

**Tillbridge Solar Project**  
**EN010142**

**Volume 6**  
**Environmental Statement**  
Chapter 0: Contents and Glossary  
Document Reference: EN010142/APP/6.1

**Regulation 5(2)(a)**  
**Infrastructure Planning (Applications: Prescribed Forms and**  
**Procedure) Regulations 2009**

**tillbridgesolar.com**

**April 2024**  
**Revision Number: 00**

# Volume 6.1: Table of Contents

Chapter 0	Contents and Glossary
Chapter 1	Introduction
Chapter 2	Scheme Location
Chapter 3	Scheme Description
Chapter 4	Alternatives and Design Evolution
Chapter 5	EIA Methodology
Chapter 6	Air Quality
Chapter 7	Climate Change
Chapter 8	Cultural Heritage
Chapter 9	Ecology and Nature Conservation
Chapter 10	Water Environment
Chapter 11	Human Health
Chapter 12	Landscape and Visual Amenity
Chapter 13	Noise and Vibration
Chapter 14	Socio-Economics and Land Use
Chapter 15	Soils and Agriculture
Chapter 16	Transport and Access
Chapter 17	Other Environmental Topics
Chapter 18	Cumulative Effects and Interactions
Chapter 19	Summary of Significant Environmental Effects

## Volume 6.2: Table of Contents

Appendix 1-1	EIA Scoping Report
Appendix 1-2	EIA Scoping Opinion
Appendix 1-3	EIA Statement of Competence
Appendix 6-1	Air Quality Legislation, Policy and Guidance
Appendix 6-2	Dust Risk Assessment
Appendix 6-3	Air Quality Modelling
Appendix 7-1	Climate Change Legislation, Policy and Guidance
Appendix 8-1	Cultural Heritage Legislation, Policy and Guidance
Appendix 8-2	Cultural Heritage Desk Based Assessment
Appendix 8-3-1	Gazetteer of Designated Heritage Assets
Appendix 8-3-2	Gazetteer of Designated Assets within 3-5km
Appendix 8-3-3	Gazetteer of Non-designated Heritage Assets
Appendix 8-3-4	Gazetteer of Archaeological Events
Appendix 8-4	Air Photo and LiDAR Mapping and Interpretation
Appendix 8-5-1	Principal Site Geophysical Survey Report
Appendix 8-5-2	Cable Route Corridor Geophysical Survey Report
Appendix 8-6	Archaeological Evaluation Overarching Executive Report
Appendix 8-6-1	Archaeological Evaluation Report for Fields 1–8, 33, 35, 138–141
Appendix 8-6-2	Archaeological Evaluation Report for Fields 9, 10, 14 and 16–26
Appendix 8-6-3	Archaeological Evaluation Report for Fields 27–32, 36–41, 43–49, 52–54, 60, 68, 72–79, 89–90, 101–106 and 110
Appendix 8-6-4	Archaeological Evaluation Report for Fields 50–51 and 55–57
Appendix 8-6-5	Archaeological Evaluation Report for Fields 58–59, 61–62, 64–67, 83–85, 87 and 98
Appendix 8-6-6	Archaeological Evaluation Report for Fields 80, 81, 93–97, 115, 116, 125, 126 and 128
Appendix 8-6-7	Archaeological Evaluation: Report for Fields 88, 99, 107 and 108
Appendix 8-6-8	Archaeological Evaluation: Report for Fields 91-92, 113-114, 119-124
Appendix 8-6-9	Archaeological Evaluation: Report for Fields 100 and 109
Appendix 8-6-10	Archaeological Evaluation Report for Fields 111, 112, 117, 118, 131–134, 136 and 137
Appendix 8-7	Geoarchaeology Borehole Survey and Deposit Modelling
Appendix 8-8	Heritage Field Numbers Comparison
Appendix 9-1	Ecology and Nature Conservation Legislation, Policy and Guidance
Appendix 9-2	Aquatic Ecology Baseline Report
Appendix 9-3	Baseline Report for Flora (including hedgerows)

Appendix 9-4	Baseline Report for Terrestrial invertebrates
Appendix 9-5	Baseline Report for Great Crested Newt
Appendix 9-6	Baseline Report for Reptiles and amphibians
Appendix 9-7	Baseline Report for Breeding birds
Appendix 9-8	Baseline Report for Non-breeding birds
Appendix 9-9	Baseline Report for Bats
Appendix 9-10	Baseline Report for Riparian mammals
Appendix 9-11	Baseline Report for Badger (Confidential)
Appendix 9-12	Habitat Regulations Assessment (HRA)
Appendix 10-1	Water Environment Legislation, Policy and Guidance
Appendix 10-2	Water Framework Directive Extended Screening and Scoping Assessment
Appendix 10-3	Flood Risk Assessment
Appendix 10-4	Outline Drainage Strategy
Appendix 10-5	Water Environment Stakeholder Meeting Minutes
Appendix 11-1	Human Health Legislation, Policy and Guidance
Appendix 12-1	LVIA Legislation, Policy and Guidance
Appendix 12-2	LVIA Methodology
Appendix 12-3	LVIA Landscape Baseline
Appendix 12-4	LVIA Representative Viewpoint Descriptions
Appendix 12-5	LVIA Assessment of Landscape Effects
Appendix 12-6	Assessment of Visual effects
Appendix 12-7	Arboricultural Impact Assessment
Appendix 13-1	Noise and Vibration Legislation, Policy and Guidance
Appendix 13-2	Acoustics Terminology
Appendix 13-3	Baseline Noise Survey
Appendix 13-4	Noise Modelling
Appendix 14-1	Socio-Economics and Land Use Legislation, Policy and Guidance
Appendix 15-1	Soils and Agricultural Land Legislation, Policy and Guidance
Appendix 15-2	Agricultural Land Classification Baseline Report
Appendix 16-1	Transport and Transport Legislation, Policy and Guidance
Appendix 16-2	Transport Assessment
Appendix 17-1	Other Environmental Topics Legislation, Policy and Guidance
Appendix 17-2	Glint and Glare Assessment
Appendix 17-3	Ground Conditions Principal Site PRA
Appendix 17-4	Ground Conditions Cable Route Corridor PRA
Appendix 17-5	Unplanned Emissions from BESS
Appendix 18-1	List of Cumulative Developments

## Volume 6.3: Table of Contents

Figure 1-1	Location of the Scheme and Other Solar NSIPs
Figure 2-1	Order Limits
Figure 2-2	Environmental Constraints Plan
Figure 3-1	Indicative Principal Site Layout Plan
Figure 3-2	Indicative Solar Station and BESS Station Layout
Figure 3-3	Indicative Solar Station and BESS Station Elevation
Figure 3-4a	Indicative Substation A Layout
Figure 3-4b	Indicative Substation A Elevation
Figure 3-5a	Indicative Substation B Layout
Figure 3-5b	Indicative Substation B Elevation
Figure 3-6	Indicative Construction Compound Locations
Figure 3-7	Access Locations
Figure 3-8	Principal Site Internal Cable Route Corridor
Figure 3-9	Cable Route Corridor width reduction from Preliminary Environmental Information Report to ES
Figure 3-10	Trenched Crossings Cross Sections
Figure 3-11	Indicative Cable Route Corridor Trenched and Trenchless Crossing Locations
Figure 3-12	Typical Trenchless Crossings Cross Sections
Figure 3-13	Typical 400kV Jointing Bay
Figure 3-14	Indicative Construction Compound Layout
Figure 4-1	Area of Search
Figure 4-2	Outcome of Planning and Environmental Constraints Mapping
Figure 4-3	Zones Suitable for Solar Development
Figure 4-4	Refinement of Site Search Area to 2600ha
Figure 4-5	Refinement of Site Search Area to 1500ha
Figure 4-6	Shared Cable Route Corridor
Figure 4-7	Areas of retained optionality within the Cable Route Corridor
Figure 4-8	Scoping Boundary
Figure 4-9	PEI Report Boundary
Figure 4-10	Order limit changes following Statutory Consultation
Figure 4-11	Comparison of Order limits changes from Scoping Boundary to ES Stage
Figure 6-1	Air Quality Baseline Monitoring Locations and Receptors
Figure 6-2	Dust Risk Assessment Zones
Figure 8-1	Designated Heritage Assets
Figure 8-2	High Value Heritage Assets within 3-5km of the Principal Site
Figure 8-3	Non-designated Heritage Assets
Figure 8-4	Archaeological Events

Figure 8-5	Historic Landscape Characterisations
Figure 8-6	Historic Important Hedgerows
Figure 8-7	Heritage Field Numbers & Sensitive Archaeology Sites
Figure 9-1	Sites Statutorily Designated for Nature Conservation Value
Figure 9-2	Non-Statutory Sites Designated for Nature Conservation Value
Figure 9-3	Phase 1 Habitat
Figure 10-1	Surface Water Features and their Attributes
Figure 10-2	Groundwater Features and their Attributes
Figure 10-3	Bedrock Geology and Aquifer Status
Figure 10-4	Superficial Geology and Aquifer Status
Figure 10-5	Watercourses, Flood Zones and Internal Drainage Boards
Figure 12-1	Initial Site Appraisal Plan (originally issued June 2022)
Figure 12-2	Initial Site Constraints and Opportunities Plan (originally issued June 2022)
Figure 12-3	LVIA Study area
Figure 12-4A-H	Zones of Theoretical Visibility
Figure 12-4I-J	Zone of Theoretical Visibility - Combined Solar Panels, Solar Stations/BESS and Substations
Figure 12-5	Topography and watercourses
Figure 12-6	Designations with relevance to LVIA
Figure 12-7	Public Rights of Way
Figure 12-8	National Landscape Character Areas
Figure 12-9	Regional Landscape Character Areas
Figure 12-10	County and District Landscape Character Areas
Figure 12-11	Local Landscape Character Areas (Defined by the Applicant)
Figure 12-12	Representative LVIA Viewpoints: Principal Site Only (With Bare Earth ZTV)
Figure 12-13A-CC	Reference Viewpoint Photography
Figure 12-14A-J	Visualisations (Photomontages)
Figure 13-1	Noise Sensitive Receptors and Noise Monitoring Locations
Figure 13-2	Operational Noise Contours
Figure 14-1	60-Minute Drive Time Analysis from Centroid of Order limits
Figure 14-2	Study Area for Socio-economics and Land Use Effects
Figure 15-1	ALC Grading Distribution Principal Site
Figure 16-1	Transport and Access Study Area
Figure 16-2	Site Access Plan - Principal Site and Cable Route Corridor
Figure 16-3	Proposed HGV Routes - Principal Site and Cable Route Corridor
Figure 16-4	Local Highway Network
Figure 16-5	Local PRow Network
Figure 16-6	Traffic Survey Locations
Figure 16-7	Personal Injury Collision Study Area
Figure 16-8	Selected Bus Stops Closest to the Scheme
Figure 16-9	Local Railway Stations

Figure 16-10	Abnormal Indivisible Load Routes - Principal Site and Cable Route Corridor
Figure 18-1	Cumulative Developments
Figure 18-2	Combined ZTV of the Scheme's Solar Panel Area Barrier ZTV within 5km buffer and West Burton's Solar Panel Area Barrier ZTV within 5km buffer
Figure 18-3	Combined ZTV of the Scheme's Solar Panel Area Barrier ZTV within 5km buffer and Cottam's Solar Panel Area Barrier ZTV within 5km buffer
Figure 18-4	Combined ZTV of the Scheme's Solar Panel Area Barrier ZTV within 5km buffer and Gate Burton's Solar Panel Area Barrier ZTV within 5km buffer
Figure 18-5	Transport Cumulative Traffic Routes

# Glossary of Abbreviations

AADT	Annual Average Daily Total traffic flows
AAWT	Average Annual Weekday Traffic
AC	Alternate Current
ADB	Ash dieback
AEP	Annual Exceedance Probability
agl	Above ground level
AGLV	Area of Great Landscape Value
AIL	Abnormal Indivisible Load
ALC	Agricultural Land Classification
AOD	Above Ordnance Datum
AONB	Areas of Outstanding Natural Beauty
AQAL	Air Quality Assessment Level
AQAP	Air Quality Action Plan
AQMA	Air Quality Management Area
AQS	Air Quality Strategy
ATC	Automatic Traffic Count
AW	Ancient Woodland
BAP	Biodiversity Action Plan
BCT	Bat Conservation Trust
BDC	Bassetlaw District Council
BDDLDF	Bassetlaw District Local Development Framework
BESS	Battery Energy Storage System
BGS	British Geological Survey
BMV	Best and Most Versatile
BNG	Biodiversity Net Gain
BNL	Basic Noise Levels
BOAT	Byways Open to All Traffic
BOD	Biochemical Oxygen Demand
BPM	Best Practicable Means
BRE	Building Research Establishment
BRES	Business Register and Employment Survey
BS	British Standard
CAFE	Clean Air for Europe
CAMS	Catchment Abstraction Management Strategy
CCC	Committee on Climate Change
CCFA	Cased Continuous Flight Auger
CCGs	Clinical Commissioning Groups
CCGT	Combined Cycle Gas Turbines



CCR	Climate Change Resilience
CCTV	Closed Circuit Television
CCW	Countryside Council for Wales
CDM	Construction Design Management
CEMP	Construction Environmental Management Plan
CH <sub>4</sub>	Methane
CIEEM	Chartered Institute of Ecology and Environmental Management
CifA	Chartered Institute for Archaeologists
CIPD	Chartered Institute of Personnel and Development
CIRIA	Construction Information Research and Information Association
CJEU	Court of Justice of the European Union
CLJSPC	Central Lincolnshire Joint Strategic Planning Committee
CM	Conceptual Model
CO	Carbon monoxide
CO <sub>2</sub>	Carbon dioxide
CO <sub>2</sub> e	Carbon dioxide equivalent
COPA	Control of Pollution Act 1974
COSHH	Control of Substances Hazardous to Health
CRTN	Calculation of Road Traffic Noise
CSM	Conceptual Site Model
CTMP	Construction Traffic Management Plan
CWS	County Wildlife Sites
DBA	Desk-Based Assessment
DESNZ	Department for Energy Security & Net Zero
DC	Direct Current
DCLG	Department for Communities and Local Government
DCO	Development Consent Order
DECC	Department of Energy and Climate Change
Defra	Department for Environment, Food and Rural Affairs
DED	Dutch elm disease
DEMP	Decommissioning Environmental Management Plan
DfT	Department for Transport
DMP	Dust Management Plan
DMRB	Design Manual for Roads and Bridges
DoS	Degree of Saturation
DPD	Development Plan Documents
DRA	Dust Risk Assessment
EA	Environment Agency
EC	European Commission
EcIA	Ecological Impact Assessment
eDNA	Environmental DNA
EFT	Defra's Emissions Factors Toolkit
EIA	Environmental Impact Assessment

EMI	Electromagnetic Interference
EN	Energy
EPA	Environmental Protection Act
EPD	Environmental Product Declaration
EPUK	Environmental Protection UK
EQIA	Equality Impact Assessment
EQS	Environmental Quality Standards
ERP	Emergency Response Plan
ES	Environmental Statement
EU	European Union
FBSMP	Framework Battery Safety Management Plan
FCEMP	Framework Construction Environment Management Plan
FCTMP	Framework Construction Traffic Management Plan
FDEMP	Framework Decommissioning Environmental Management Plan
FFB	Fungal fruiting body
FLEMP	Framework Landscape and Ecology Management Plan
FOEMP	Framework Operational Environmental Management Plan
FRoWMP	Framework Rights of Way Management Plan
FRA	Flood Risk Assessment
FRELP	Full Recovery End-of-Life Photovoltaic
FSSCEP	Framework Skills, Supply Chain and Employment Plan
FTE	Full Time Employment
FZ	Flood Zone
gCO <sub>2</sub> e/kWh	Grams carbon dioxide equivalent per kilowatt hour
GCR	Ground Coverage Ratio
GHG	Greenhouse Gases
GLVIA3	Guidelines for Landscape and Visual Impact Assessment Third Edition
GPP	Guidance for Pollution Prevention
GRP	Glass Reinforced Plastic
GVA	Gross Value Added
GWDTE	Groundwater Dependent Terrestrial Ecosystem
GWP	Global warming potential
Ha	Hectare
HaPI	Habitats of Principal Importance
HC	hydrocarbons
HCA	Homes and Communities Agency
HDD	Horizontal Directional Drilling
HDV	Heavy Duty Vehicle
HE	Historic England
HER	Historic Environment Record
HFCs	Hydrofluorocarbons
HGV	Heavy Goods Vehicle
HIA	Heritage Impact Assessment

HIS	Habitat Suitability Index
HLC	Historic Landscape Character
HRA	Habitats Regulation Assessment
HSI	Habitat Suitability Index
HVAC	Heating, Ventilation and Cooling
HV	High Voltage
Hz	Hertz
IAQM	Institute of Air Quality Management
IAS	Invasive Alien Species
ICCI	In-combination climate change impact
ICE	Inventory of Carbon and Energy
IDB	Internal Drainage Board
IEF	Important Ecological Features
IEMA	Institute of Environmental Management and Assessment
IHBC	Institute of Historic Building Conservation
IMD	Index of Multiple Deprivation
INNS	Invasive Non-Native Species
IPCC	Intergovernmental Panel on Climate Change
ISO	International Organisation for Standardisation
JNCC	Joint Nature Conservation Committee
JSNA	Joint Strategic Needs Assessment
kg CO <sub>2</sub> e/kWh	Kilograms carbon dioxide equivalent per kilowatt hour
Km	Kilometre
LBAP	Local Biodiversity Action Plan
LBMP	Landscape and Biodiversity Management Plan
LCA	Landscape Character Area
LCC	Lincolnshire County Council
LCP	Landscape Character Parcel
LCT	Landscape Character Type
LDU	Landscape Description Unit
LEP	Local Enterprise Partnership
LERC	Lincolnshire Environmental Records Centre
LFR	Lincolnshire Fire and Rescue
LGV	Light Goods Vehicle
LHA	Local Highway Authority
LiDAR	Light detection and ranging
LLCA	Local Landscape Character Area
LLFA	Lead Local Flood Authority
LNR	Local Nature Reserves
LOAEL	Lowest Observable Adverse Effect Level
LRN	Local Road Network
l/s	Litres per second
LSEs	Likely Significant Effects

LSOA	Lower Super Output Area
LTP	Local Transport Plan
LV	Low Voltage
LVIA	Landscape and Visual Impact Assessment
LWS	Local Wildlife Sites
m	Metre
m <sup>3</sup>	Meters cubed
MAGIC	Multi-Agency Geographic Information Centre
MCC	Manually Classified Count
MHCLG	Ministry of Housing, Community and Local Government
MRN	Major Road Network
MSOA	Middle Super Output Area
MV	Medium Voltage
MW	Megawatts
MWh	Megawatt hours
MWp	Megawatt Peak
NBGRC	Nottinghamshire Biological and Geological Records Centre
NBN	National Biodiversity Network
NCA	National Character Area
NCC	Nottinghamshire County Council
NE	Natural England
NERC	Natural Environment Research Council
NETS	National Electricity Transmission System
NF <sub>3</sub>	Nitrogen trifluoride
NGA	Noise Generating Activities
NGR	National Grid Reference
NHLE	National Heritage List for England
NMU	Non-Motorised Users
NNR	National Nature Reserves
NO	Nitric oxide
NO <sub>2</sub>	Nitrogen Dioxide
NOx	Nitrogen oxides
NOEL	No Observed Effect Level
NPPF	National Planning Policy Framework
NPPG	National Planning Practice Guidance
NPS	National Policy Statement
NPSE	National Policy Statement for England
NRMM	Non-Road Mobile Machinery
NRTF	National Road Traffic Forecast
NSIP	Nationally Significant Infrastructure Project
NTEM	National Trip Ends Model
NTL	National Tidal Limit
NTM	National Transport Model

NVQ	National Vocational Qualification
NVZ	Nitrate Vulnerable Zone
N <sub>2</sub> O	Nitrous oxide
OCGT	Open cycle gas turbines
OEMP	Operational Environmental Management Plan
OEP	Office for Environmental Protection
ONS	Office for National Statistics
OS	Ordnance Survey
PEA	Preliminary Ecological Appraisal
PEIR	Preliminary Environmental Information Report
PFCs	Perfluorocarbons
PFRA	Preliminary Flood Risk Assessment
PIC	Personal Injury Collision
PINS	Planning Inspectorate
PM <sub>10</sub>	Particulate Matter with a diameter of 10 micrometres or less
PM <sub>2.5</sub>	Particulate Matter with a diameter of 2.5 micrometres or less
PPE	Personal protective equipment
PPG	Pollution Prevention Guidance
PPG	Planning Practice Guidance
PPV	Peak Particle Velocity
PRA	Preliminary Risk Assessment
ProW	Public Rights of Way
PSYM	Predictive System for Multimetrics
PV	Photovoltaic
PWS	Private Water Supply
RAF	Royal Air Force
RBD	River Basin District
RBMPs	River Basin Management Plans
RCA	Regional Character Areas
RCPs	Representative Concentration Pathways
RFC	Ratio of Flow to Capacity
RVAA	Residential Visual Impact Assessment
SAC	Special Areas of Conservation
SF <sub>6</sub>	Sulphur hexafluoride
SFRA	Strategic Flood Risk Assessment
SM	Scheduled Monument
SOAEL	Significant Observed Adverse Effect Level
SOCC	Statement of Community Consultation
SoS	Secretary of State
SPA	Special Protection Areas
SPI	Species of Principal Importance
SPZ	Source Protection Zone
SSCE	Skills, Supply Chain and Employment

SSSI	Site of Special Scientific Interest
SuDS	Sustainable Drainage Systems
SULE	Suitable useful life expectancy
SWMP	Site Waste Management Plan
TA	Transport Assessment
tCO <sub>2</sub> e	tonnes CO <sub>2</sub> equivalent
TEMPRO	Trip Ends Model Program
TTM	Temporary Traffic Management
TVL	Trent Valley Landscape
TW	Trent Washlands
TWh	Terawatt hour
UAEL	Unacceptable Adverse Effect Level
UKBAP	UK Biodiversity Action Plan
UKCP18	UK Climate Projections 2018
W	Watt
WCA	Wildlife and Countryside Act
WEEE	Waste Electrical & Electronic Equipment
WFD	Water Framework Directive
WFDa	Water Framework Directive assessment
WFD-UKTAG	Water Framework Directive – United Kingdom Technical Advisory Group
WHO	World Health Organisation
WLDC	West Lindsey District Council
WMP	Water Management Plan
WRMP	Water Resources Management Plan
WSI	Written Scheme of Investigation
WTN	Waste Transfer Note
WTT	Well-to-tank
ZoI	Zone of Influence
ZTV	Zone of Theoretical Visibility
µg	Microgram

## Definitions of Frequently Used Terms

Abnormal Indivisible Load	An abnormal load that cannot be broken down into smaller loads for transport.
Abnormal Load	A vehicle that has a weight of more than 44,000kg, an axle load of more than 10,000kg for a single non-driving axle and 11,500kg for a single driving axle, a width of more than 2.9 metres or a rigid length of more than 18.65 metres.
Agricultural Land Classification (ALC)	The recognizable method for classifying agricultural land in England and Wales according to its versatility, productivity and workability, based upon inter-related parameters including climate, relief, soil characteristics and drainage, i.e., ALC assesses land quality based upon the type and level of agricultural production the land can potentially support. These factors form the basis for classifying agricultural land into one of five grades (with Grade 3 land divided into Subgrades 3a and 3b), ranked from excellent (Grade 1) to very poor (Grade 5).
AIL Management Plan	An Abnormal Indivisible Loads (AIL) Management Plan assesses the management arrangements in place to combat loads coming to and from the Principal Site that cannot be broken down into smaller loads for transport.
Air Quality Management Area (AQMA)	Places where air quality objectives are not likely to be achieved. Where an AQMA is declared, the local authority is obliged to produce an Action Plan in pursuit of the achievement of the air quality objectives.
Applicant	Tillbridge Solar Ltd
Application	The application for a DCO for the Scheme submitted by the Applicant.
APFP Regulations	The Infrastructure Planning (Application: Prescribed Forms and Procedure) Regulations 2009 (as amended).
Automatic Traffic Count	A traffic count which is undertaken automatically such as through the installation of a temporary or permanent electronic traffic recording device.
Baseline Conditions	The conditions against which potential effects arising from the Scheme are identified and evaluated.

Battery Energy Storage System (BESS)	Batteries with associated infrastructure to store, import and export electricity to the National Grid. The batteries are lithium iron phosphate batteries with a liquid cooling or HVAC system housed within a container. Associated infrastructure includes the DC / DC converter and Transformers, Inverter and Switchgear, which are shared with Solar Stations. The DC/DC converter will be installed alongside every BESS battery container to keep cabling as short as possible and losses low.
Best and most versatile (BMV) agricultural land	Agricultural land of excellent (ALC Grade 1), very good (Grade 2) and good (Subgrade 3 a) agricultural quality as defined under the National Planning Policy Framework.
Biodiversity Zones	Zones that include a range of new habitats that will create, enhance and reinforce green infrastructure across the Principal Site, connecting the existing fragmented and isolated woodland blocks. These zones will contribute to the delivery of habitat creation and improved ecological networks in line with Central Lincolnshire's Biodiversity Opportunity Mapping. Many of these new habitats will be aimed at supporting ground-nesting birds, including semi-improved or tussock grassland and flower-rich meadows; but will also include linear belts – primarily along field boundaries – where both the number and diversity of native plants will be increased through woodland edge, scrub and hedgerow planting. These areas, alongside natural regeneration, will offer a diverse mosaic of habitats complementing the proposed native woodland. Site-specific conditions will inform the final choice of habitats and species; for example, wet grassland and ponds will be located within flood zones.
Byways Open to All Traffic	A highway over which the public have a right of way for vehicular and all other kinds of traffic, but which is primarily used by the public for walking, cycling or horse riding.
Cable Route Corridor	<p>The portion of the Order limits where the grid connection infrastructure (400kV cables) is routed from the Solar PV Site (excluding the On-Site 400kV cabling that interconnects the two substations) to the national electricity transmission network.</p> <p>The proposed Cable Route Corridor is within the Order limits, connecting the onsite substations within the north and south of the Scheme to the National Grid Cottam Substation. Other works associated with cable laying will be located within this area.</p>
CO <sub>2</sub> equivalent (CO <sub>2</sub> e)	A measure of how much a gas contributes to global warming, relative to carbon dioxide, by multiplying the mass of the gas (in tonnes), by the gas' global warming potential (GWP).



Conservation Area	An area of special environmental or historic interest or importance, of which the character or appearance is protected (Section 69 of the Planning (Listed Buildings and Conservation Areas) Act 1990).
Consultation Report	A report forming part of the DCO application, outlining the consultation undertaken on the Scheme.
Cumulative Effects	The collective term for inter and intra project effects. The inter project effects are the combined effects of several development schemes which may, on an individual basis be insignificant but, cumulatively with the Scheme, have a new or different likely significant effect. The intra project effects are defined in this table under 'Effect interactions'.
Degree of Saturation/ Ratio of Flow to Capacity	A ratio of demand to capacity on each approach to the junction, with a value of 100% meaning the demand and capacity are equal and no further traffic is able to progress through the junction.
Designated Landscape	Areas of landscape identified as being of importance at international, national or local levels, either defined by statute or identified in development plans or other documents.
DC/DC Converter	Manages the charge and discharge of the battery following the demand profile of the plant operator.
Development Consent Order (DCO)	Development consent is required pursuant to the Planning Act 2008 for Nationally Significant Infrastructure Projects. A development consent order is the order which grants development consent when an application is made to the Secretary of State.
Direct employment	Employment generated by direct activity on site.
Drinking Water Protected Area	Drinking Water Protected Areas (Surface Water) are, within the WFD, where raw water is abstracted from rivers and reservoirs. Raw water needs to be protected to ensure that it is not polluted which could lead to additional purification treatment. To do this water companies and the Environment Agency identify raw water sources that are 'at risk' of deterioration which would result in the need for additional treatment. These zones are areas where the land use is causing pollution of the raw water. Action is targeted in these zones to address pollution so that extra treatment of raw water can be avoided.

Drinking Water Safeguard Zones	Catchment areas that influence the water quality for their respective Drinking Water Protected Area (Surface Water), which are at risk of failing the drinking water protection objectives. These non-statutory Safeguard Zones are where action to address water contamination will be targeted, so that extra treatment by water companies can be avoided.
Effect Interactions	The intra project effects. These are the combined effects of individual impacts from the Scheme, for example noise and air pollutants impacting on a single receptor.
EN 15804	European Standard for the generation of Environmental Product Declaration (EPD) for construction products
Environmental effect	The consequence of an action (impact) upon the environment such as the decline of a breeding bird population as a result of the removal of hedgerows and trees.
Environmental impact	The change in the environment as a result of a development.
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. The EIA for the Scheme has been undertaken in accordance with the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (as amended).
EIA Regulations	The EIA Regulations relevant to the Scheme are the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (as amended). These transpose the requirement of an EIA for NSIP developments. The EIA Regulations specify which developments are required to undergo EIA and schemes relevant to the NSIP planning process are listed under either of 'Schedule 1' or 'Schedule 2'.
Environmental Product Declaration (EPD)	An EPD is a document that quantifiably demonstrates the environmental impacts of a product.
Environmental Statement	A document produced in accordance with the EIA Directive as transposed into UK law by the EIA Regulations to report the results of an EIA.
Equipment Storage	Storage facility for spare parts comprising either a new building or the re-use of an existing, vacant building within a suitable location within the Principal Site.

Examining Authority	The person(s) appointed by the Secretary of State (SoS) to assess the Application and make a recommendation on the decision to the SoS.
Flood Zone 1	This is land assessed as having a less than 1 in 1,000 annual probability of river or sea flooding (<0.1% Annual Exceedance Probability (AEP)).
Flood Zone 2	This zone comprises land assessed as having between a 1 in 100 and 1 in 1,000 annual probability of river flooding (1% – 0.1%), or between a 1 in 200 and 1 in 1,000 annual probability of sea flooding (0.5% – 0.1%) in any year.
Flood Zone 3	This zone comprises land assessed as having a 1 in 100 or greater annual probability of river flooding (>1%), or a 1 in 200 or greater annual probability of flooding from the sea (>0.5%) in any year.
Framework Construction Environmental Management Plan (FCEMP)	This plan provides a framework for environmental management during the construction phase of the Scheme, with the aim to provide a clear and consistent approach to environmental mitigation during construction.
Framework Construction Traffic Management Plan (FCTMP)	This plan provides a framework for traffic management practices for construction traffic and staff vehicles during the construction of the Scheme.
Framework Decommissioning Environmental Management Plan (FDEMP)	This plan provides a framework for how the mitigation measures included within the ES will be implemented during the decommissioning stage. It also sets out the monitoring and auditing activities designed to ensure that such mitigation measures are carried out, and that they are effective.
Framework Landscape and Ecology Management Plan (LEMP)	This plan provides a framework for achieving the outline design, including the successful establishment and future management of biodiversity and landscaping works.
Framework Operational Environmental Management Plan (FOEMP)	This plan provides a framework for how the operational mitigation measures included within the ES will be implemented and sets out the monitoring and auditing activities designed to ensure that such mitigation measures are carried out, and that they are effective.

Geophysical survey	Geophysical survey is a non-intrusive pre-construction archaeological evaluation technique that exploits a variety of physical or chemical characteristics of rocks and soils etc, in an attempt to locate underground features of archaeological interest. Types of geophysical survey include magnetometer survey, magnetic susceptibility survey and resistivity survey.
Gross impact	Overall impact before taking into account the impact of deadweight, displacement, leakage and substitution.
Heavy Goods Vehicle (HGV)	Vehicles with 3 axles (articulated) or 4 or more axles (rigid and articulated).
Historic Environment Record	The record of archaeological and built heritage features in a county or district, usually held and maintained by the relevant County Council.
Indirect employment	Employment growth arising through spending in the supply chain by activity on site (i.e. contracted out manufacturing and services).
Induced employment	Employment generated through spending by workforce (direct employment) in the economy.
Inverter	Inverters are required to convert the DC electricity collected by the PV modules into alternating current (AC), which allows the electricity generated to be exported to the National Grid.
ISO 14025	ISO 14025:2006 establishes the principles and specifies the procedures for developing Type III environmental declaration programmes and Type III environmental declarations.
Jointing pit	Underground structures constructed at regular intervals along the cable route to join sections of cable and facilitate installation of the cables into the buried ducts.
Landscape	An area, as perceived by people, the character of which is the result of the action and interaction of natural and/or human factors.
Landscape and Visual Impact Assessment (LVIA)	A tool used to identify and assess the likely significance of the effects of change resulting from development both on the landscape as an environmental resource in its own right and on people's views and visual amenity.
Landscape Character	A distinct, recognisable and consistent pattern of elements in the landscape that makes one landscape different from another, rather than better or worse.
Landscape Character Area	These are single unique areas which are the discrete geographical areas of a particular landscape type.

Landscape Character Assessment	The process of identifying and describing variation in the character of the landscape and using this information to assist in managing change in the landscape. It seeks to identify and explain the unique combination of elements and features that make landscapes distinctive.
Landscape Character Types	These are distinct types of landscape that are relatively homogeneous in character. They are generic in nature in that they may occur in different areas in different parts of the country, but wherever they occur they share broadly similar combinations of geology, topography, drainage patterns, vegetation and historical land use and settlement pattern, and perceptual and aesthetic attributes.
Landscape Effects	Effects on the landscape as a resource in its own right.
Landscape Receptors	Defined aspects of the landscape resource that have the potential to be affected by a proposal.
Landscape Sensitivity	A term applied to specific receptors, combining judgements of the susceptibility of the receptor to the specific type of change or development proposed and the value related to that receptor.
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.
Light Goods Vehicle	A commercial motor vehicle with a total gross weight of 3,500kg or less.
Link boxes	Underground chambers or above ground cabinets next to the cable route housing low voltage electrical earthing links.
Magnitude (of effect)	A term that combines judgements about the size and scale of the effect, the extent of the area over which it occurs, whether it is reversible or irreversible and whether it is short or long term in duration.
Major Road Network	The middle tier of England's busiest and most economically important local authority 'A' roads.
Manually Classified Count	A traffic count which is undertaken manually such as by an observer visually counting and recording the volume of vehicles on a tally sheet.
Maximum parameters	These define the worst case, in terms of potential impacts, extent of design elements of the Scheme, or factors arising from them, for example maximum panel height, or maximum trip generation if one layout/panel arrangement requires a greater number of HGV deliveries.

Middle Super Output Area	A geographic hierarchy designed to improve the reporting of small area statistics in England and Wales, built from groups of contiguous Lower Layer Super Output Areas.
Mitigation	Measures including any process, activity, or design to avoid, prevent, reduce, or, if possible, offset any identified significant adverse effects on the environment.
National Electricity Transmission Network	The definition of the National Grid Network.
National Grid Cottam Substation	The substation at Cottam Power Station located south of Cottam village, Nottinghamshire, owned and operated by National Grid and to which the Grid Connection Cable will connect.
National Policy Statement (NPS)	National Policy Statements are produced by government. They comprise the government's central policy documents for the development of nationally significant infrastructure.
National Road Traffic Forecast	A forecast for traffic demand, congestion and emissions in England and Wales.
Nationally Significant Infrastructure Projects (NSIP)	NSIPs are large scale developments such as certain new harbours, power generating stations (including solar farms), highways developments and electricity transmission lines, which require a development consent under procedures governed by the Planning Act 2008 (and amended by the Localism Act 2011).
National Transport Model	A multi-modal model of land-based transport in Great Britain, used to inform transport policy and roads strategy and produce road traffic forecasts.
National Trip Ends Model Net impact	A model which forecasts the growth in trip origin-destinations (or production-attractions) for use in transport. Impact discounting deadweight (impact that would have happened without the intervention), displacement (proportion of intervention outputs/outcomes accounted for by reduced outputs/outcomes elsewhere in the target area), leakage (proportion of outputs that benefit those outside of the intervention's target area or group) and substitution (effect arises where a firm substitutes one activity for a similar one).
Nitrate Vulnerable Zone (NVZ)	NVZs are statutory designated areas identified as being at risk from agricultural nitrate pollution. These constitute about 55% of land in England. The designations are made in accordance with the Nitrate Pollution Prevention Regulations 2015.

On-site substation	There will be two substations on the Principal Site, including in the north-west of the Site near Harpswell Lane and in the south-east near Northlands Road. These increase (transform) the voltage from 33kV to 400kV. The Cable Route Corridor runs from the on-site substations to the National Grid Cottam Substation.
Order limits	Land shown on the Works Plans within which the Scheme can be constructed and operated.
Other solar DCOs	Term used to refer to Gate Burton Energy Park [EN010131], West Burton Solar Project [EN010132] and Cottam Solar Project [EN010133].
PA 2008	The Planning Act 2008 (as amended)
Permissive Paths	New recreational informal paths established as part of the Scheme signed as permissive that the landowner allows the public to use for the life of the Scheme.
Personal Injury Collision	A collision involving a mechanically propelled vehicle on a road or other public area which causes injury or damage to a person.
Photomontage	A visualisation which superimposes an image of a proposed development upon a photograph or series of photographs.
Preliminary Ecological Appraisal (PEA)	Comprises a desk study, Phase 1 Habitat Survey (which categorises habitats to a broad level using the methodologies set out by JNCC (1993 as amended) guidelines) and Protected Species Scoping survey (which includes preliminary survey work to identify the presence or potential presence of legally protected species).
Preliminary Environmental Information Report (PEIR)	The Preliminary Environmental Information Report (PEIR) provides the Preliminary Environmental Information (PEI) for the Scheme. PEI is defined in the EIA Regulations as: “ <i>information referred to in Regulation 14(2) which – (a) has been compiled by the applicant; and (b) is reasonably required for the consultation bodies to develop an informed view of the likely significant environmental effects of the development (and of any associated development).</i> ”
PEIR Boundary	The Scheme area considered for the purposes of the PEIR.
Principal Site	The Principal Site comprises the Solar PV infrastructure, electrical substations, cabling and areas for landscaping and ecological enhancement.

Preliminary Risk Assessment	A report that presents a summary of readily-available information on the geotechnical and/or geo-environmental characteristics of the site and provides a qualitative assessment of geo-environmental and/or geotechnical risks in relation to the proposed development.
Principal Aquifer	These are layers of rock or drift deposits that have high intergranular and/or fracture permeability - meaning they usually provide a high level of water storage. They may support water supply and/or river base flow on a strategic scale. In most cases, principal aquifers are aquifers previously designated as major aquifer.
Public Rights of Way (PRoW)	Rights across land exercisable by the public at all times.
Q95 Flow	River flow rate that is exceeded 95% of the time.
Receptor	A component of the natural or man-made environment that is affected by an impact, including people.
Representative Concentration Pathways (RCPs)	<p>Representative Concentration Pathways (RCPs) capture, within a set of scenarios, assumptions about the economic, social and physical changes to our environment that will influence climate change. The conditions of each scenario are used in the process of modelling possible future climate evolution.</p> <p>RCPs specify concentrations of greenhouse gases that will result in total radiative forcing increasing by a target amount by 2100, relative to pre- industrial levels. Total radiative forcing is the difference between the incoming and outgoing radiation at the top of the atmosphere. Radiative forcing targets for 2100 have been set at 2.6, 4.5, 6.0 and 8.5 watts per square metre (<math>W m^{-2}</math>) to span a wide range of plausible future emissions scenarios and these targets are incorporated into the names of the RCPs; RCP2.6, RCP4.5, RCP6.0 and RCP8.5. Each pathway results in a different range of global mean temperature increases over the 21st century.</p>
Scheduled Monument	A 'nationally important' archaeological site or historic building, given protection against unauthorised change and included in the Schedule of Monuments kept by the Secretary of State for Culture, Media and Sport. The protection given to scheduled monuments is given under the Ancient Monuments and Archaeological Areas Act 1979.
Scheme	<p>The Scheme is the collective term for the Principal Site and the Cable Route Corridor.</p> <p>The boundary of the Scheme is defined as the Order limits.</p>



Scoping	The process of identifying the issues to be addressed by an EIA. It is a method of ensuring that an EIA focuses on the important issues and avoids those that are considered to be less significant.
Secondary (undifferentiated) aquifer	Assigned in cases where it has not been possible to attribute either category A or B to a rock type. In most cases, this means that the layer in question has previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type.
Secondary A Aquifer	Secondary A aquifers comprise permeable layers that can support local water supplies and may form an important source of base flow to rivers.
Secondary B Aquifer	Predominantly lower permeability layers which may store and yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering. These are generally the water-bearing parts of the former non-aquifers.
Sensitive Archaeological Sites	Areas defined by Work No. 11 in Schedule 1 of the <b>draft DCO [EN010142/APP/3.1]</b> and the <b>Works Plans [EN010142/APP/2.3]</b> from where the provision of new infrastructure by the Scheme has been excluded for the protection of below ground archaeology.
Setting	The surroundings within which a heritage asset is experienced and any element, which contributes to the understanding of its significance.
Significance	A measure of the importance or gravity of the environmental effect, defined by significance criteria specific to the environmental topic.
Scoping Boundary	The area scoped on for the purpose of the EIA and included within the Scoping Report
Scoping Report	Sets out the matters to be assessed in the EIA, to guide the EIA identification of likely significant effects from the development. This is provided in accordance with guidance provided by the Planning Inspectorate's Advice Note 7 ' <i>Environmental Impact Assessment: Process, Preliminary Environmental Information and Environmental Statements</i> '. The EIA Scoping Report is included within <b>Appendix 1-1</b> of the ES <b>[EN010142/APP/6.2]</b> .
Solar Farm Control Centre	This comprises the operation and maintenance base for the Scheme comprising a central control room, CCTV and security control, welfare facilities for staff and parking.

Solar PV Areas	Areas of land within which the solar PV panels and associated solar PV and battery storage infrastructure, including substations, are to be located.
Solar PV Site	Describes the total area covered by all the Solar PV Areas.
Solar Station (DC/AC Invertor, transformer and switchgear) and DC/DC Converter	Solar Stations will comprise inverters, a transformer, and switchgear. These will be distributed throughout the Solar PV Site. They will be located within the Solar PV Areas and will adjoin the BESS and DC/DC Converter.
Source Protection Zone (SPZ)	SPZs show the risk of contamination from any activities that might cause pollution to groundwater sources such as wells, boreholes and springs used for public water supplies. The closer the activity, the greater the risk. SPZs can comprise of up to three main zones (inner, outer and total catchment). A fourth zone of special interest can also occasionally be applied to a groundwater source.
Study Area	The spatial area within which environmental effects are assessed (i.e., extending a distance from the project footprint in which significant environmental effects are anticipated to occur). This will vary between technical disciplines and is defined early in each chapter under the appropriate heading.
Susceptibility	The ability of a defined landscape or visual receptor to accommodate the specific proposed development without undue negative consequences.
Sustainable drainage systems (SuDS)	Surface water drainage systems developed in line with the ideals of sustainable development (e.g. swales, ponds, basins, filtration flow control, etc).
Tillbidge Solar Limited	Tillbidge Solar Limited is the Applicant. This is a joint venture between Tribus Clean Energy and Recurrent Energy, a subsidiary of Canadian Solar.
Temporary construction compound	Any working area defined for the purpose of storage of plant, materials or equipment or for the use of welfare and site management.
Temporary Traffic Management	A system of controlling traffic movement (such as through or past a works site) to maximise safety for, and minimise inconvenience to, road workers and road users.
Tranquility	A state of calm and quietude associated with peace, considered to be a significant asset of landscape.
Transformers	Transformers control the voltage of the electricity generated across the site before it reaches the on-site substations.

Trip Ends Model Program	Software which allows users to view the National Trip Ends Model dataset and provides forecasts of trip ends and associated documentation.
Visual Effects	Effects on specific views and on the general visual amenity experienced by people.
Visual Receptors	People with views of the development or associated activities. These are located within the visual envelope and are typically residents, motorists, pedestrians, recreational users in residential areas on publicly accessible roads, footpaths and open spaces.
Water Framework Directive	The Water Framework Directive ("WFD") introduced a new system for monitoring and classifying the quality of surface and ground waters. The Directive requires that Environmental Objectives be set for all surface waters and groundwater to enable them to achieve Good Ecological Potential/Status by a defined date.
Water Framework Directive Assessment	As part of its role, the Environment Agency must consider whether proposals for new developments have the potential to a) Cause a deterioration of a water body from its current status or potential; and/or b) Prevent future attainment of Good status (or potential where not already achieved). A WFD Assessment determines whether a scheme is compliant with these criteria.
Well-to-tank (WTT) emissions	A Well-to-Tank emissions factor, also known as upstream or indirect emissions, is an average of all the GHG emissions released into the atmosphere from the production, processing and delivery of a fuel or energy vector.
Written Scheme of Investigation	A Written Scheme of Investigation outlines known and potential archaeological features and deposits or built heritage elements on a site and suggests a structure for exploring them using the latest, most appropriate and cost-effective archaeological techniques.
Zone of Influence	The limit determined for each specialist study in which the construction or operation of the Scheme component has the potential to cause an adverse or beneficial effect on a receptor. This will inform the definition of the discipline-specific study area defined for their assessment.
Zone of Theoretical Visibility (ZTV)	The zone within which views of a proposed development may be experienced, as determined by analysis of Ordnance Survey data and field survey. It is influenced by many factors including topography and intermediate visual intrusions, such as blocks of woodland and buildings.