relation to the assessment of Electromagnetic Fields is presented in **Table 16-2**.

Table 16-1 Summary of Scope in relation to the Assessment of Electromagnetic Fields

ASPECT/MATTER	PROPOSED SCOPE
Electromagnetic Fields	It is proposed that a standalone Electromagnetic Fields chapter is not included within the ES. Instead, a separate technical assessment will be submitted as an appendix to the ES. The EMF assessment will include the location, routing and voltage of any cables over 132kV and a risk assessment to any human and ecological sensitive receptors within the zone of influence. This assessment will be appended to the ES, and its findings will be summarised in the Other Environmental Matters chapter of the ES.

16.3 Glint and Glare

Introduction

- 16.3.1 This section sets out the scope and methodology for the assessment of likely significant effects arising from the Proposed Development on Glint and Glare impacts during the Construction, Operation and Decommissioning Phases.
- 16.3.2 The purpose of the assessment is to identify and characterise the potential for Glint and Glare impacts to occur in respect of residential amenity, road safety, railway operations and aviation safety and how it is proposed to be assessed within the Environmental Statement (ES).

Study Area

- 16.3.3 A 1km Study Area from the solar panels in the Proposed Development is deemed appropriate for the assessment of ground-based receptors as this contains a variety of ground-based receptors in all directions from the PV Array area. Aviation receptors within 30km of the Proposed Development will be identified, and licensed aerodromes within 20km, military aerodromes within 10km and small airfields and helipads within 5km will be assessed.
- 16.3.4 No railway lines have been identified within 1km of areas of the Proposed Development which are expected to host solar panels, therefore railway receptors fall outside the Study Area.
- 16.3.5 The further distance a receptor is from a solar farm, the less chance it has of being affected by glint and glare due to scattering of the reflected beam and atmospheric attenuation, in addition to obstructions from ground sources, such as any intervening vegetation or buildings. This is based on best practice, experience and professional judgement.

Baseline Conditions

- 16.3.6 This section describes the baseline environmental characteristics for the Proposed Development and surrounding areas with specific reference to glint and glare.
- 16.3.7 There are a number of residential receptors within the Study Area which will require assessment, notably within the villages of Lechlade, Little Faringdon, Langford, Kelmscott, Grafton, Broadwell, Broughton Poggs and Filkins as well as other properties located within the vicinity.
- 16.3.8 There are also a number of roads within the Study Area which will require assessment, including, but not limited to, A361, B4477, Lechlade Road, Filkins Road, Broadwell Road, Station Road, Calcroft Lane, and a number of unnamed roads which run alongside parcels within the Proposed Development. Major roads to be assessed will include A roads, B roads and main roads.

- 16.3.9 There are a number of aerodromes within 30km of the Proposed Development. Only three – RAF Brize Norton located approximately 2.6km north-east, RAF Fairford located approximately 6km to the south-west and Buscot Airfield located approximately 3.4km to the south-west – will require assessment, as the Proposed Development is located within their safeguarding buffer zones as outlined in **paragraph 16.3.3**. The Air Traffic Control Towers (ATCT) at RAF Brize Norton and RAF Fairford will both be assessed. Buscot Airfield does not have an ATCT.
- 16.3.10 There are no railway lines within the Study Area, and therefore none which require assessment for glint and glare impacts.
- 16.3.11 There are no navigable riverways or canals within the Study Area, and therefore none which require assessment for glint and glare impacts.
- 16.3.12 The Site is intersected by 22 PRoW that connect the nearby historic settlements to one another as well as to the surrounding areas. PRoW 44/12a/10, located within the east of the Site, forms part of the D'Arcy Dalton Way long-distance walking route, which connects to the Thames Path approximately 1km to the south of the Site.

Ref 16-7 Overview of Legislation, Policy, and Guidance

- 16.3.13 The below legislation, policy and guidance have been taken into consideration in order to establish the proposed approach to the assessment of Glint and Glare.

Legislation

- The Air Navigation Order 2016 [Ref 16-8]

National Planning Policy

- National Policy Statement (NPS) for Renewable Energy Infrastructure (EN-3) [Ref 16-9]

Local Planning Policy

- West Oxfordshire Local Plan 2031 [Ref 16-10]

Relevant Industry Guidance

- Civil Aviation Authority (CAA) – CAP738: Safeguarding of Aerodromes 3rd Edition [Ref 16-11];
- US Federal Aviation Administration (FAA) Policy [Ref 16-12];
- FAA Policy: Review of Solar Energy Systems Projects on Federally - Obligated Airports [Ref 16-13];
- Nationally Significant Infrastructure Projects: Technical Advice Page for Scoping Solar Development [Ref 16-14];
- Planning Practice Guidance (PPG) on Renewable and Low Carbon Energy (UK) [Ref 16-15]; and

- Planning Guidance for the Development of Large Scale Ground Mounted Solar PV Systems [Ref 16-16].

Assessment Methodology

- 16.3.14 The technical assessment of potential effects associated with Glint and Glare consider the following:

Sun Position and Reflection model

Sun Data Model

- 16.3.15 The calculations in the solar position calculator are based on equations from Astronomical Algorithms. The sunrise and sunset results are theoretically accurate to within a minute for locations between +/- 72° latitude, and within 10 minutes outside of those latitudes. However, due to variations in atmospheric composition, temperature, pressure and conditions, observed values may vary from calculations

Solar Reflection Model

- 16.3.16 The position of the sun is calculated at one-minute intervals of a typical year.
- 16.3.17 In order to determine if a solar reflection will reach a receptor, the following variables are required:
- Sun position;
 - Observer location; and
 - Tilt, orientation, and extent of the solar panels in the solar array.
- 16.3.18 The model assumes that the azimuth and horizontal angle of the sun is the same across the Proposed Development. This is considered acceptable due to the distance of the sun from the Proposed Development and the miniscule differences in location of the sun over the Proposed Development.
- 16.3.19 The solar reflection in the model is considered to be specular as a worst-case scenario. In practice, the light from the sun will not be fully reflected as solar panels are designed to absorb light rather than reflect it. The text above and the associated appendix submitted as part of the ES will outline the reflective properties of solar glass and compares it to other reflective surfaces.
- 16.3.20 The panel reflectivity would be modelled to assume an anti-reflective coating (ARC), which is the industry standard for solar panels and further reduces the reflective properties of the solar panels.

Determination of Ocular Impact

- 16.3.21 The software used for this assessment is based on the Sandia Laboratories Solar Glare Hazard Analysis Tool (SGHAT). This tool is specifically mentioned in the FAA guidance as the software that should be used in this type of assessment. Again, this is following the current best practice available due to the lack of UK guidance.

- 16.3.22 The impact [Ref 16-17] of viewed glare can be classified into three levels based on the retinal irradiance and subtended source angle: low potential for after-image (green), potential for after-image (yellow), and potential for permanent eye damage (red).
- 16.3.23 Green glare can be ignored when looking at ground based and some aviation receptors. Green glare does not cause temporary flash blindness and happens at an instant with very slight disturbance. As per FAA guidelines, mitigation is only required for green glare when affecting an Air Traffic Control Tower, but not for when affecting pilots. Therefore, it can be assumed that green glare is acceptable for ground-based receptors.
- 16.3.24 The modelling software outputs a hazard plot for each receptor predicted to be impacted by glare from the solar array. The hazard plot shows that the irradiance of the Sun is approximately three orders of magnitude greater than the reflected irradiance, i.e., the power density of solar reflections from photovoltaic panels are approximately 0.1% that of viewing the Sun. Due to the disparity in irradiance, whenever the Sun is observed in the same frame as solar reflections from a solar array, the Sun will be the main source of glare impacts upon the observer. In such a case, the impact is deemed to be Low as a worst-case scenario.

Relevant Parameters of the Proposed Development

- 16.3.25 The photovoltaic panels will be either Fixed Panels or Tracker Panels. The Fixed Panels will be oriented in a southwards direction to maximise solar gain and will remain in a fixed position throughout the day and during the year (i.e. they will not rotate to track the movement of the sun). The Tracker Panels will be orientated in an east-west arrangement and rotate on a north-south axis to track the movement of the sun.
- 16.3.26 The maximum height of the Fixed Panels will be 4m above ground level and have a tilt angle between 10 and 45 degrees. Tracker Panels will be a maximum of 4.5m. above ground level and continuously track the sunlight throughout the day up to an angle of +/- 60 degrees from the horizontal. The maximum above ground height and points at the top of the solar panels will be used to determine the potential for glint and glare generation, as this represents a worst-case scenario.

Relevant Receptors

Ground Based Receptors

- 16.3.27 Glint is most likely to impact upon a ground-based receptor close to dusk and dawn, when the sun is at its lowest in the sky. Therefore, any effect would likely occur early in the day or late in the day, reflected to the west at dawn and east at dusk.
- 16.3.28 A 1km Study Area from the solar panels in the Proposed Development is deemed appropriate for the assessment of ground-based receptors as outlined in **paragraphs 16.3.3 – 16.3.5.**

- 16.3.29 In accordance with industry standard practice, an observer height of 2m will be utilised for residential receptors, as this is a typical height for a ground-floor window. Upper floor windows will be taken into account in the visibility assessment for glint and glare. With regards to road users, a receptor height of 1.5m will be employed as this is typical of eye level.
- 16.3.30 An assessment will be undertaken to determine zones where solar reflections will never be directed near ground level.
- 16.3.31 Where there are several residential receptors within close proximity, a representative dwelling or dwellings will be chosen for full assessment as the impacts will not vary to any significant degree. Where small groups of receptors are evident, the receptors on either end of the group will be analysed in detail with the worst-case impacts attributed to all receptors within the group.
- 16.3.32 Minor roads excluded from assessment are low speed roads which serve residential, commercial and industrial estates and roads which serve individual properties.
- 16.3.33 PRoW do not require assessment due to there being negligible to no adverse safety effects of glint and glare from solar farm developments. Pedestrians and cyclists can mitigate or negate glint and glare impacts through a variety of means such as looking away, wearing sunglasses, etc. This approach is reflective of best industry practice.
- 16.3.34 There are a number of bridleways within the Study Area, however the British Horse Society (BHS) has released advice on solar farms near routes used by equestrians [Ref 16-7]. This advice states: *"Panels are designed to absorb and not reflect light for efficiency (reflected light is wasted energy) and although the amount of reflection varies with the materials, the incidence of 'glint and glare' is negligible compared with glass or water and will not be uniform throughout a period of sunlight"*. It further states in relation to glint and glare and its effects on horses: *"Increasingly, proposals for solar farms include comment on the impact of 'glint and glare'. BHS has no evidence of 'glint and glare' from solar panels and no evidence of horses reacting to it or of it being detrimental to the health and wellbeing of horses."*

Aviation

- 16.3.35 Glint is only considered to be an issue with regards to aviation safety when the solar farm lies within close proximity to a runway, particularly when the aircraft is descending to land. This is outlined within the FAA guidance as being the key aviation receptors to assess and is considered best practice in the absence of UK guidance.
- 16.3.36 The Proposed Development is within the safeguarding zones of three aerodromes, therefore a full geometric study (which would determine if there is potential for glint and glare at key locations, most likely on the descent to land) is required.
- 16.3.37 Buffer zones to identify aviation assets vary depending on the safeguarding criteria of that asset. As outlined in **paragraph 16.3.3**, all aerodromes within

30km will be identified, however, generally the detailed assessments are only required within 20km for licensed aerodromes, 10km for military aerodromes and 5km for small aerodromes.

Magnitude of Impact

Static Receptors (Residential Receptors)

16.3.38 Although there is no specific guidance set out to identify the magnitude of impact from solar reflections, the following criteria have been set out for the purposes of this report and have been accepted for assessing numerous solar farms across the UK and Ireland:

- High - Solar reflections impacts of over 30 hours per year or over 30 minutes per day;
- Medium - Solar reflections impacts between 20 and 30 hours per year or between 20 minutes and 30 minutes per day;
- Low - Solar reflections impacts up to 20 hours per year or up to 20 minutes per day; and
- None - Effects not geometrically possible or no visibility of reflective surfaces likely due to high levels of intervening screening.

Moving Receptors (Road)

16.3.39 Again, no specific guidance is available to identify the magnitude of impact from solar reflections on moving receptors except in aviation, however, it is thought that a similar approach should be applied to moving receptors as aviation, based on the ocular impact and the potential for after-image.

16.3.40 The FAA guidance states that for a solar development to obtain FAA approval or to receive no objection, the following criteria must be met:

- No potential for glare (glint) or “low potential for after-image” along the final approach path for any existing or future runway landing thresholds (including planned or interim phases).

16.3.41 The following criteria have been set out for the purposes of this report:

- High - Solar reflections impacts consisting of any amount of yellow glare;
- Low - Solar reflections impacts consisting of any amount of only green glare; and
- None - Effects not geometrically possible or no visibility of reflective surfaces likely due to high levels of intervening screening.

16.3.42 The FAA produced an evaluation of glare as a hazard and concluded in their report [Ref 16-18] that:

16.3.43 *“The more forward the glare is and the longer the glare duration, the greater the impairment to the pilots’ ability to see their instruments and to fly the aircraft. These results taken together suggest that any sources of glare at an airport may be potentially mitigated if the angle of the glare is greater than 25 deg from the direction that the pilot is looking in. We therefore recommend that the design*

of any solar installation at an airport consider the approach of pilots and ensure that any solar installation that is developed is placed such that they will not have to face glare that is straight ahead of them or within 25 deg of straight ahead during final approach.”

- 16.3.44 It is reasonable to assume that although this report is assessing pilots vision impairment, it can also be applied to drivers of other road and rail vehicles. Therefore, the driver’s field of view will also be analysed where required and if the glare is out with 25 degrees either side of their line of sight then any impacts will reduce to None. As there are more mitigation options available for road and rail users than aviation receptors, the use of FAA guidance in assessing these receptors represents a worst-case scenario.

Moving Receptors (Aviation)

- 16.3.45 Final approach paths which have the potential to receive glint are assessed using the SGHAT model. The model assumes an approach bearing on the runway centreline, a 3-degree glide path with the origin 50ft (15.24m) above the runway threshold.
- 16.3.46 The computer model considers the pilot’s field of view. The azimuthal field of view (AFOV) or horizontal field of view (HFOV) as it is sometimes referred, refers to the extents of the pilot’s horizontal field of view measured in degrees left and right from directly in front of the cockpit. The vertical field of view (VFOV) refers to the extents of the pilot’s vertical field of view measured in degrees from directly in front of the cockpit. The HFOV is modelled at 50 degrees left and right from the front of the cockpit whilst the VFOV is modelled at 30 degrees.
- 16.3.47 The FAA guidance states that there should be no potential for glare or ‘low potential for after-image’ at any existing or future planned runway landing thresholds for the Scheme to be acceptable. Given the FAA guidance and commentary on impacts, the following criteria have been set out for the purposes of this report:
- High - Solar reflections impacts consisting of any amount of yellow glare;
 - Low - Solar reflections impacts consisting of any amount of only green glare;
 - None - Effects not geometrically possible or no visibility of reflective surfaces likely due to high levels of intervening screening.

Cumulative Effects

- 16.3.48 The methodology for the assessment of cumulative effects is set out within **Chapter 5: Cumulative Effects Assessment** of this EIA Scoping Report. The developments identified as having potential to give rise to cumulative effects in conjunction with the Proposed Development will be considered within the Cumulative Effects Assessment chapter of the ES.
- 16.3.49 As noted in **paragraph 16.3.5** the further distance a receptor is from a solar farm, the less chance it has of being affected by glint and glare due to scattering of the reflected beam and atmospheric attenuation, in addition to obstructions from ground sources, such as any intervening vegetation or buildings. The 1km

Study Area used for the Glint and Glare Assessment is the Zone of Influence (ZoI) for glint and glare impacts.

- 16.3.50 The Glint and Glare Assessments submitted with the planning applications for any potential cumulative solar development will be used to inform any possible cumulative impacts. Cumulative impacts will only be present upon a receptor if there are predicted impacts from the Proposed Development and at least one other solar development.
- 16.3.51 Should there be a potential for cumulative impacts, a glint and glare visibility assessment will be undertaken to determine the significance of the impact and if any mitigation measures may be required.
- 16.3.52 The interaction and combination of different environmental discipline residual (post-additional mitigation) effects from within the Proposed Development affecting a single receptor will be assessed within the ES. Receptors identified within the glint and glare assessment will be assessed within in-combination effects assessment.

Assumptions and Limitations

- 16.3.53 It is assumed that the model has the following limitations:
- the model does not consider obstacles (either man-made or natural) between the observation points and the prescribed solar installation that may obstruct observed glare, such as trees, vegetation, hills, buildings, etc (that is, it calculates a “bare-earth” scenario);
 - the model does not rigorously represent the detailed geometry of a system; detailed features such as gaps between modules, variable height of the Solar Array, and support structures may impact actual glare results;
 - due to variations in atmospheric composition, temperature, pressure and conditions, observed values may vary slightly from calculated positions;
 - the model does not account for the effects of diffraction; however, buffers are applied as a factor of safety; and
 - the model assumes clear skies at all times and does not account for meteorological effects such as cloud cover, fog, or any other weather event which may screen the sun.
- 16.3.54 Due to these assumptions and limitations, the model overestimates the number of minutes of glint and glare which are possible at each receptor and presents the worst-case scenario. Where glint and glare are predicted, a visibility assessment is carried out to determine a more accurate, real-world prediction of the impacts.

Potential Impacts

Construction Phase

- 16.3.55 Glint and glare impacts during the Construction Phase of the Proposed Development will typically be less than during the Operational Phase due to

fewer panels being in situ, as will be the case during the Decommissioning Phase. The worst-case glint and glare impacts will be present during the Operational phase of the Proposed Development which will be the focus of the assessment.

- 16.3.56 Mitigation in the form of vegetation planting may be recommended after assessment of the Operational Phase. If vegetation planting is required to mitigate Glint and Glare effects, advanced planting, or similar, would be implemented during the start of the Construction Phase to ensure the mitigation is fully implemented before the Proposed Development is operational.

Operation Phase

- 16.3.57 The Operation Phase of the Proposed Development will have the maximum potential for glint and glare impacts due to all the proposed solar panels being in situ, though embedded mitigation such as anti-reflective coatings, screening vegetation and topography can avoid or minimise this. Glint and glare impacts from solar panels have the potential for adverse effects on residential properties, road users, rail users and aviation assets such as ATCTs and pilots on approach to runways and helipads.
- 16.3.58 Existing topography, vegetation and infrastructure has the potential to screen glint and glare effects from ground-based receptors such as residential properties, road users, rail users, bridleway users and ATCTs.
- 16.3.59 Common mitigation strategies to reduce impacts from glint and glare for ground-based receptors are:
- provision of screening (in the form of enhancement to existing hedgerows/trees or new planting) at the site boundary or within the Site between receptors and areas of visible solar panels;
 - refinement of the Proposed Development layout and design, which may include adjustments to the azimuth orientation and/or tilt angle of solar panels; and
 - implementing areas of fixed panels instead of single-axis tracking panels. Both technologies will be assessed within the DCO application to retain design flexibility, with technology selection refined at detailed design stage where necessary.
- 16.3.60 The most commonly applied mitigation for ground-based receptors is the introduction of perimeter or strategic screening to interrupt lines of sight to visible solar arrays. Where appropriately designed and established, such screening can reduce or remove potential glint and glare effects.
- 16.3.61 The specific areas of the Proposed Development requiring potential screening, where applicable, will be identified through the Glint and Glare Assessment submitted with the DCO. Where screening is not practicable or sufficient on its own, further refinements to site layout and/or panel configuration will be considered at detailed design stage.

- 16.3.62 Glint and glare effects from solar panels are generally of lower intensity than direct solar irradiance; however, under certain geometric conditions they may give rise to temporary visual effects for aviation receptors (including aircraft on approach).
- 16.3.63 The assessment will therefore consider the potential for glint and glare to result in distraction or nuisance to pilots, having regard to receptor location, flight paths, and duration of effects.
- 16.3.64 Where modelling identifies potentially significant effects, design mitigation measures (such as panel orientation, layout refinement, or screening) will be considered to ensure effects are reduced to an acceptable level in consultation with relevant aviation stakeholders.
- 16.3.65 Faulty or damaged panels and other components will be replaced, as required during the operational lifetime.

Consultation

- 16.3.66 Consultation with statutory parties will be undertaken as part of the Environmental Impact Assessment (EIA) process following the submission of this EIA Scoping Report.
- 16.3.67 No consultation has been undertaken to date., Consultation will be undertaken with the relevant statutory parties, including RAF Brize Norton, RAF Fairford and other potential consultees, including the CAA, National Highways and Council.

Proposed Scope

- 16.3.68 The assessment methodology, findings, and recommendations for glint and glare will be incorporated into the design where required and practicable of the Proposed Development, as would any mitigation planting or fencing recommended by the modelling.

Scoped In

- 16.3.69 It is proposed that the following elements are scoped into the Glint and Glare Assessment:
- Residential Receptors – A number of residential receptors are located within the Study Area of the Proposed Development. Therefore, an assessment of residential amenity is required to ensure no adverse impacts.
 - Road Receptors - A number of road receptors are located within the Study Area of the Proposed Development. Therefore, an assessment of road user safety is required to ensure no adverse impacts.
 - Aviation Receptors -The Proposed Development is located within the safeguarding buffer zone of three airfields. Therefore, an assessment of is required to ensure no adverse aviation safety or impacts.

Scoped Out

16.3.70 It is proposed that the following elements are scoped out of the Glint and Glare Assessment:

- Rail Receptors – No railway receptors fall within the Study Area of the Proposed Development as outlined in the Baseline Conditions section.
- PRoW Receptors – As outlined by BHS, adverse impacts upon PRoW users are unlikely following studies of nearby solar farms, so no further assessment is considered necessary.
- Riverways and Canal Receptors – There are no navigable waterways or canals within the Study Area of the Proposed Development as outlined in the Baseline Conditions section.
- Construction/Decommissioning Assessment - Potential glint and glare effects during the construction stage will be limited and less than the Operational phase. The Operational phase assessment will cover any and all glint and glare effects during the Construction Phase. If mitigation is required, this can be implemented pre-construction.

16.3.71 A summary of the scope in relation to the assessment of Glint and Glare is presented in **Table 16-2**.

Table 16-2 Summary of Scope in relation to the Assessment of Glint and Glare

ASPECT/MATTER	PROPOSED SCOPE
Glint and Glare	It is proposed that a standalone Glint and Glare chapter is not included within the ES. Instead, a separate technical assessment will be submitted. The EMF assessment will consider glint and glare effects in relation to residential receptors, road receptors and aviation receptors. This assessment will be appended to the ES, and its findings will be summarised in the Other Environmental Matters chapter of the ES.

16.4 Human Health

Introduction

16.4.1 This section sets out the approach to the assessment of likely significant effects arising from the Proposed Development on Human Health during the Construction, Operation (and maintenance) and Decommissioning phases, and how these effects will be identified and assessed and how suitable mitigation will be put forward.

- 16.4.2 The World Health Organisation (WHO) defines health as ‘*a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity*’ [Ref 16-19]. The focus of the health assessment within the ES will be on community (i.e. human) health and wellbeing and not on occupational health and safety, in line with EIA guidance on assessing health as outlined in referenced standards and guidance in this section.

Study Area

- 16.4.3 Baseline conditions are assessed across a range of geographic Study Areas. These vary depending on the nature of the receptor and effect being considered and the relevant technical chapter assessing the effect. However, for the purposes of this scoping chapter, the Study Areas include:
- a Local Area aligned with the technical assessments, within which health effects will be assessed (see **paragraph 16.4.21**);
 - the Local Authority District (LAD) of West Oxfordshire;¹⁸
 - the combined LAD of West Oxfordshire, Vale of White Horse, Swindon and Cotswold; and
 - the County of Oxfordshire, the region (South East), and the nation (England) where required for comparative purposes.^{19;20}
- 16.4.4 The relevant technical assessments of the EIA will inform the Study Area for specific health impacts. For example, where noise and vibration impacts are defined within a given Study Area of the Site, this same Study Area will be considered when assessing the health impacts associated with the changes in noise and vibration identified.

Baseline Conditions

- 16.4.5 This section describes baseline health-related environmental characteristics of the Site and the surrounding area.
- 16.4.6 A summary of the health profile of the population of West Oxfordshire and comparator areas is set out in **Table 16-3** below. The data shows that:
- Life expectancy in West Oxfordshire is comparatively high. In 2025, life expectancy at birth was 83.0 for males and 85.4 for females [Ref 16-20]. This is higher than the combined LAD area (82.1 years for males and 84.7 years for females), Oxfordshire (82.1 and 85.4 years respectively), the South East (80.9 and 84.7 years) and England (80.0 and 83.8 years).

¹⁸ Although the Site is wholly within West Oxfordshire, it lies close to the boundary with Cotswold, Vale of White Horse and Swindon. Consequently, the Local Area may include LSOAs within each of these LADs. Where effects are assessed at LAD level, it may be appropriate to consider data for West Oxfordshire, Cotswold, Vale of White Horse and Swindon separately, and in some cases, to consider a combined assessment. This approach will be set out in the relevant sections of the ES Chapter.

¹⁹ Although the Site is wholly within Oxfordshire, it lies close to the boundary with Gloucestershire. Consequently, the Local Area may include LSOAs within both counties. County-level geographies are included for contextual and comparative purposes only.

²⁰ Although the Site is wholly within the South East region, it lies close to the boundary with the South West region. Consequently, the Local Area may include LSOAs within both regions. Regional geographies are included for contextual and comparative purpose only.

- Premature mortality rates are relatively low in West Oxfordshire. The under-75 mortality rate from all causes was 224.4 deaths per 100,000 residents in 2025 [Ref 16-21]. This was below the combined LAD average of 255.6, Oxfordshire's rate of 250.2, the South East rate of 287.0 and the England rate of 321.0.
- Adult smoking prevalence in West Oxfordshire was below regional and national levels, but above the combined LAD and county averages. In 2024, 9.1% of adults in West Oxfordshire were smokers, compared with 7.6% across the combined LAD and 7.5% across Oxfordshire [Ref 16-22]. The West Oxfordshire rate was lower than the South East (9.4%) and England (10.4%).
- The prevalence of overweight and obesity among adults was broadly in line with comparator areas. In 2024/25, 63.5% of adults in West Oxfordshire were overweight or living with obesity [Ref 16-23]. This was marginally higher than Oxfordshire (59.2%) and the combined LAD area (63.0%), but below the combined county average (64.5%) and England (64.6%). It was slightly above the South East rate of 63.0%; and
- Childhood obesity prevalence was lower in West Oxfordshire than across most wider comparative areas. In 2024/25, 17.0% of Year 6 children in West Oxfordshire were living with obesity, including severe obesity [Ref 16-24]. This compares to 18.3% across the combined LAD area, 17.8% across Oxfordshire, 19.2% in the South East and 22.2% in England.

- 16.4.7 The 2025 Index of Multiple Deprivation ranks all LSOAs, and consequently all LADs, across the nation to assess relative levels of deprivation, with areas ranked closer to one indicating the highest levels of deprivation. West Oxfordshire performs relatively strongly in this regard, ranking 270th out of England's 296 local authority areas, indicating relatively low levels of deprivation [Ref 16-25].
- 16.4.8 With regard to the Health Deprivation and Disability domain, West Oxfordshire ranks 279th nationally, ranking below Cotswold (282nd) and Vale of White Horse (284th), but above Swindon (174th). This relatively strong performance is also reflected at a more local level, as demonstrated by **Figure 16-1**; the LSOA in which the Site sits falls within the top 10% least deprived LSOAs nationally, and no LSOAs in West Oxfordshire fall within the top 30% most deprived nationally.
- 16.4.9 Overall, the evidence does not identify a concentration of poor health outcomes or deprivation that would make the local population more sensitive to the Proposed Development.

Table 16-3 Health baseline summary

Indicator	LAD	Combined LAD	County	Region	England
Population (2025)	121,000	610,000	770,000	9,692,000	58,835,000
Population growth (2015-2025)	11.0%	12.5%	12.8%	8.1%	7.3%
Economic inactivity (April 2025 to March 2026)	9.1%	16.5%	14.0%	18.1%	20.5%
Unemployment (April 2025 to March 2026)	3.1%	4.5% ²¹	2.9%	3.6%	4.7%
Life expectancy (2025)	Male: 83.0	Male: 82.1	Male: 82.1	Male: 80.9	Male: 80.0
	Female: 85.4	Female: 84.7	Female: 85.4	Female: 84.7	Female: 83.8
Under 75 mortality rate from all causes per 100,000 residents (2025)	224.4	255.6	250.2	287.0	321.0
Suicide rates per 100,000 residents (2022-24)	12.6	9.0	9.4	10.4	10.9

²¹ Data is not available at the Cotswold level for this metric.

Indicator	LAD	Combined LAD	County	Region	England
Smoking prevalence (2024)	9.1%	7.6%	7.5%	9.4%	10.4%
Overweight (including obesity) prevalence in adults	63.5%	63.0%	59.2%	63.0%	64.6%
Year 6 prevalence of obesity (including severe obesity) (10-11 years) (2024/25)	17.0%	18.3%	17.8%	19.2%	22.2%

Overview of Legislation, Policy, and Guidance

- 16.4.10 The following legislation, policy and guidance have been considered in establishing the proposed approach to the health assessment.

Legislation

- 16.4.11 The Environmental Impact Assessment (EIA) Regulations (2017) require the consideration of likely significant direct or indirect effects of projects on 'population and human health' [Ref 16-26].

National Policy

National Planning Policy Framework (NPPF)

- 16.4.12 The NPPF sets out the Government's planning policies for England and how these should be applied [Ref 16-27]. Chapter 16 of the NPPF emphasises the importance of promoting healthy and inclusive communities. It highlights the need to support the provision of appropriate public services, by enabling development that retains, improves and delivers new facilities which are important for community wellbeing, while helping to minimise inequalities.

National Policy Statements for Energy

- 16.4.13 The assessment is informed by the planning policy requirements set out in the Overarching National Policy Statement for Energy (EN-1), which identifies that energy infrastructure has the potential to have an impact on the health and wellbeing of the population [Ref 16-28].
- Paragraph 4.4.4 states that 'where the proposed project has an effect on humans, the ES should assess these effects for each element of the project, identifying any potential adverse health impacts, and identifying measures to avoid, reduce or compensate for these impacts as appropriate'.
 - Paragraph 4.4.6 states that 'Opportunities should be taken to mitigate indirect impacts by promoting local improvements to health and wellbeing. This includes potential impacts on vulnerable groups within society and impacts on those with protected characteristics under the Equality Act 2010, i.e. those groups which may be differentially impacted by a development compared to wider society as a whole'.

Local Planning Policy

- 16.4.14 Relevant regional and local strategies reviewed include the West Oxfordshire Local Plan (2018), the emerging West Oxfordshire Local Plan 2043 (currently at the Regulation 18 Stage), the Cotswold District Local Plan 2011-2031 (2018) and the Cotswold Local Plan Review (currently at the Regulation 18 Stage).
- 16.4.15 The West Oxfordshire Local Plan 2031 sets out 18 Core Objectives for all new development, including [Ref 16-29]:

- Core Objective 9: Promote inclusive, healthy, safe and crime free communities; and
- Core Objective 15: Contribute to reducing the causes and adverse impacts of climate change, especially flood risk.

- 16.4.16 Health and wellbeing is further embedded through Policy H1, which requires proposals for development to have regard to health and wellbeing, and sets out criteria against which planning applications will be assessed.
- 16.4.17 The emerging West Oxfordshire Local Plan carries forward this focus through Objective 2 'To foster healthier and happier communities across West Oxfordshire', which seeks to create well-designed safe, inclusive and accessible environments that support strong mental and physical health, and to enable healthier lifestyles [Ref 16-30]. This is supported by Policy CP7, which requires a Health Impact Assessment on major development proposals.
- 16.4.18 Relevant supplementary planning guidance (SPG) and supporting evidence base documents have also been reviewed to identify the local health and wellbeing priorities relevant to the assessment. **Table 16-4** summarises the key priorities of these documents, which have informed the scope and approach of the health assessment.

Table 16-4 SPG and evidence base document priorities

Document	Priorities/principles
West Oxfordshire District Council Plan 2023-2027 [Ref 16-31]	Putting Residents First Enabling a Good Quality of Life for All Creating a Better Environment for People and Wildlife Responding to the Climate and Ecological Emergency Working Together for West Oxfordshire
Oxfordshire Health and Wellbeing Strategy 2024-2030 [Ref 16-32]	Addressing health inequalities Preventing ill health Closer collaboration

Relevant Industry Guidance

- 16.4.19 The health assessment will be undertaken in line with the latest best practice guidance. The following guidance has informed the proposed approach:
- Institute of Environmental Management and Assessment (IEMA) (now Institute of Sustainability and Environmental Professionals (ISEP)) (2022), Guide to Effective Scoping of Human Health in Environmental Impact Assessment; and Guide to Determining Significance for Human Health in Environmental Impact Assessment [Ref 16-33];
 - Public Health England (2020), Health Impact Assessment in spatial planning: a guide for local authority public health and planning teams [Ref 16-34];

- Healthy Place Shaping Oxfordshire (2021), Oxfordshire Health Impact Assessment Toolkit [Ref 16-35];
- International Association for Impact Assessment (IAIA) (2020). Human Health: Ensuring a high level of protection [Ref 16-36];
- National Mental Well-being Impact Assessment (MWIA) Collaborative (2011). MWIA toolkit [Ref 16-37]; and
- Planning Inspectorate, 2026. Nationally Significant Infrastructure Projects: Technical Advice Page for Scoping Solar Development [Ref 16-38].

Assessment Methodology

- 16.4.20 This section sets out the proposed approach to the assessment of potential effects of the Proposed Development on human health.
- 16.4.21 A standalone Human Health assessment is proposed to be scoped out of the ES, and thus an assessment methodology for Health has not been set out within this section. Instead, a proportionate approach whereby the environmental effects of the Proposed Development which may have the potential to influence human health will be comprehensively assessed within the relevant technical chapters of the ES is proposed. Having regard to the nature of the Proposed Development and its likely effects, it is considered that a standalone Human Health assessment would not provide additional material assessment beyond that provided within these technical assessments.
- 16.4.22 This approach is consistent with the PINS Solar Scoping Table [Ref 16-39]. In relation to vehicle emissions and dust, and noise and vibration, the PINS Solar Scoping Table states that, where such matters are proposed to be scoped out of a Human Health assessment, the relevant information should either be included within the Human Health section or appropriately cross-referenced to the relevant Air Quality and Noise and Vibration assessments. The ES will adopt this approach, with relevant health pathways considered within the appropriate technical assessments and cross-referenced where necessary.
- 16.4.23 In addition to air quality and noise and vibration effects, the ES will consider other environmental matters that may be relevant to health and wellbeing.
- 16.4.24 As such the following ES technical chapters will assess potential effects during construction, operation (and maintenance), and decommissioning that may be relevant to human health:
- Landscape and Visual
 - Water Environment
 - Noise and Vibration.
 - Transport and Access
 - Socio-economics
 - Climate Change; and
 - Other Environmental Matters (including Air Quality, Electromagnetic Fields, Glint and Glare and Ground Conditions).

Assumptions and Limitations

- 16.4.25 As with any dataset, the baseline data will change over time. For the purposes of this scoping chapter, the most recent published data sources are used. The scoping document is also limited by the geographic scale of data available. Wherever relevant and possible, data has been presented at a suitably detailed level.
- 16.4.26 As a result of the coronavirus pandemic, some recent data detailing health conditions and other relevant information, such as unemployment rates, might not accurately reflect trends experienced prior to and following the extraordinary conditions during that time. These potential differences are deemed to affect all geographies in a similar way such that the characterisation of the relevant study areas is sufficiently representative that a material difference to the overall assessment would not occur.

Mitigation

- 16.4.27 Embedded mitigation measures will be incorporated into the design of the Proposed Development, where practical, to avoid, prevent or reduce effects on health receptors. Further details of measures relevant to human health will be provided in the relevant ES chapters, as identified at **paragraph 16.4.24**.

Proposed Scope

- 16.4.28 A summary of the scope in relation to the assessment of Human Health is presented in **Table 16-5**.

Table 16-5 Summary of Scope in relation to the Assessment of Human Health

ASPECT/MATTER	PROPOSED SCOPE
Human Health	It is proposed that a standalone Human Health chapter is not included within the ES. Instead, environmental effects of the Proposed Development which may have the potential to influence human health will be comprehensively assessed within the relevant technical chapters of the ES. Likely significant health effects which relate to a combination of multiple environmental technical disciplines will be assessed through the assessment of in-combination effects within the Cumulative Effects Assessment chapter of the ES.

16.5 Waste

Introduction

- 16.5.1 This section sets out the scope and methodology for the assessment of likely significant effects arising from the Proposed Development on waste during the Construction, Operation and Decommissioning Phases.
- 16.5.2 The purpose of the assessment is to identify and characterise the waste likely to be generated by the Proposed Development, consider the potential for likely significant effects and explain how these matters will be addressed within the Other Environmental Matters chapter of the Environmental Statement (ES).

Study Area

- 16.5.3 The proposed Study Area is within the administrative area of Oxfordshire County Council, as the Minerals and Waste Planning Authority, for the consideration of waste generated during the Construction, Operation and Decommissioning Phases of the Proposed Development.

Baseline Conditions

- 16.5.4 The land within the Site is predominantly in agricultural use across a series of agricultural fields. Existing waste generation is therefore expected to be limited to waste associated with agricultural activities and land management.
- 16.5.5 No waste-specific surveys have been undertaken or are proposed. The baseline conditions have been established using the existing understanding of land use within the Site.

Overview of Legislation, Policy, and Guidance

- 16.5.6 The below legislation, policy and guidance has been taken into consideration in order to establish the proposed approach to the assessment of waste.

Legislation

- The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 [Ref 16-40] ;
- Waste Electrical and Electronic Equipment (WEEE) Regulations 2013 [Ref 16-41];
- The Waste (England and Wales) Regulations 2011 [Ref 16-42];
- The Environmental Protection Act 1990, Section 34: Duty of care etc. as respects to waste [Ref 16-43]; and
- The Waste Batteries and Accumulators Regulations 2009 [Ref 16-44].

National Planning Policy

- National Planning Policy for Waste [Ref 16-45];

- Overarching National Policy Statement for Energy (EN-1), specifically Section 5.15: Resource and Waste Management [Ref 16-46] ; and
- Waste Management Plan for England 2021 [Ref 16-47].

Local Planning Policy

- Oxfordshire Minerals and Waste Local Plan: Part 1 - Core Strategy, adopted September 2017 [Ref 16-48], and relevant saved waste policies.

Relevant Industry Guidance

- The waste hierarchy and relevant good-practice waste-management guidance.

Assessment Methodology

- 16.5.7 This section sets out the discipline-specific assessment approach, study area(s), effect significance criteria, and any assumption and limitations.

Significance Criteria

- 16.5.8 Given the nature of the Proposed Development and the waste-management measures described below, a separate discipline-specific significance methodology is not proposed. The potential for likely significant effects will be considered with reference to the anticipated waste streams and how these would be managed in accordance with relevant legislation and the waste hierarchy.

Relevant Receptors

- 16.5.9 The relevant receptor is the waste-management infrastructure that may receive waste generated by the Proposed Development.

Assessment of Cumulative Effects

- 16.5.10 The methodology for the assessment of cumulative effects is set out within **Chapter 5: Cumulative Effects Assessment** of this EIA Scoping Report. The developments identified as having potential to give rise to cumulative effects in conjunction with the Proposed Development will be considered within the Cumulative Effects Assessment chapter of the ES.

Assumptions and Limitations

- 16.5.11 At this stage, the exact quantities and types of waste likely to be generated during the Construction, Operation, including replacement activities, and Decommissioning Phases are not known. These would depend on the detailed design of the Proposed Development and the technology ultimately selected. It is not possible at this stage to identify the specific waste-management routes or facilities that would be used.

Potential Impacts

Construction Phase

- 16.5.12 At this stage, exact quantities and types of waste likely to be generated during construction are not known. Expected waste streams include general waste from site offices and welfare facilities; packaging waste, including wood and plastics; excess materials; chemicals and inorganic materials; potentially organic materials, including soils; waste associated with fencing, Access Tracks and other supporting infrastructure; and WEEE.
- 16.5.13 Electrical infrastructure, including ground-mounted Solar PV Panels, PCUs, BESS and other associated infrastructure, would be manufactured off-site and delivered ready for installation. Construction and assembly waste is therefore expected to be limited. No substantial quantities of demolition waste are anticipated because the Site is predominantly agricultural land. Surplus soil arising from Underground Cabling and other excavation activities would be reused or stored within the Site where practicable.
- 16.5.14 An OCEMP will be submitted with the DCO application and secured by way of requirement. The OCEMP will include measures to minimise waste through the application of the waste hierarchy and will set out procedures relating to waste management, recycling opportunities and off-site disposal. A Site Waste Management Plan (SWMP) will be prepared which will include the identification of best practice measures with regard to waste management practices, details of how of adherence to the waste hierarchy will be demonstrated and will set out appropriate monitoring measures to ensure compliance. The requirement for a SWMP will be set out within the OCEMP.
- 16.5.15 Waste would be transported by appropriately licensed waste carriers to waste-management facilities holding the necessary regulatory authorisations or environmental permits. Waste-related vehicle movements would be considered within the Traffic and Transport assessment.

Operational Phase

- 16.5.16 Waste generation would generally be low during the Operational Phase, as the ground-mounted solar photovoltaic modules would principally be associated with occasional maintenance and replacement activities relating to infrastructure including the Solar PV Panels, Power Conversion Units (PCUs) and BESS. Replacement activities would be periodic and within isolated sections of the Proposed Development – as noted in **Chapter 3: The Proposed Development**, full repowering of the site is not included within the scope of the assessment.
- 16.5.17 Waste arising from these activities would be managed in accordance with relevant legislation and the waste hierarchy, including applicable producer take-back and recycling arrangements, and in line with the OOEMP.

Decommissioning Phase

- 16.5.18 At the end of its operational life, the Proposed Development would be decommissioned. Decommissioning would involve the removal of solar infrastructure, including the Solar PV Panels, Mounting Structures, PCUs, BESS, fencing and associated infrastructure. The land would be restored to agricultural use.
- 16.5.19 Recycling procedures at the end of the Proposed Development's operational life would accord with good-practice industry guidance applicable at the time. Opportunities to reuse or recycle materials would be explored. Typical materials likely to be suitable for recycling include aluminium, glass, crystalline silicon solar cells and copper wiring.
- 16.5.20 It is not possible at the present time to identify the waste-management routes or specific facilities that would be used during decommissioning. Waste would be managed in accordance with the relevant legislation and waste hierarchy applicable at that time, with appropriate measures secured through the ODEMP.

Consultation

- 16.5.21 As no significant waste effects are anticipated, it is considered that no additional consultation or engagement is required with OCC, above consultation via the DCO process.

Proposed Scope

- 16.5.22 A summary of the scope in relation to the assessment of Waste is presented in **Table 16-6**.

Table 16-6 Summary of Scope in relation to the Assessment of Waste

ASPECT/MATTER	PROPOSED SCOPE
Waste	It is proposed that a standalone Waste chapter is not included within the ES. A proportionate approach to the assessment of waste is proposed whereby matters pertaining to waste would be summarised within the 'Other Environmental Matters' chapter of the Environmental Statement. The chapter would summarise waste streams and signpost to relevant mitigation and management plans. It will also consider changes in available landfill void capacity. The requirement for a SWMP will be set out within the OCEMP.

16.6 Risk of Major Accidents and Disasters

Introduction

- 16.6.1 This section sets out the scope and methodology for the assessment of likely significant effects arising from the Proposed Development on Major Accidents and Disasters (MAD) during the Construction, Operation and Decommissioning Phases.
- 16.6.2 Schedule 4 of the EIA Regulations [Ref 16-49] states that an ES must include a *“description of the expected significant adverse effects of the development on the environment deriving from the vulnerability of the development to risks of major accidents and/or disasters which are relevant to the project concerned”*.
- 16.6.3 Two Directives are explicitly referenced as examples of risks assessments that should be incorporated into the EIA; these are Directive 2012/18/EU of the European Parliament and of the Council, which deals with major accident hazard registered sites, and Council Directive 2009/71/Euratom, the focus of which is nuclear sites. It is noted that neither of these Directives are of relevance to the Proposed Development, therefore they will not be considered further.
- 16.6.4 As the EIA Regulation do not provide an explicit definition of a ‘Major Accident or Disaster’ or guidance on how to undertake an assessment of the risk of Major Accidents and Disasters, this section is guided by the Institute of Sustainability and Environmental Professionals (ISEP) (formerly IEMA) Major Accidents and Disasters in EIA: a Primer [Ref 16-50]. This Primer provides the following definitions:
- Major Accident: *“Events that threaten immediate or delayed serious environmental effects to human health, welfare and/or the environment and require the use of resources beyond those of the client or its appointed representatives to manage. Whilst malicious intent is not accidental, the outcome (e.g. train derailment) may be the same and therefore many mitigation measures will apply to both deliberate and accidental events”*.
 - Disaster: *“May be a natural hazard (e.g. earthquake) or a man-made/external hazard (e.g. act of terrorism) with the potential to cause an event or situation that meets the definition of a major accident”*.
- 16.6.5 This chapter is supported by **Appendix 16-1: Long List of Major Accidents and Disasters**.

Study Area

- 16.6.6 As the relevant guidance does not define a study area for the assessment of MAD, and as there are various incidents that could meet the definition of a Major Accident or Disaster, the decision has been taken to establish different study areas for each feature under consideration. These have been guided

by the technical chapters presented within this EIA Scoping Report, as well as guidance, where relevant. The study areas are summarised in **Table 16-7** below.

Table 16-7 Study Areas relevant to Major Accidents and Disasters

Built Environment	
Airports and airfields	30km (where the Proposed Development is located within an aerodrome safeguarding zone)
Control of Major Accident Hazards (COMAH) establishments	5km
Major Accident Hazard (MAH) Pipelines	1km
Fuel bulk storage	500m
Rail	1km
Utilities/transmission	Within the Site
Natural Features	
Flooding	1km
Ground stability	1km
Dam failures	3km
Seismic activity	5km

Baseline Conditions

- 16.6.7 This section describes the baseline environmental characteristics for the Proposed Development and surrounding areas with specific reference to MADs.

Built Environment

- 16.6.8 RAF Brize Norton is located approximately 2.8km north-east of the Site, and early consultation will be undertaken in order to establish the potential for impacts to this airfield and its operations. In addition, RAF Fairford is located approximately 6.7km south-west of the Site, and Little Rissington Airfield lies approximately 11.5km north of the Site.
- 16.6.9 One COMAH establishment has been identified within the 5km Study Area; this is found approximately 3.8km north-east of the Site and is operated by OQEMA Limited. The listed activities at the site are 'Chemical installations – storage/warehousing' and 'Chemicals manufacture/production and/or disposal'.

– general’. No further COMAH establishments have been identified within the Study Area.

- 16.6.10 Overhead electricity lines of voltages between 11kV and 400kV transect the Site, but no high voltage underground electricity transmission cables are.
- 16.6.11 An intermediate pressure gas line has been identified running in a north-east direction through the Site from the road leading south-east from Little Faringdon, passing by Hulse Grounds Farm, and joining the road north-west out of Langford. In addition, an Exolum fuel pipeline passes through the southern area of the Site in a north-east to south-west direction. However, no high-pressure underground gas transmission pipelines have been identified either on-site or within 500m of the Site. No consents for a site to hold hazardous substances have been identified within 500m of the Site.
- 16.6.12 No railway lines are present within 1km of the Site.

Natural Features

- 16.6.13 The majority of the Site is located within Flood Zone 1 (Low Risk), although some areas of land near watercourses lie within Flood Zones 2 and 3 (Medium and High Risk, respectively). A detailed description of the flood risk on-site is presented in **Chapter 9: Water Environment**.
- 16.6.14 The maximum risk of shrink swell clays and compressible deposits on-site is Moderate; the maximum risk of running sands, landslides, and ground dissolution of soluble rocks is Low; and the maximum risk of collapsible deposits on-site is Very Low.

Sensitive Receptors of Relevance to Major Accidents and Disasters

- 16.6.15 The following sensitive receptors are considered to be of relevance to an event falling under the definition of a Major Accident and Disaster:
 - private residences and their inhabitants within the local area;
 - local businesses and employees;
 - Public Rights of Way (PRoW) and community land;
 - archaeology and built heritage;
 - sites designated for nature conservation (as described in **Chapter 8: Ecology and Biodiversity**);
 - the water environment, including local watercourses, ponds, and groundwater;
 - infrastructure and the built environment, including transport infrastructure, industrial infrastructure, and energy infrastructure; and
 - the interactions between the above receptors.
- 16.6.16 Construction workers, as a receptor, have been excluded from further consideration as existing legal protection is considered to be sufficient to minimise any risks from an event falling under the definition of a Major Accident and Disaster.

Overview of Legislation, Policy, and Guidance

16.6.17 The below legislation, policy and guidance has been taken into consideration in order to establish the proposed approach to the assessment of Major Accidents and Disasters.

Legislation

- Infrastructure Planning (Environmental Impact Assessment (EIA)) Regulations 2017 [Ref 16-49];
- Health and Safety at Work etc. Act 1974 [Ref 16-51];
- The Electricity at Work Regulations 1989 [Ref 16-52];
- The Workplace (Health, Safety and Welfare) Regulations 1992 [Ref 16-53];
- The Management of Health and Safety at Work Regulations 1999 [Ref 16-54];
- Construction Design Management (CDM) Regulations 2015 [Ref 16-55];
- The Dangerous Substances (Notification and Marking of Sites) Regulations 1990 [Ref 16-56];
- The Dangerous Substances and Explosive Atmospheres Regulations 2002 (DSEAR) [Ref 16-57];
- Civil Contingencies Act 2004 [Ref 16-58]; and
- The Regulatory Reform (Fire Safety) Order 2005 [Ref 16-59].

National Planning Policy

- Overarching NPS for Energy (EN-1) (adopted 2025) [Ref 16-60];
- NPS for Renewable Energy Infrastructure (EN-3) (adopted 2025) [Ref 16-61];
- NPS for Electricity Networks Infrastructure (EN-5) (adopted 2025) [Ref 16-62];
- National Planning Policy Framework (NPPF) [Ref 16-63]; and
- Planning Practice Guidance (PPG) – Renewable and Low Carbon Energy [Ref 16-64].

Local Planning Policy

- West Oxfordshire Local Plan 2031 (Adopted September 2018) [Ref 16-65];
- Oxfordshire Local Flood Risk Management Strategy [Ref 16-66]; and
- Oxfordshire County Council Local Standards and Guidance for Surface Water Drainage [Ref 16-67].

Relevant Industry Guidance

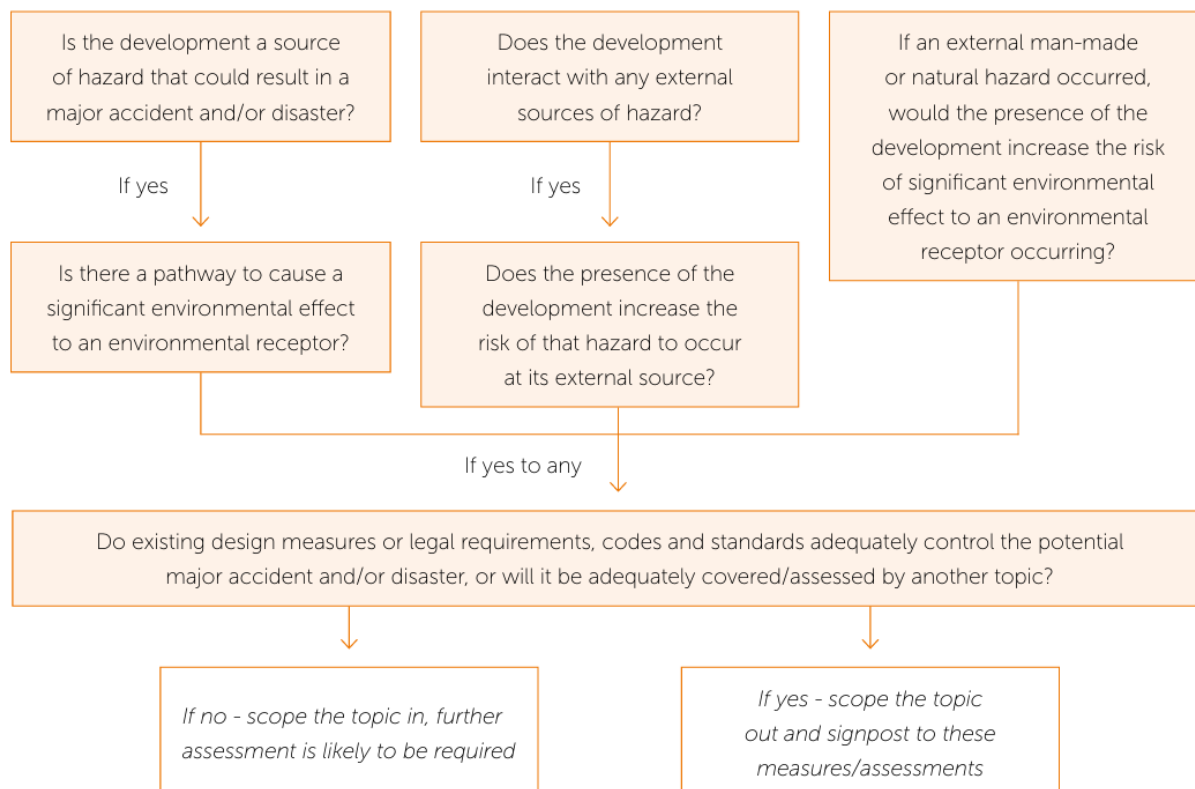
- ISEP (formerly IEMA), Major Accidents and Disasters in EIA: A Primer 2020 [Ref 16-50];
- Department for Environment, Food and Rural Affairs (DEFRA), Guidelines for Environmental Risk Assessment and Management [Ref 16-68];
- ISO 31000: 2018 Risk Management – Guidelines [Ref 16-69];
- DESNZ, Health and safety in grid scale electrical energy storage systems [Ref 16-70];

- Health and Safety Executive (HSE), Grid-scale battery energy storage systems [Ref 16-71];
- National Fire Chiefs Council, Grid Scale Battery Energy Storage System planning – Guidance for Fire and Rescue Services (FRS) [Ref 16-72]; and
- Cabinet Office, National Risk Register 2026 [Ref 16-73].

Assessment Methodology

- 16.6.18 The potential for the Proposed Development to give rise to events meeting the definition of a Major Accident and Disaster will be comprehensively assessed within other technical chapters of the ES. As a consequence, a standalone assessment of Major Accidents and Disasters is proposed to be scoped out of the ES. This is considered to be a proportionate approach, given the nature of the Proposed Development and its geographical location.
- 16.6.19 In order to clearly direct the reader to the assessments of Major Accidents and Disasters within the ES, the Other Environmental Matters ES chapter will include a section that highlights which technical chapters consider the risk of Major Accidents and Disasters.
- 16.6.20 The methodology for this assessment aligns with the 'Scoping for EIA' guidance presented within the ISEP Major Accidents and Disasters in EIA: A Primer [Ref 16-50], which is replicated in part at **Plate 16-1**.

Plate 16-1 Major Accidents and Disasters: Scoping for EIA



Potential Impacts

- 16.6.21 This section presents the potential effects of the Proposed Development in respect of Major Accidents and Disasters and sets out whether existing ‘design measures or legal requirements, codes and standards adequately control the potential major accident and/or disaster, or will be adequately covered /assessed by another topic’.
- 16.6.22 This is set out for each phase of the Proposed Development and presented in **Table 16-8, Table 16-9, and Table 16-10.**

Construction Phase

Table 16-8 Consideration of the risk of Major Accidents and Disasters: Construction Phase

MAJOR ACCIDENT OR DISASTER	COMMENTARY	POTENTIAL RECEPTORS	DO EXISTING MEASURED CONTROL THE RISK OR WILL IT BE COVERED OR ASSESSED BY ANOTHER TOPIC?
Flooding	Some areas of land within the Site, predominantly near the existing watercourses, are located within Flood Zones 2 and 3 (Medium and High Risk, respectively).	Property and people in areas with an increased risk of flooding	This will be assessed in Chapter 9: Water Environment Both the vulnerability of the Proposed Development to flooding and its potential to exacerbate flooding will be considered within the Flood Risk Assessment (FRA) and reported within the ES. Mitigation measures will be incorporated into the scheme design and described within the ES, as necessary.
Road Accidents	The Construction Phase will give rise to an increased number of heavy construction plant and equipment on the local road network, which has potential to increase the risk of road traffic accidents.	Road users and pedestrians	This will be assessed in Chapter 12: Transport and Access . An Outline Construction Traffic Management Plan (OCTMP), submitted alongside the ES, will detail

MAJOR ACCIDENT OR DISASTER	COMMENTARY	POTENTIAL RECEPTORS	DO EXISTING MEASURED CONTROL THE RISK OR WILL IT BE COVERED OR ASSESSED BY ANOTHER TOPIC?
			the necessary mitigation measures associated with effects on road traffic.
Plant Disease	Construction activities could give rise to a risk of the increased spread of diseased or invasive plants	Habitats and species	This will be assessed in Chapter 8: Ecology and Biodiversity Standard control measures would be implemented by the appointed contractor in order to handle and dispose of any diseased or invasive plants, and further mitigation measures, if deemed necessary, would be included within the Outline Landscape and Ecology Management Plan (OLEMP).
Pollution Incidents	There is potential for leaks and spillages of hazardous materials to take place during the Construction Phase.	Local residents and businesses; local habitats and species; nearby waterbodies	This will be assessed in Chapter 9: Water Environment and Chapter 16: Other Environmental Matters (Ground Conditions) .

MAJOR ACCIDENT OR DISASTER	COMMENTARY	POTENTIAL RECEPTORS	DO EXISTING MEASURED CONTROL THE RISK OR WILL IT BE COVERED OR ASSESSED BY ANOTHER TOPIC?
			This risk is expected to be controlled via standard best practice measures that would form commitments within the OCEMP.
Utilities Failure	There is potential for construction activities to interface with utilities service lines during construction, resulting in damage, loss of service or pollution to the local environment or water supply.	Local residents and businesses	This risk would be controlled through identification of services through desk study and consultation, pre-construction survey, and application of appropriate setback distances for working. Standard good practice measures would be set out within the OCEMP..

Operational Phase

Table 16-9 Consideration of the risk of Major Accidents and Disasters: Operational Phase

MAJOR ACCIDENT OR DISASTER	COMMENTARY	POTENTIAL RECEPTORS	DO EXISTING MEASURED CONTROL THE RISK OR WILL IT BE COVERED OR ASSESSED BY ANOTHER TOPIC?
Fires	It is understood that fire risk associated with the battery storage element of the Proposed Development exists.	Local residents and businesses; local habitats and species	The design of the BESS includes features designed to minimise the risk of fire, which may include: • A Battery Management System to monitor cell voltages, current and temperatures; • Off-gas detectors and aspirating smoke detection systems to identify failures early; • Thermal management systems, using cooling or immersion technologies to regulate operating temperatures; • Automatic fire suppression systems;

MAJOR ACCIDENT OR DISASTER	COMMENTARY	POTENTIAL RECEPTORS	DO EXISTING MEASURED CONTROL THE RISK OR WILL IT BE COVERED OR ASSESSED BY ANOTHER TOPIC?
			• Explosion venting and pressure relieve to channel explosive off-gases outwards; and • Passive fire protection and compartmentalisation using fire-resistant boards, non-combustible containers and thermal barriers. The BESS will be designed in accordance with recommendations set out within the NFCC Grid-Scale BESS Planning Guidance. An Outline Battery Safety Management Plan will be prepared and submitted with the DCO Application. This Battery Safety Management Plan will also feed into the iterative design process,

MAJOR ACCIDENT OR DISASTER	COMMENTARY	POTENTIAL RECEPTORS	DO EXISTING MEASURED CONTROL THE RISK OR WILL IT BE COVERED OR ASSESSED BY ANOTHER TOPIC?
			thereby ensuring that design elements enhancing fire safety are sufficiently incorporated into the Proposed Development.
Pollution Incident	The release of hazardous substances, either to air or water, are not anticipated to form part of the operation of the Proposed Development, however in the instance of a fire at the BESS, there is potential for firewater runoff as well as the release of toxic substances to air.	Local residents and businesses, local habitats and species	The accidental release of fire water will be assessed in Chapter 9: Water Environment. The surface water drainage strategy for the BESS compound will include the capture and attenuation of fire suppression water. Furthermore, the design of the BESS includes features designed to minimise the risk of fire, and an Outline Battery Safety Management Plan will be prepared and submitted with the DCO Application. Relevant additional mitigation measures would be included within the OOEMP.

MAJOR ACCIDENT OR DISASTER	COMMENTARY	POTENTIAL RECEPTORS	DO EXISTING MEASURED CONTROL THE RISK OR WILL IT BE COVERED OR ASSESSED BY ANOTHER TOPIC?
Flooding	Some areas of land within the Site, predominantly near the existing watercourses, are located within Flood Zones 2 and 3 (Medium and High Risk).	Property and people in areas with an increased risk of flooding	This will be assessed in Chapter 9: Water Environment Both the vulnerability of the Proposed Development to flooding and its potential to exacerbate flooding will be considered within the Flood Risk Assessment (FRA) and reported within the ES. Mitigation measures will be incorporated into the scheme design and described within the ES, as necessary.
Road Accidents	The Operational Phase is not expected to generate additional traffic on the local road network. However, there is potential for Glint and Glare effects to impact road users and give rise to an increased risk of traffic accidents.	Road users and pedestrians	Glint and Glare will be assessed and presented within Chapter 16: Other Environmental Matters (Glint and Glare) , and mitigation measures (such as the use of screening) will be incorporated into the design where necessary.
Aviation Disasters	Three airfields have been identified within the Study Area, the nearest of	Aircraft users	The risk associated with aviation will be summarised

MAJOR ACCIDENT OR DISASTER	COMMENTARY	POTENTIAL RECEPTORS	DO EXISTING MEASURED CONTROL THE RISK OR WILL IT BE COVERED OR ASSESSED BY ANOTHER TOPIC?
	which is RAF Brize Norton. Early engagement will take place in order to establish the potential for the Proposed Development to have an impact on RAF Brize Norton's operations. The potential for Glint and Glare effects to impact aviation receptors will be assessed and reported within a Technical Appendix and summarised within the Other Environmental Matters ES chapter, and mitigation measures will be incorporated into the design of the Proposed Development where necessary.		within a site-specific Glint and Glare Assessment and summarised within Chapter 16: Other Environmental Matters (Glint and Glare), and mitigation measures will be incorporated into the design of the Proposed Development where necessary. Furthermore, early engagement will take place in order to establish the potential for the Proposed Development to have an impact on airfield operations.

Decommissioning Phase

Table 16-10 Consideration of the risk of Major Accidents and Disasters: Decommissioning Phase

MAJOR ACCIDENT OR DISASTER	COMMENTARY	POTENTIAL RECEPTORS	DO EXISTING MEASURED CONTROL THE RISK OR WILL IT BE COVERED OR ASSESSED BY ANOTHER TOPIC?
Road Accidents	The Decommissioning Phase will give rise to an increased number of heavy construction plant and equipment on the local road network, which has potential to increase the risk of road traffic accidents.	Road users; pedestrians	This will be assessed in Chapter 12: Transport and Access. An Outline Decommissioning Environmental Management Plan (ODEMP), submitted alongside the DCO Application, will detail the anticipated mitigation measures associated with Decommissioning Phase effects on road traffic.
Pollution Incidents	There is potential for leaks and spillages of hazardous materials to take place during the Decommissioning Phase. This risk is expected to be controlled via standard best practice measures that would form commitments within the ODEMP.	Local residents and businesses; local habitats and species	This will be assessed in Chapter 9: Water Environment and Chapter 16: Other Environmental Matters (Ground Conditions).

MAJOR ACCIDENT OR DISASTER	COMMENTARY	POTENTIAL RECEPTORS	DO EXISTING MEASURED CONTROL THE RISK OR WILL IT BE COVERED OR ASSESSED BY ANOTHER TOPIC?
			This risk will be controlled via standard best practice measures that would form commitments within the ODEMP.
Utilities Failure	There is potential for construction activities to interface with utilities and service lines during decommissioning works, resulting in damage, loss of service or pollution to the local environment or water supply. This risk would be controlled through identification of services through desk study and consultation, application of appropriate setback distances for working, and through measures set out within the ODEMP.	Local residents and businesses	This risk will be controlled through identification of services through desk study and consultation, pre-decommissioning survey, and application of appropriate setback distances for working. Standard good practice measures would be set out within the ODEMP.

Assumptions and Limitations

- 16.6.23 The location and layout of certain elements of infrastructure (including Underground Cabling routes, Main and Collector Substation locations and BESS location), have not yet been finalised. The risk of MAD will be taken into account within the iterative design process, including the locations of key infrastructure and use of best practice methodologies for construction.
- 16.6.24 While the majority of the accidents and disasters set out within **Appendix 16-1: Long List of Major Accidents and Disasters** will be captured and controlled under other legislative or design requirements, this does not alone remove the requirement to further consider major accidents or disasters. That said, where the need for compliance is so fundamental that the risk of any receptors being affected is remote, major accidents and disasters on the long list are scoped out.

Proposed Scope

- 16.6.25 A summary of the scope in relation to the assessment of Major Accidents and Disasters is presented in **Table 16-11**.

Table 16-11 Summary of Scope in relation to the Assessment of Major Accidents and Disasters

ASPECT/MATTER	PROPOSED SCOPE
Major Accidents and Disasters	It is proposed that a standalone Major Accidents and Disaster chapter is not included within the ES. A proportionate approach to the assessment of major accidents and disasters is proposed whereby the potential MAD identified will be assessed within other technical chapters of the ES and or controlled and managed through other proposed management plans or design, as set out in Table 16-8, Table 16-9 and Table 16-10.

16.7 Ground Conditions

Introduction

- 16.7.1 This section sets out the proposed approach to the assessment of likely significant effects on ground conditions during the Construction, Operation (and maintenance), and Decommissioning Phases, how these effects will be

identified and assessed, and how suitable mitigation strategies will be put forward within the Environmental Statement (ES).

16.7.2 The ground conditions topic considers potential effects on mineral resources, geological, hydrogeological receptors and other receptors sensitive to land contamination. There are interrelationships between the potential effects on ground conditions and other environmental topics. As such, this section should be read in conjunction with the following:

- **Chapter 9: Water Environment** – considers groundwater and surface water as strategic resources and/or discharge points, hydrogeology and flooding. Chapter 9 also considers pollution related impacts from construction, operation (and maintenance), and decommissioning of the Proposed Development
- **Chapter 8: Ecology and Biodiversity** – considers impacts to ecological receptors in more detail.
- **Chapter 10: Agriculture and Soils** – considers impacts to soil as a resource.

Study Area

16.7.3 The proposed study area is confined to the DCO Site Boundary, as defined in **Chapter 2: Site Context and Description**. However, due regard has also been given to published mapping within a 250m radius to provide additional context. This buffer is considered to be proportionate as it captures adjacent land that could be directly or indirectly influenced by the Proposed Development.

16.7.4 The Site comprises two separate land parcels 750m apart (**Figure 2-1**); these will be referred to as northern land parcel and the southern land parcel.

Baseline Conditions

16.7.5 This section describes a high-level review of baseline environmental characteristics for the Site and surrounding areas with specific reference to ground conditions. More detailed information is provided within:

- **Appendix 16-2:** West Oxfordshire Energy Park: Geo-environmental Desk Study; and
- **Appendix 16-3:** Preliminary Mineral Resource Assessment.

16.7.6 A review of British Geological Survey (BGS) 1:50,000 scale mapping indicates the geological sequence underlying the Site is as follows:

Superficial Deposits

16.7.7 The majority of the southern land parcel is underlain by the Summertown-Radley Sand and Gravel Member. The Northmoor Sand and Gravel Member is present in the north-east and south of the southern land parcel, with small outcrops of the Wolvercote Sand and Gravel Member present in the western area of this parcel.

- 16.7.8 Alluvium is present in the area immediately surrounding Broadwell Brook and Langford Brook.
- 16.7.9 There are several small outcrops of Head Deposits in the area east of Little Faringdon Woods and along the south-west boundary of the southern land parcel. Superficial Deposits are largely absent across the western most extent of this land parcel and the entirety of the northern land parcel.

Bedrock Geology

- 16.7.10 The Oxford Clay Formation (mudstone) underlies the majority of the southern land parcel. Northwards of this, lies west-east trending bands of Kellaways Sand Member (interbedded sandstone and siltstone), Kellaways Clay Member (mudstone) and the Cornbrash Formation (limestone).
- 16.7.11 The southern most section of the northern land parcel is also underlain by the Cornbrash Formation. The majority of this parcel is underlain by the Forest Marble Formation (mudstone) with small sections at the west and east of the parcel underlain by limestone belonging to the Forest Marble Formation and White Limestone Formation respectively.

Mining and Quarrying

- 16.7.12 According to the Mining Remediation Authority, the Site and study area is not located within a Coal Mining Reporting Area. There are, however, several records of quarrying within 250m of the Site.
- 16.7.13 BGS BritPits show two quarries on Site, Broughtondowns Plantation, a clay and shale quarry, and Lower Farm, a sand and gravel pit [Ref 16-74]. Both have ceased operation.

Mineral Resources

- 16.7.14 A Preliminary Mineral Resource Assessment (MRA) is included at **Appendix 16-3**.
- 16.7.15 Much of the south and east of the southern land parcel lies within a Mineral Safeguarding Area (MSA) as defined by Oxfordshire County Council (OCC) for sharp sand and gravel [Ref 16-75]. Within the Minerals and Waste Local Plan (MWLP), OCC also define Strategic Resource Zones which represent the principal locations for workings and state mineral resource demand can be met from the designated strategic resource areas within the plan period. The Site is not located within a Strategic Resource Zone and OCC note within the MWLP that “provision should not be made from the areas around Bampton and Clanfield”). Bampton lies 4.3km east of the Site and Clanfield 1.1km to the west.
- 16.7.16 The MRA estimates the maximum total extractable volume of sharp sand and gravel within the MSA on Site to be approximately 9.5Mm³ based on an average reserve thickness of 2.3m, outcrop of suitable geology and application of buffer zones around sensitive receptors.

- 16.7.17 The most recent Oxfordshire Local Aggregate Assessment (end of 2024) [Ref 16-76] stated that current permitted sharp sand and gravel reserves fall below the required seven years, accounting for 6.3 years. However, based on applications and permissions since this time it is estimated that up to an additional 5 million tonnes has or will become active.
- 16.7.18 Engagement with Oxfordshire County Council's Waste and Minerals Officer commenced in September 2026. Based on this engagement, the Preliminary Mineral Resource Assessment will be supplemented to provide further information in relation to the Proposed Development and any potential effects in relation to mineral availability and to confirm the current supply in accordance with the local plan requirements.
- 16.7.19 The updated report will append the ES and the information within it will be summarised within the Other Environmental Matters chapter of the ES.

Hydrogeology

- 16.7.20 The Site is shown to be partially located within the Secondary A (bedrock) aquifer designation. Areas of the Site north of the Little Farrington Wood and A361 are predominantly located within the Secondary A aquifer, areas south of Little Farrington Wood and Langford are located outside the aquifer designations.
- 16.7.21 The majority of the southern parcel of the CSA is located within the Secondary A (Superficial Drift) aquifer designation with pockets of Secondary (undifferentiated). The northern land parcel is located outside the aquifer designations.
- 16.7.22 The Site is located outside a Source Protection Zone.
- 16.7.23 The CSA is not located within the Drinking Water Safeguard Zones (groundwater).
- 16.7.24 There are four active groundwater abstraction licences within 2km of the Site, for general farming and domestic use, the closest which is approximately 600m from the DCO Site Boundary.
- 16.7.25 There are no records of active potable groundwater abstractions within 2km of the Site and the Site does not lie within an EA designated source protection zone (SPZ).

Historical Land Use

- 16.7.26 Historical mapping indicates the majority of the Site has remained undeveloped agricultural land since earliest OS mapping in the 1870s. Several discrete sources of potential contamination have been identified from historic mapping, including a former railway line and associated Kelmscott and Langford station, several small buildings scattered across Site (likely of an agricultural use), and several ponds, quarries and gravel pits across Site which have potentially been infilled with unknown materials.

Natural geological hazards

16.7.27 BGS mapping of potential geohazards across Site identifies the following potential for geological hazards:

- potential for collapsible ground: negligible to very low;
- potential for compressible ground: moderate in areas of Alluvium outcrops, negligible across remainder of Site;
- potential for ground dissolution: negligible across majority of the Site, low to very low in area of limestone bedrock.
- potential for landslide ground: very low;
- potential for running sand: low in areas of Alluvium and Kellaways Sand Member outcrops, very low to negligible across remainder of Site; and
- potential for shrinking or swelling clay: moderate across majority of the southern land parcel.

16.7.28 The majority of the Site is within a low probability radon area (less than 1% of homes are estimated to be at or above the Action Level) [Ref 16-77]. This risk is slightly elevated (1-5% of homes are estimated to be at or above the Action Level) in areas where limestone bedrock outcrops across the northern land parcel and in the north-western corner of the southern land parcel.

Overview of Legislation, Planning Policy and Guidance

16.7.29 Legislation, planning policy and guidance relating to ground conditions and relevant to the Proposed Development is set out below:

Legislation

- Environmental Protection Act 1990 [Ref 16-78];
- Water Act 2003 [Ref 16-79];
- Water Resources Act 1991 [Ref 16-80];
- Building Act 1984 [Ref 16-81];
- Environment Act 1995 [Ref 16-82];
- Environment Act 2021 [Ref 16-83];
- Environmental Damage (Prevention and Remediation) Regulations 2015 [Ref 16-84];
- Climate Change Act 2008 [Ref 16-85];
- Planning Act 2008 [Ref 16-86];
- Water Environment (Water Framework Directive (WFD)) (England and Wales) Regulations 2017 [Ref 16-87];
- Environmental Permitting (England and Wales) Regulations 2016, as amended 2018 [Ref 16-88];
- Waste (England and Wales) Regulations [Ref 16-89];
- Hazardous Waste (England and Wales) (Amendment) Regulations 2016 [Ref 16-90Ref 16-81];Ref 16-81Ref 16-81
- Contaminated Land (England) Regulations 2006 [Ref 16-91];
- Building (Amendment) Regulations 2016 [Ref 16-92];

- Anti-Pollution Works Regulations 1999 [Ref 16-93];
- Construction (Design and Management) Regulations 2015 [Ref 16-94].

National Planning Policy

16.7.30 The following planning policies from relevant National Policy Statements (NPS) have been taken into account as part of identifying the assessment methodology, receptor selection/sensitivity, potential significant environmental effects, and mitigation:

- Overarching NPS for Energy (EN-1) (adopted 2025) [Ref 16-95];
- NPS for Renewable Energy Infrastructure (EN-3) (adopted 2025) [Ref 16-96]; and
- NPS for Electricity Networks Infrastructure (EN-5) (adopted 2025) [Ref 16-97].

16.7.31 Other relevant national planning and guidance includes:

- National Planning Policy Framework (NPPF) [Ref 16-98]; and
- Planning Practice Guidance. Paragraph 013 ID: 5-013-20150327 – ‘Renewable and low carbon energy: What are the particular planning considerations that relate to large scale ground-mounted solar photovoltaic farms’ [Ref 16-99].

Relevant Industry Guidance

16.7.32 Relevant industry guidance includes:

- HM Government, Part 2A Contaminated Land Statutory Guidance, 2012 [Ref 16-100];
- Environment Agency’s online guidance for the management of land contamination ‘Land contamination: risk management (LCRM)’ [Ref 16-101];
- BS 10175 (2011 +A2 2017), Investigation of Potentially Contaminated Sites - Code of Practice [Ref 16-102];
- CIRIA C552 Contaminated Land Risk Assessment: A Guide to Good Practice [Ref 16-103];
- CIRIA C811 5th Edition ‘Environmental Good Practice On Site’ 2023 [Ref 16-104];
- CL:AIRE, Framework for Assessing the Sustainability of Soil and Groundwater Remediation (2010) [Ref 16-105].

Assessment Methodology

16.7.33 As set out within The Environment Agency’s LCRM Guidance, a Preliminary Risk Assessment (PRA) should be undertaken to evaluate the potential risk associated ground conditions. The objective of the PRA is to identify and evaluate potential land quality risks and development constraints associated with the Proposed Development and to construct an initial conceptual site

model (CSM) that can be used to inform future decision making and the design of future ground investigation and or mitigation, should it be required.

- 16.7.34 A PRA and CSM is presented within the Geo-environmental Desk Study for the Site included at **Appendix 16-2**.
- 16.7.35 The Geo-environmental Desk Study concludes that the potential risks to human health and the wider environment prior to mitigation is considered to be moderate-low prior to mitigation, predominantly driven by the presence of sensitive environmental receptors, the nearby Cotswold Water Park SSSI and underlying Principal Aquifers.
- 16.7.36 As the Site lies within a MSA, a MRA has been undertaken for the Site, which assesses whether the extraction of the mineral is appropriate, environmentally feasible and/or practicable; or if prior extraction is not possible, whether there is an overriding need for the development.

Potential Impacts

- 16.7.37 Ground conditions assessment considers whether there may be adverse impacts on the Proposed Development due to existing features/conditions on or close to the Study Area, associated with the land or groundwater baseline. This includes conditions/features such as the existence of potential mineral resources, land contamination or waste sites and natural geological hazards. As such, the assessment of ground conditions must take account of existing conditions and historical site usage/potential land contamination and determine how the Proposed Development might impact or interact with them.
- 16.7.38 Potential impacts during the construction and Decommissioning Phases of the Proposed Development may include:
- Temporary sterilisation of mineral resources;
 - Human exposure to potential historic contamination (through direct contact e.g. dermal soil/leachate contact, soil ingestion and dust ingestion/inhalation);
 - Creation of preferential pathways (e.g. through piling and installation of cable ducts) resulting in pollution of soils, groundwater or surface water receptors by either historic contamination or contaminants introduced by the Proposed Development;
 - Pollution of geological and groundwater receptors with concrete, paste, grout or other chemicals and fuels introduced by the Proposed Development;
 - Pollution of adjacent surface water features through run-off from stockpiled materials, or exposed soils; and
 - Instability due to natural geological hazards.
- 16.7.39 During operation, activities on site would be limited to maintaining and monitoring the Proposed Development. Whilst there is a minor risk of localised pollution events associated with, for example the use of fuels or lubricants or damaged panels, it is anticipated that there will be no significant effects during

the operation (and maintenance) phase of the Proposed Development activities will be undertaken in accordance with environmental legislation and good practice. Whilst there is a risk of pollution of geological, groundwater or surface water receptors as a result of fire suppression and emergency response activities in the event of the BESS fire, these will be assessed within **Chapter 9: Water Environment**.

Mitigation and Design

- 16.7.40 Environmental design and management measures will be employed to avoid or minimise impacts related to ground conditions arising from the Proposed Development.
- 16.7.41 The design of the Proposed Development will seek to avoid development within isolated areas of potential contamination identified within the Geo-environmental Desk Study where reasonably practicable, minimising potential associated risks. Where this is not possible, targeted site investigation may be required prior to the commencement of construction activities.
- 16.7.42 Furthermore, potential impacts during the Construction Phase of the Proposed Development, will be mitigated through standard best practice measures which will be included within the OCEMP. The OCEMP will be provided alongside the ES as part of the DCO Application and will include the following measures which will minimise the impacts associated with ground conditions:
- Health and safety measures for construction workers will include the use of personal protective equipment, training and toolbox talks. Work will be conducted in accordance with relevant Construction Design Management (CDM) Regulations 2015.
 - Containment measures will be implemented, including drip trays, bunding or double-skinned tanks of fuels and oils; all chemicals would be stored in accordance with their COSHH guidelines, whilst spill kits would be provided in areas of fuel/oil storage;
 - An emergency spillage action plan will be produced, which staff would have read and understood, and provisions made to contain any leak/spill;
 - Should any potentially contaminated ground, including isolated 'hotspots' of contamination and/or potential deposits of asbestos containing materials (ACM), be encountered, the contractor(s) will be required to investigate the areas and assess the need for containment or disposal of the material. The contractor(s) will also be required to assess whether any additional health and safety measures are required;
 - Refuelling and delivery areas will be located away from surface water drains;
 - To further minimise the risks of contaminants being transferred and contaminating other soils or water, construction workers will be briefed as to the possibility of the presence of such materials;
 - In the event that contamination is identified, appropriate remediation measures would be taken to protect construction workers, future site users, water resources, structures and services;

- Arisings and temporary stockpiles will be placed away from watercourses and drainage systems, whilst surface water would be directed away from stockpiles to prevent erosion. Where it is not possible to avoid proximity to surface water drains, these drains should be locally sealed to avoid any contaminants entering the drainage system.
- It will be ensured that all material is suitable for its proposed use and would not result in an increase in contamination-related risks on identified receptors, including any landscaped areas and underlying groundwater.
- Oils and hydrocarbons will be stored in designated locations with specific measures to prevent leakage and release of their contents, include the siting of storage area away from surface water drains, on an impermeable base with an impermeable bund that has no outflow and is of adequate capacity to contain 110% of the contents. Details of appropriate storage and handling measures will be presented within the OCEMP.
- Should trenchless crossings be required, the drill profile will be designed to ensure risk of drilling fluid breakout is negligible. The design and approach to managing risks of drilling fluid breakout will be included within the detailed CEMP.
- A dust suppression/management system will be implemented in order to control the potential risk from airborne contamination migrating off-site to adjacent sites.
- Waste materials will be disposed of by the contractor(s) to appropriate recycling facilities or appropriately licensed landfills in line with the Site Waste Management Plan (SWMP). The appropriate landfill for the disposal of any contaminated soil off-site will depend on the waste classification determined from the chemical analysis or Waste Acceptance Criteria (WAC) testing as necessary. Where possible, non-contaminated excavated material will be reused.
- Piling design and construction works will be completed following the preparation of a piling risk assessment. If required, a piling risk assessment will be undertaken before the start of construction works. This will minimise impacts on groundwater as a result of piling activities.
- Works in close proximity to watercourses will be undertaken in accordance with relevant consents/ permits including Ordinary Watercourse Consent or Flood Risk Activity Permit, which will mitigate potential residual risk to surface water receptors from the mobilisation of historic contamination.

16.7.43 A detailed Operational Environmental Management Plan (OEMP) will be prepared following consent of the DCO to address all operational related issues. An Outline OEMP (OOEMP) will be prepared as part of the DCO Application which will set out the general principles to be followed during the operation (and maintenance) phase of the Proposed Development. This will include a spillage Emergency Response Plan (ERP), which maintenance staff will be required to have read and understood. On-site provisions will be made to contain a serious spill or leak through the use of booms, bunding and absorbent material.

- 16.7.44 An Outline Decommissioning Environmental Management Plan (ODEMP) will be prepared as part of the EIA and will set out the general principles to be followed during the decommissioning of the Proposed Development. Where specific information relating to decommissioning is not known, it is anticipated that, as they are expected to be very similar, construction information will be used. A detailed DEMP will be prepared and agreed with the relevant authorities at that time of decommissioning.
- 16.7.45 A geotechnical investigation will be undertaken to support the foundation design of the Proposed Development, and this phase of work will ensure that information is collected relating to potential land stability and geological hazards associated with natural ground conditions. Potential hazards will, therefore, be addressed by designing appropriate solutions for the conditions in respect of building foundations, infrastructure for services, pavement design, etc.

Proposed Scope

- 16.7.46 A summary of the scope in relation to the assessment of Ground Conditions is presented in **Table 16-12**.

Table 16-12 Summary of Scope in relation to the Assessment of Ground Conditions

ASPECT/MATTER	PROPOSED SCOPE
Ground Conditions	It is proposed that a standalone Ground Conditions chapter is not included within the ES. A proportionate approach to the assessment of Ground Conditions is proposed whereby the potential effects relating to Ground Conditions are summarised within the Other Environmental Matters chapter of the ES. The Geo-environmental Desk Study and an updated Minerals Safeguarding Assessment would append the ES.

16.8 Utilities and Telecommunications

Introduction

- 16.8.1 This section sets out the scope and methodology for the assessment of likely significant effects arising from the Proposed Development on Utilities and Telecommunications during the Construction, Operation and Decommissioning Phases.
- 16.8.2 There is potential for solar farms to impact below-ground utilities infrastructure, namely water pipelines, gas pipelines, and electricity cables, as a consequence of 'cable strike' during construction activities such as piling or excavation.

- 16.8.3 Cable strike remains a risk in relation to above ground infrastructure (associated with cranes or piling rigs), including the 400kV, 33kV and 11kV OHLs located within the DCO Site Boundary, in addition to British Telecoms OHL.

Study Area

- 16.8.4 The Study Area for telecommunications and utilities is limited to the DCO Site Boundary (see **Figure 1-1**), as it is understood that there is only a risk of potential interactions with existing infrastructure in areas where construction activities are proposed.

Baseline Conditions

- 16.8.5 A 400kV overhead power line (OHL) and associated pylons traverse the Site in a north-west to south-east orientation.
- 16.8.6 Some 11kV OHL are present across the Site between Little Faringdon and Langford, one of which is partially undergrounded in the south-west area of the Site. A 33kV OHL crosses the southern area of the Site in a north-east to south-west direction.
- 16.8.7 A BT overhead telephone line is present between Hulse Grounds Farm and Langford, passing through the middle of the Site in a north-east to south-west direction, in parallel with a Gigaclear fibre optic cable which runs alongside Lechlade Road.
- 16.8.8 An intermediate pressure gas line has been identified running in a north-east direction through the Site originating from south-east from Little Faringdon, passing by Hulse Grounds Farm, and joining the road north-west out of Langford.
- 16.8.9 An Exolum fuel pipeline passes through the southern area of the Site in a north-east to south-west direction.
- 16.8.10 Existing infrastructure constraints will be identified and confirmed within the Other Environmental Matters chapter of the ES.

Assessment Methodology

- 16.8.11 Consultation with relevant telecommunication and utilities providers is a routine part of development and consultees will include water, gas and electricity utilities providers and telecommunication providers, as appropriate.
- 16.8.12 Information gained through this consultation process will be incorporated into the design of the Proposed Development, such as through the implementation of suitable offset distances from identified assets. Furthermore, appropriate protective provisions will be sought for the benefit of the relevant undertaker and will be included within the DCO to ensure that utilities infrastructure is adequately protected, and to mitigate against any risks associated with utilities failure.

Potential Impacts

- 16.8.13 Potential impacts of the Proposed Development on utilities and telecommunications include direct damage through excavation or construction activities, resulting in service disruption or loss, leakage of water or gas, water or sewage contamination, or gas explosion.
- 16.8.14 The Proposed Development will be designed to ensure appropriate buffers are applied in relation to buried infrastructure to allow safe access and working areas, where necessary. Furthermore, the construction of the Proposed Development would be undertaken in line with best practice guidance and legislation, i.e. the application of appropriate working methods when working in proximity to overhead infrastructure.

Proposed Scope

- 16.8.15 Following the early identification of utilities and telecommunication assets and implementation of suitable offset distances for the Proposed Development infrastructure, it is considered that any effects would be adequately mitigated and there is not potential for likely significant effects. A separate telecommunications and utilities chapter is therefore not considered to be required in the ES.
- 16.8.16 A summary of the scope in relation to the assessment of effects relating to Utilities and Telecommunications is presented in **Table 16-13**.

Table 16-13 Summary of Scope in relation to the Assessment of effects relating to Utilities and Telecommunications

ASPECT/MATTER	PROPOSED SCOPE
Utilities and Telecommunications	It is proposed that the assessment of effects in relation to Utilities and Telecommunications is not included within the ES.

16.9 References

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17. SUMMARY AND CONCLUSIONS

- 17.1.1 This EIA Scoping Report represents notification under Regulation 8(1)(b) of the EIA Regulations [Ref 17-1] that the Applicant confirms they will undertake an Environmental Impact Assessment (EIA) in respect of the Proposed Development and produce an Environmental Statement (ES) to report the findings of the EIA.
- 17.1.2 This EIA Scoping Report also presents a formal application to the Planning Inspectorate under Regulation 10 of the EIA Regulations for a 'Scoping Opinion' as to the information to be provided within the ES that will form part of the Development Consent Order (DCO) Application.
- 17.1.3 This report has identified the environmental effects that are considered to have the potential to be significant and proposes the approach to be used in assessments that will be undertaken for the EIA to characterise and understand the significance of these effects. The prescribed consultees are invited to consider the contents of this report and comment accordingly within the statutory 42-day time period.
- 17.1.4 In line with Planning Inspectorate recommendations, Table 17-1 presents a summary of assessment which is proposed to be 'scoped out' and the rationale for this.

Table 17-1 Summary of matters proposed to be Scoped Out of the EIA

Topic	Proposed Scope of Assessment	Element Proposed to be Scoped Out	Rationale for Scoping Out
Cultural Heritage	Direct impacts to non-designated archaeological remains Changes to the setting of heritage assets Changes to the historic landscape	Direct impacts to designated archaeological remains (i.e. three Scheduled Monuments within the Site) during Construction or Decommissioning. Direct impacts to non-designated archaeological remains during the Operational phase.	The Scheduled Monuments are excluded from the development footprint, and an Archaeological Management Plan will be put in place to ensure that the Scheduled Monuments are protected from any physical impacts. No further groundworks are proposed for the Operational phase that are anticipated to impact upon the archaeological resource.
Landscape and Visual	Effects on district and county scale landscape character Effects on views/visual receptors Effects on Protected Landscapes Cumulative Effects Residential Visual Amenity Assessment (RVAA) within 100m of PV Arrays and Main and Collector Substations	Effects on National Character Areas Effects on West Oxfordshire Landscape Character Effects on Cotswold Water Park Landscape Character RVAA for residential properties greater than 100m from PV Arrays and Main and Collector Substations Night-time effects	National Character Area assessments are at strategic scale; more detailed assessments are available at the county and district level. The West Oxfordshire Landscape Character Assessment will inform assessment but be scoped out as individual landscape receptors. Cotswold Water Park Integrated Landscape Character Assessment

Topic	Proposed Scope of Assessment	Element Proposed to be Scoped Out	Rationale for Scoping Out
			only covers part of the study area and overlaps other character assessments. Effects on residents of properties beyond 100m likely to be Not Significant. The location and design of lighting would seek to limit adverse impacts on sensitive receptors. Temporary lighting during the Construction and Decommissioning Phases would be limited and controlled.
Ecology and Biodiversity	Effects on Cotswold Water Park SSSI during Construction and Decommissioning Effects on Bog OLWS and the Road Verge Nature Reserve located near Burford during Construction and Decommissioning Habitats	Effects on Cotswold Water Park during Operation, and all other SSSIs during Construction, Operation and Decommissioning Effects on Bog OLWS and the Road Verge Nature Reserve located near Burford during Operation Non-Statutory Designated Sites other than Bog OLWS and the Road	Operational effects upon the Cotswold Water Park during and Bog OLWS and the Road Verge Nature Reserve located near Burford will be controlled through retention of habitats and boundary features, enhancement through Biodiversity Net Gain, and management of the site through the Operational phase.

Topic	Proposed Scope of Assessment	Element Proposed to be Scoped Out	Rationale for Scoping Out
	Badger Dormouse Bats Breeding Birds Wintering Birds Amphibians (including great crested newt) Reptiles Otter Water Vole Terrestrial invertebrates Aquatic invertebrates Invasive Non-Native Species (INNS)	Verge Nature Reserve located near Burford	No pathways for direct or indirect impacts on Alvescot Meadows SSSI and Grafton Lock Meadow SSSI have been identified. With the exception of the Bog OLWS and the Road Verge Nature Reserve located near Burford, during all phases of the Proposed Development, direct and indirect impacts to non-statutory designated sites outside the DCO Site boundary are considered unlikely given their location, proximity and nature.

Topic	Proposed Scope of Assessment	Element Proposed to be Scoped Out	Rationale for Scoping Out
Water Environment	Surface water quality and quantity Groundwater quality and quantity Flood risk: fluvial; surface water; groundwater Surface water drainage	Ground Conditions Flood risk: tidal	Ground conditions effects are likely to be limited due to anticipated excavation depths associated with PV arrays, the absence of peat deposits and Groundwater Dependent Terrestrial Ecosystems (GWDTEs) within the Core Study Area, and the relatively uniform geological conditions identified. The Study Area is not tidally influenced.
Soils and Agriculture	Impacts to agricultural land and soil quality during Construction and Decommissioning	Impacts to agricultural land and soil quality during Operation	The Operational Phase would not introduce any additional impact pathway beyond the continuation of the final land use associated with the operation of the Proposed Development. Accordingly, no separate operational-phase effects on agricultural land classification or soil resources are anticipated. Soils excavated for installation of Underground Cabling will be

Topic	Proposed Scope of Assessment	Element Proposed to be Scoped Out	Rationale for Scoping Out
			reinstated immediately following installation. Grass cover will be retained beneath and between Solar PV Arrays. Ground cover will also be retained, with re-seeding undertaken as required.
Noise and Vibration	Traffic noise during Construction. Noise as a result of construction/decommissioning activities (excluding traffic) during Construction Vibration as a result of construction/decommissioning activities (excluding traffic) during Construction Noise resulting from operation of the Proposed Development, i.e. BESS, Main and Collector Substation and plant during Operation	Traffic noise during Operation and Decommissioning Vibration resulting from traffic Noise as a result of construction/decommissioning activities (excluding traffic) during Operation and Decommissioning Vibration as a result of construction/decommissioning activities (excluding traffic) during Operation and Decommissioning Noise resulting from operation of the Proposed Development, i.e. BESS, Main and Collector Substation and	Vehicular movements during the Operational Phase of the Proposed Development consisting of associated routine servicing and maintenance would be very limited and unlikely to result in any significant noise effects. Suitable mitigations measures will be set out in the Outline Operational Traffic Management Plan (OOTMP). Following advice from the Design Manual for Roads and Bridges (DMRB), significant vibration impacts from traffic using the road network are deemed unlikely.

Topic	Proposed Scope of Assessment	Element Proposed to be Scoped Out	Rationale for Scoping Out
		plant during Construction and Decommissioning	Based on experience of similar developments, the Proposed Development is expected to generate insignificant levels of vibration when operational. Decommissioning noise and vibration are expected to be of a lower magnitude than that generated by the Construction Phase, and will therefore have similar or lower level of effect and be subject to similar management or control procedures.
Transport and Access	Effects of Severance; Driver Delay; Non-Motorised User Delay; Non-Motorised User Amenity; Fear and Intimidation; and Road Safety during Construction	Effects of Hazardous and Large Loads during Construction All Operational Phase and Decommissioning phase effects	Operational Phase effects are expected to be negligible. A separate assessment of Decommissioning Phase effects is not deemed necessary as the assessment of the Construction Phase would already present the worst-case in Transport and Access terms.

Topic	Proposed Scope of Assessment	Element Proposed to be Scoped Out	Rationale for Scoping Out
			It is not anticipated that there would be any Hazardous Loads associated with the Proposed Development, and any Large Loads are expected to have a limited effect on the road network as a consequence of standard best practice measures.
Socio-economics	Provision of direct, indirect and induced jobs during Construction and Decommissioning Provision of education, skills and training Changes to local tourism assets and access to PRow	Provision of direct, indirect and induced jobs during Operation Changes in demand for temporary worker accommodation Spending associated with the workers Impact on local property value Disruption to local businesses, including agricultural operations Changes in crime and community safety	Solar farms are not worker-intensive developments, and therefore the effect on job provision during the Operational phase is deemed negligible. The effect on demand for temporary workforce accommodation is not considered likely to be significant due to factors such as the relatively small proportion of workers requiring temporary accommodation, and the scale of existing visitor accommodation capacity relative to the maximum potential workforce. Additional spending associated with the

Topic	Proposed Scope of Assessment	Element Proposed to be Scoped Out	Rationale for Scoping Out
			workers is relatively small in scale compared to the size of the local economy. Taking into account the available UK research concerning renewable energy development and residential property values, the effect on local property value is considered unlikely to be significant. Associated impacts relating to residential amenity and landscape and visual amenity would be assessed within Chapter 7: Landscape and Visual. Potential effects on individual landowners and businesses within the Site boundary are not considered to represent likely significant effects requiring further assessment, and potential effects on businesses beyond the Site boundary would be assessed in Chapter 12: Transport and Access.

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			Given the Site's existing low crime rate and the proposed security measures, no significant effects on crime or community safety are anticipated.
Climate Change	GHG Assessment (all matters) CCRA: extreme weather events; precipitation change; temperature change; wind ICCI Assessment: extreme weather events; precipitation change; temperature change; wind	CCRA: sea level rise; sea temperature rise ICCI Assessment: sea level rise; sea temperature rise	Sea level rise and sea temperature rise is not expected to present a material risk to the Proposed Development.
Air Quality	N/A	Dust and Particulate Matter Vehicle Exhaust Emissions NRMM Ecological Impacts BESS Emissions	Dust and particulate matter emissions produced during Construction and Decommissioning Phase activities would be controlled through the implementation of the OCEMP and ODEMP. A construction dust assessment will be submitted along with the DCO Application.

Topic	Proposed Scope of Assessment	Element Proposed to be Scoped Out	Rationale for Scoping Out
			Construction and decommissioning traffic movements will be controlled through the implementation of CTMP and further mitigation measures set out within the ODEMP. Operational traffic flows are not expected to exceed screening the screening criterion for sensitive human or ecological receptors, and effects of traffic emissions are expected to be non-significant. A standalone Air Quality Plume Assessment will be undertaken to determine the potential impacts on the local area and inform the Outline Battery Safety Management Plan (OBSMP).
Electromagnetic Fields (EMF)	A technical assessment relating to EMF will be submitted as an appendix to the ES, and its findings summarised in the Other Environmental Matters chapter.	A standalone EMF chapter is not proposed to be included within the ES.	No infrastructure associated with the Proposed Development would exceed standard exposure guidelines, and hence no likely

Topic	Proposed Scope of Assessment	Element Proposed to be Scoped Out	Rationale for Scoping Out
			significant effects on any receptor are anticipated to occur.
Glint and Glare	A technical assessment considering glint and glare effects on residential, road, and aviation receptors will be appended to the ES, and its findings summarised in the Other Environmental Matters chapter.	A standalone Glint and Glare chapter is not proposed to be included within the ES. Glint and glare effects on rail receptors, PRoW receptors, riverways and canal receptors are proposed to be scoped out of the technical assessment, and a Construction/Decommissioning phase assessment is also not proposed.	Receptors proposed to be excluded from the technical assessment are either not present within the Study Area, or adverse impacts have been assessed as unlikely. Potential glint and glare effects during the Construction and Decommissioning Phases are considered to be limited.
Health	N/A	It is proposed that a standalone Human Health chapter is not included within the ES.	Environmental effects of the Proposed Development which may have the potential to influence human health will instead be comprehensively assessed within the relevant technical chapters of the ES.
Waste	Matters pertaining to waste will be summarised within the Other Environmental Matters chapter of the ES, which would also signpost	It is proposed that a standalone Waste chapter is not included within the ES.	Waste-related vehicle movements would be considered within the Traffic and Transport assessment, and waste arising from the

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	to relevant mitigation and management plans.		Operational Phase and Decommissioning would be managed in accordance with relevant legislation and in line with the OOEMP/ODEMP. The requirement for a Site Waste Management Plan (SWMP) will be set out within the OCEMP.
Risk of Major Accidents and Disasters (MAD)	N/A	It is proposed that a standalone MAD chapter is not included within the ES.	Potential MAD identified will be assessed within other technical chapters of the ES and/or controlled and managed through other proposed management plans or design.
Ground Conditions	Potential effects relating to Ground Conditions will be summarised within the Other Environmental Matters chapter of the ES. The Geo-environmental Desk Study and an updated Minerals Safeguarding Assessment would be appended to the ES.	It is proposed that a standalone Ground Conditions chapter is not included within the ES.	Environmental design and management measures will be employed to avoid or minimise impacts related to ground conditions arising from the Proposed Development. Where relevant, these will be included within the OCEMP, OOEMP and ODEMP.

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			A geotechnical investigation will be undertaken to support the foundation design of the Proposed Development, and potential hazards will be addressed through appropriate design solutions.
Utilities and Telecommunications	N/A	It is proposed that the assessment of effects in relation to Utilities and Telecommunications is not included within the ES.	The Proposed Development will be designed to ensure appropriate buffers are applied in relation to buried infrastructure, and construction will be undertaken in line with best practice guidance and legislation.

17.2 References

Ref 17-1 The Infrastructure Planning (Environmental Impact Assessment)
Regulations 2017, 2017 No. 572. (as amended)